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# THE ENCYCLOPÆDIA BRITANNICA FOURTEENTH EDITION

## VOLUME 7

### MASCUS TO EDUCATION, BURE.

**DAMASCUS**, the name of a Sanjak and town of Syria, 57 m from Beirut and situated in  $33^{\circ} 30' N$  and  $36^{\circ} 18' E$ . Its origin is unknown, and the belief that it is the oldest city in the world still inhabited has much to recommend it. It is mentioned in the account of the battle of the four kings against five, in the book of Genesis (ch. xiv), where Abram (Abraham) pursued the routed kings to Hobah north of

the Egyptian suzerainty over Palestine in the city (whose name frequently appears in the texts) was capital of the province of Ubi. The Tell el-Amarna correspondence is the end of that period the overrunning of the country by the Khabiru and Sutu evidently changed the name and government of the country, and the Damesek, appears in an inscription of

reached such strength that though Tiglath-pileser the whole of northern Syria, and by the fame of the king of Egypt to send him presents in order to attack Kadesh and Damascus so that as a "buffer" between Assyria and the rising

expedition (2 Sam. viii) against Damascus as assistance the city had given his enemy Hadaad. The Israelite possession of Syria did not last long. A dynasty there and throughout Solomon's time. His enemy to Israel (1 Ki. xi. 23 seq.).

(1 Ki. xv. 19) that Abijah, son of Rehoboam, made a league with Tab-Rimmon of Damascus to fight against Israel, and that afterwards Tab-Rimmon came to terms with the second successor, Baasha. Asa, son of Abijah, followed his example and bought the aid of Syria, whereby he was enabled to border fort that Baasha had erected (1 Ki. xv. 18) between Israel and Syria. Syria was a refuge for his merchants in Samaria (1 Ki. xx. 34); and at Aphek, when the king of Israel acted too rashly in the use of a prophetic denunciation (1 Ki. xx. 42)

According to the Assyrian records he was ally at the battle of Karkar against Sargon II. It seems to indicate the vassalage of Ahaziah remains, and it was perhaps in the reign of Ahaziah he met his death in battle (1 Ki. x. 35). Jehoram, Naaman, the Syrian general who cured the prophet Elisha of leprosy (2 Ki. v. 10).

In 842 Hazael assassinated Ben-Hadad II of Damascus. The states which Ben-Hadad II



GENERAL VIEW OF THE CITY OF DAMASCUS, SHOWING THE COVERED STREET WHICH IS CALLED

into a coalition against the advance of the Assyrians; and Shalmaneser, king of Assyria, and attacked Syria (841). He was unable to take the capital. Jehu, king of Israel, captured Damascus which Hazael afterwards ravaged. Hazael's death Shalmaneser was distracted by his wars with the borders of Israel (2 Ki. x. 32).

Adad-nirari III invaded Syria c. 805-802 and Jehoash king of Israel recovered the cities that his father Amaziah had lost. Ahaz of Judah was attacked by Rezin of Damascus, at the same time the king of Israel revolted. The king of Assyria, Tiglath-pileser, came to help; and, invading Syria, reduced Damascus.

Except for the abortive rising under Zebadiah, nothing more of Damascus for a long time. In the battle of Issus, it was delivered over to Alexander the Great. It was the general of Alexander the Great who won the wars of the successors of Alexander.

By the end of the 13th century Syria was a desolation. The Crusades had left the city in a state of ruin. The city of Damascus was captured by the Mamluks in 1261. The city was then ruled by the Mamluks until 1516. The city was then captured by the Ottomans. The city was then ruled by the Ottomans until 1918. The city was then captured by the British. The city was then ruled by the British until 1946. The city was then captured by the Syrians. The city was then ruled by the Syrians until 1963. The city was then captured by the Ba'athists. The city was then ruled by the Ba'athists until 2011. The city was then captured by the rebels. The city was then ruled by the rebels until 2015. The city was then captured by the Syrians. The city was then ruled by the Syrians until 2023.

In the New Testament Damascus appears only in connection with A. P. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

In 635 Damascus was captured for Islam by Khalid Ibn Walid. After the murder of Ali the fourth caliph, his successor Mu'awiyah transferred the seat of the Caliphate (q. v.) from Mecca to Damascus and thus commenced the great dynasty of the Omeyyads whose rule extended from the Atlantic to India. Ninety years later it was supplanted by that of the Abbasids, who removed the seat of empire to Mesopotamia, and Damascus passed through a period of unrest in which it was captured and ravaged by Egyptians, Carmathians and Seljuks in turn. The crusaders attacked Damascus in 1126, but never succeeded in keeping a firm hold of it. It was the headquarters of Saladin in the war with the Franks. The chief later events are the Mongolian capture in 1260, its Egyptian recapture by the Mameluke Kotuz; the ferocious raid of Timur (Tamerlane) in 1399; and the conquest by the Turkish sultan Selim whereby it became a city of the Ottoman empire (1516). Of its more recent history one may mention the massacre of July 1860, when the Muslim population rose against the Christians burnt their quarter, and slaughtered about 3,000 adult males. (See SYRIA.)

See also *Kraetzling, Arab and Israel* (New York, 1915); *Wissenschaftliche Veröffentlichungen der Deutsch-Türkischen Denkmalschutz-Kommission*, edit. Theodor Wiegand, Carl Watzinger and Karl Wulzinger, v. *Damascus, die antike Stadt*, (1921), *die islamische Stadt* (1924).

**Modern City.**—Damascus is the chief town of the new state of Syria; 2,300 ft. above sea-level, pop. 188,000 (21,000 Christians, 16,000 Jews). It stands on both banks of the main channel of the Baradā about 2 m. from the point where it emerges from a gorge of the Anti-Libanus to branch off eventually fanwise and irrigate a wide area. Damascus stands on the north-west edge of this extensive tract of amazingly fertile ground (the *Ghāta*), where, intermingled with fields of wheat, barley and maize, are orchards of apricot, fig, pomegranate, pistachio and almond, and groves of poplar and walnut, whilst vine boughs trail everywhere. Viewed from a point of vantage (as at the suburb *Sālihiyah*), the white minarets of the city bathed in sunlight rising above the mass of verdure leave an ineffaceable impression on the mind of the beholder. The ancient city, rudely rectangular in shape, was huddled within a wall on the southern bank of the Baradā. The modern city is spoon-shaped, the handle to the south whither the city has been drawn a long way on the Meccan road forming the quarter known as the *Maḍīn*. A suburb, *El-Amāra*, has been built on the northern bank, and farther off towards the north-west is another suburb, *Sālihiyah*. Damascus is supplied with water from the Baradā by an extensive system of canals and conduits. Its streets, for the most part narrow and protected overhead, are by no means clean, and the high walls which conceal private dwellings belie the magnificence to be found within. Its public buildings, mosques, schools and Khans reveal many fine examples of Arabian art. To a partial extent sheltered by hills to the north, west and south, the city lies open to the east and its trying and prevalent winds. It suffers a great variation in temperature in the course of the year. In winter frost and snow are not unknown, and summer temperatures are high but the nights are always cool. Fever, dysentery and ophthalmia due to the climatic conditions are

in recent years earlier times it been affected by great outbreaks was gutted in 1893, and in 1912 a considerable tract of bazaars. Great bombardments of Oct. 1925 and Damascus has 240 mosques, many are still in use. Catholic and Protestant educational institutions; it has erected a public hospital and a resident British consul.

**Antiquities.**—The ground plan have remained unaltered since at least, and a conflagration such as 1401 merely cleared the site for facilities for archaeological study might have been expected. The is visible in what is left of the of the Great Mosque, in the *Dar* ably colonnaded and in an aqueduct Great Mosque (or Umayyad mosque of St. John Baptist, whose building Theodosius (375) and completed. It occupied the site of an earlier monument (cf. 2 Ki v 18). The Caliphs of their building (A. D. 705), before re-erecting it as a mosque pillaged by Tamerlane (1401) and. In this mosque in 1905 some valuable manuscripts were discovered. The city was built in 1219 by Mālik el- (1262) and by the Turks (16th) established an Institute of Moham (its archaeological collection suffers in Oct. 1925), and a School of Art the work in glass and wood and that at reproducing the best Arabic work Syrian National Museum has also

**Commerce.**—From its happy situation much to offer to the nomad and been the market of the desert. Its "wine of Helbon" and its wool reputation for its Chalybionian wine



THE COVERED STREET CALLED STR EASTERN TO THE WESTERN GATE OF

13 m. N. N. W. of Damascus). Its cushions were famous. For centuries carried far afield the reputation of tian promoted this industry but carried off the smiths in 1401. Important now as of old but more work, the filigree work of gold (Christians) made work in wood Damascus was hard b

dustry has revived but slowly. Egyptian since the war has begun to manufacture goods previously made in Syria and many artisans from Damascus have migrated thither. The textile industry suffers from foreign competition, and dyeing has declined in sympathy. Railway connection with the Hauran (1894), Beirut (1895) and Haifa (1905) has diminished its caravan trade. Damascus is tending more and more to become a centre for foreign imported goods as well as local produce, and with the development of motor transport an increase in transit trade may be expected. The shops of Damascus are famous for the wealth and variety of their goods and its streets for the mixture of races that throng them.

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### THE TWENTIETH CENTURY

Prior to the World War, Damascus was the headquarters of the IV Turkish Army, and after the outbreak of hostilities became the base of the Turkish and German forces operating in Palestine and on the east bank of the Suez Canal under General Liman von Sanders. On Oct. 1, 1918, the city fell into the hands of the Egyptian Expeditionary Force under Lord Allenby (qv) and the Arab troops of the Emir Feisal (qv). The advance on Damascus was a purely cavalry operation, and at the city itself no resistance was made to the British and Arab troops. By Sept. 30 the Australians had worked round the north; the desert column was lying to the west, and the Arab force was at the southern outskirts of the city. Most of the Germans and Turks, after severe quarrelling, had already left.

During the night of Sept. 30 troops of the Australian Mounted Division and the advanced guard of Feisal's force had made their way into the city, and both claimed to be the first to set foot in Damascus. The formal entry was made at 6 A.M. on Oct. 1 when a British detachment and part of the Arab army marched through the streets. About 7,000 Turks surrendered to the Allied forces. On Oct. 3 Feisal made his official entry into Damascus, and this he did, according to ancient custom, by riding furiously through the streets with a large number of kinsmen, to the accompaniment of a *feu de joie* and the piercing shouts of the Arab population. After the formal occupation the Allied troops were withdrawn and an Arab administration under Feisal was set up. Sukry Pasha El Ayyubi, senior descendant of Saladin, was appointed head of the administration of the city.

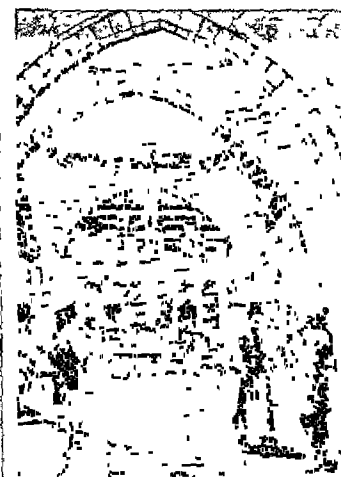
**Feisal and the French.**—When in Nov. 1919 General Gouraud was nominated French High Commissioner for Syria, the Feisal regime in Damascus was strongly antagonistic to the French and productive of much disorder. Raiding and pillaging were encouraged and public money was misappropriated. Finally, on March 7, 1920, Feisal was elected King of Syria by a so-called General Syrian Congress, while the material opposition to French influence increased and the Arab army steadily grew in numbers. Eventually matters became so serious that in July 1920 General Gouraud had to issue an ultimatum. Feisal delayed his reply and questioned the terms, while an Arab detachment attacked one of the advanced French posts, with the result that a French force took up its position at 'Am el Jedida, on the road from Beirut to Damascus, two days before the delivery of Feisal's reply. As Feisal still refused to accept certain conditions, the French force advanced and, after a fierce combat at Khan Meizakim with some 20,000 Arabs, entered Damascus. Feisal with his chief councillors took to flight.

On June 20, 1921 the Syrian Confederation, consisting of the state of Aleppo, Damascus and the Alaouites, was proclaimed at Damascus and, in order to preserve the independence of the north and the south, the city had to be divided into two parts.

with Aleppo. This was superseded later by the establishment of one capital at Damascus, and in 1925, at the wish of the inhabitants, Damascus became the capital of the Syrian State comprising the two districts of Damascus and Aleppo under a president with a French adviser as High Commissioner's delegate. On April 8 and 9, 1925, the visit of Lord Balfour to Damascus was the occasion of considerable rioting, nominally as a protest

against the Zionist declaration bearing his name, but more generally recognized as a demonstration of anti-French feeling.

**The Druses.**—When the Druse rebellion (*see* DRUSES) broke out in July 1925, Damascus played an important part as the French advanced base and as the key to the general situation in Syria. The Damascenes were sympathetic to the Druses and, their discontent being aggravated by an exceptionally bad harvest a general rising was feared with serious consequences in other Syrian towns. Two attempts were made by the Druses to effect a Damascus rising by attacks on the city. The first was a complete failure, but the second attack of Oct. 18 was a great



KHAN SULEIMAN PASHA, AN OLD ROOFLESS BUILDING NAMED AFTER THE GREAT SULTAN OF TURKEY WHICH WAS FORMERLY AN INN BUT IS NOW A THRIVING BAZAAR

deal more serious. Bands of Druses entered Damascus from the south and, receiving the support of the lower elements of the population, overran certain quarters, looting and pillaging as they went. Most of the inhabitants, however, disappointed at the small numbers of the Druses, failed to take any decisive action. French troops were sent into the streets to repel the insurgents, but, as the situation became more serious, the French troops were withdrawn and the order was given to bombard the affected areas. The bombardment lasted until Oct. 20, and great damage was done, including the partial destruction of the Palais Azm, recognized as the most beautiful building in the city.

This action of General Sarrail (qv), the French High Commissioner, was severely criticised, and he incurred well-merited censure for permitting the situation in Damascus to become such that a bombardment was a military necessity and for carrying out such a drastic measure without issuing either an ultimatum to the insurgents or notice to the foreign consuls. General Sarrail was dismissed in November of the same year. His dismissal, however, brought no peace to Damascus, and fighting continued around the city.

In Dec. 1925, M. Henri de Jouvenel (qv) succeeded General Sarrail as High Commissioner for Syria and in Feb. 1926, after the resignation of Subky Bey Barakat, President of the Syrian State, a Provisional Government was set up under M. Pierre Alype, with General Andréa as Military Governor of Damascus. In April of the same year, M. Alype was replaced by a native Provisional Head of the State in the person of Damad Ahmed Nami Bey, who governed through a Council of Ministers with French advisers. As martial law still prevailed, Damascus was excluded from the areas in which elections were subsequently held.

On May 2, 1926, Damascus was again the scene of serious disturbances. A Druse band, about 200 strong, penetrated into the Meidan quarter, which was bombarded, at half an hour's notice, by French artillery and aircraft. The greater part of the Meidan quarter, which contains one-quarter of the population of Damascus, was destroyed, while 1,000 lives are said to have been lost. The value of the damage was estimated at £700,000. On this occasion the street fighting on the French side was conducted, not by French regular troops, but by Circassian and Armenian levies, who were accused of savage brutality. Even this second devastation of Damascus failed to produce the effect desired by the French.

## DAMASK—DAMASCUS

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At the end of May, 1926 M. de Jouvenel accorded the Syrian President the right to offer an amnesty to all rebels, who should lay down their arms in Damascus by June 15; he abolished the indemnity of 100,000 Syrian pounds imposed upon the city as a result of the insurrection of Oct. 1925, and approved the programme of the National Syrian Government. These conciliatory measures however, had no satisfactory result; the Syrian Ministry was distressed for showing undue sympathy to the insurgents and desultory fighting continued in and about Damascus. Finally after the arrival of M. Ponsot as High Commissioner, the Syrian revolt began to subside at the end of 1926. By this time the Syrians were able to re-establish road communications with Beirut, and Damascus began to regain its commercial position on the trade route to Iraq via the Syrian Desert.

Meanwhile, the city had been placed in a strong state of defence by General Andrea, and the clearances made for this purpose were utilized for the construction of the "Boulevard de Baghdad," a broad thoroughfare encircling the city. A comprehensive scheme of town-planning was also inaugurated, including the restoration of the bombarded area, and plans for approved *façades* were prepared by M. de Lorey, *Directeur de l'Institut français d'archéologie et d'art musulman*. Provision was thereby made that the new quarter of Damascus should not clash with its ancient surroundings.

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**DAMASK**, the technical term applied to certain distinct types of fabric. The term owes its origin to the ornamental silk fabrics of Damascus, fabrics which were elaborately woven in colours, sometimes with the addition of gold and other metallic threads. At the present day it denotes a linen texture richly figured in the weaving with flowers, fruit forms of animal life, and other types of ornament. "China, no doubt," says Dr. Rock (*Catalogue of Textile Fabrics*, Victoria and Albert Museum), "was the first country to ornament its silken webs with a pattern. India, Persia and Syria, then Byzantine Greece followed, but at long intervals between, in China's footsteps. Stuffs so figured brought with them to the West the name 'diaspron' or diaper, bestowed upon them at Constantinople. But about the 12th century the city of Damascus, even then long celebrated for its looms so far outstripped all other places for beauty of design, that her silken textures were in demand everywhere, and thus, as often happens, traders fastened the name of damascen or damask upon every silken fabric richly wrought and curiously designed, no matter whether it came or not from Damascus."

The term is perhaps now best known in reference to damask table-cloths, a species of figured cloth usually of flax or tow yarns, but sometimes made partly of cotton. The finer qualities are made of the best linen yarn, and, although the latter is of a brownish colour during the weaving processes, the ultimate fabric is pure white. The high lights in these cloths are obtained by long floats of warp and weft, and, as these are set at right angles, they reflect the light differently according to the angle of the rays of light; the effect changes also with the position of the observer. Subdued effects are produced by shorter floats of yarn, and sometimes by special weaves. Any subject, however intricate, can be copied by this method of weaving, provided that expense is no object. The finest results are obtained when the so-called double damask weaves are used. These weaves are shown

under *Dix*, and it will be seen that each weave gives a maximum float of seven threads (In some special cases a weave is used which gives a float of nine.)

The small figure here shown to illustrate a small section of a damask design is composed of the two single damask weaves, these give a maximum float of four threads or picks. No shading is shown in the design, and this for two reasons—(1) the single damask weaves do not permit of elaborate shading, although some very good effects are obtainable; (2) the available space is not sufficiently large to show the method to advantage. The different single damask weaves used in the shading of these cloths appear, however, at the bottom of the figure while between these and the design proper there is an illustration of the thirty-first pick interweaving with all the 48 threads.

The principal British centres for fine damasks are Belfast and Dunfermline, while the medium qualities are made in several places in Ireland in a few places in England, and in the counties of Fife, Forfar and Perth in Scotland. Cotton damasks, which are made in Paisley, Glasgow, and several places in Lancashire, are used for toilet covers, table-cloths, and similar purposes. They are often ornamented with colours and sent to the Indian and West Indian markets. Silk damasks for curtains and upholstery decorations are made in the silk-weaving centres.

**DAMASK STEEL** or **DAMASCUS STEEL**, a steel with a peculiar watered or streaked appearance, as seen in the blades of fine swords and other weapons of Oriental manufacture. One way of producing this appearance is to twist together strips of iron and steel of different quality and then weld them into a solid mass. A similar but inferior result may be obtained by etching with acid the surface of a metal, parts of which are protected by some greasy substance in such a way as to give the watered pattern desired. The art of producing damask steel has been generally practised in Oriental countries from a remote period, the most famous blades having come from Isfahan, Khorasan, and Shiraz in Persia.

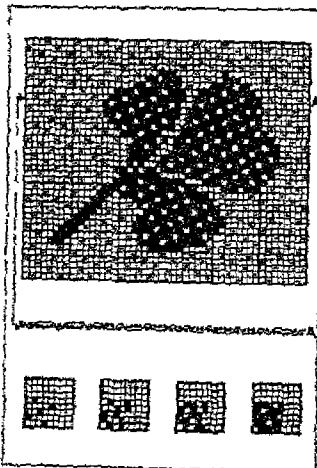
**DAMASCUS**, the name of two popes.

**DAMASCUS I.**, Saint, was pope from 366 to 384. As a deacon he protested against the banishment of Pope Liberius (355), but when the emperor Constantius sent to Rome the anti-pope Felix II., Damasus, with the other clergy, rallied to his cause. When Liberius returned from exile and Felix was expelled, Damasus again supported Liberius. On the death of Liberius (366) he was nominated successor; but the irreconcilables of the party of Liberius set up against him another deacon, Ursinus. A serious conflict ensued which quickly led to rioting. The prefect of Rome recognized the claims of Damasus, and Ursinus and his supporters were expelled. The new pope also secured the sympathy of the people by his zeal in discovering the tombs of martyrs, and in adorning them with precious marbles and monumental inscriptions. The inscriptions he composed himself, in mediocre verse, full of Virgilian reminiscences. In Rome he erected or embellished the church which still bears his name (S. Lorenzo in Damaso).

The West was recovering gradually from the effects of the Arian crisis, and Damasus endeavoured to eliminate from Italy and Illyria the last champions of the council of Rimini. The bishops of the East, however, under the direction of St. Basil, were involved in a struggle with the emperor Valens, whose policy was favourable to the council of Rimini. Damasus, to whom they appealed for help, was unable to be of much service because that episcopal group, viewed askance by St. Athanasius and his successor Peter, was incessantly combated at the papal court by the hatred of Alexandria. The Eastern bishops triumphed in the end under Theodosius, at the council of Constantinople (381), in which the Western church took no part. They were invited to a council at Rome in 382, but few attended.

This council had brought to Rome the learned monk Jerome, for whom Damasus showed great esteem. To him Damasus entrusted the revision of the Latin text of the Bible. A short time before the pope had received a visit from the Priscillianists after their condemnation in Spain and had dismissed them. Damasus died on Dec. 11, 384.

His writings are printed in Migne, *Patrol. Lat.* XIII. See also



**DETAILS OF A DAMASK DESIGN**  
The name "damask," originally given to the woven silks of Damascus, today signifies a linen texture elaborately designed in the weaving.

Duchesne, *Liber Pontificalis* I, 212, J. Wittig, *Papst Damasus I.* (Rome, 1902) and *Die Friedenspolitik des Papstes Damasus I.* (Breslau, 1912).

DAMASUS II, pope from July 17 to Aug. 9, 1048, was the ephemeral successor of Clement II. His original name was Poppo, and he was bishop of Brixen when the emperor Henry III raised him to the papacy.

**DAMBROWA**, a Polish town in the province of Kielce and centre of the coal basin bearing its name and which combines with the basins of Cracow and Polish Silesia to form one of the greatest coalfields of Europe. Pop (1921) 39,800 an increase of 15,700 on that of 1910. The Dambrowa basin, 200 sq km, was formerly in the Russian empire, and in 1924 produced 6,585,097 tons, about 97% of the production of 1913.

**DAME**, properly a name of respect or a title equivalent to "lady," now surviving in English as the legal designation of the wife or widow of a baronet or knight, or of a dame of the Order of the British Empire, it is prefixed to the Christian name and surname. It has also been used in modern times by certain societies or orders, e.g. the Primrose League as the name of a certain rank among the lady members, answering to the male rank of knight. The ordinary use of the word by itself is for an old woman. As meaning "mistress," i.e., teacher, "dame" was used of the female keepers of schools for young children, which have become obsolete since the advance of public elementary education. At Eton college boarding-houses kept by persons other than members of the teaching staff of the school were known as "Dames' Houses," though the head might not necessarily be a lady. As a term of address to ladies of all ranks, from the sovereign down "Madam," shortened to "ma'am," represents the French *madame*, my lady.

"Damsel," a young girl or maiden, now only used as a literary word, is taken from the OFr *damessele*, formed from *dame*, and parallel with the popular *danselle* or *doncele* from the M. Lat. *damicella* or *domicella*, diminutive of *domina*. The French *damaisselle* and *demoisselle* are later formations. The English literary form "damosel" was another importation from France in the 15th century. In the early middle ages *damoiseau*, M. Lat. *domicellus*, *damercele*, *damoselle*, *domicella*, were used as titles of honour for the unmarried sons and daughters of royal persons and lords (*seigneurs*). Later the *damoiseau* (in the south *donzel*, in Béarn *domengar*) was specifically a young man of gentle birth who aspired to knighthood equivalent to écuyer, esquire or valet (qv).

**DAME'S VIOLET**, the English name for *Hesperis matronalis*, a herbaceous plant belonging to the family Cruciferae, and closely allied to the wallflower and stock. It has an erect, stout, leafy stem, 2 to 3 ft high with irregularly toothed, short-stalked leaves and white or lilac flowers,  $\frac{1}{2}$  in. across, which give off a scent in the evening. The slender pods are constricted between the seeds. The plant is a native of Europe and temperate Asia and is found in Great Britain and in the eastern United States and Canada as an escape from gardens, in meadows and plantations.

**DAMGHAN**, town, Persia, in 36° 10' N 54° 20' E, 216 m from Tehran, on the high road to Khurasan; elevation 3,737 feet. Pop 10,000. Damghan was an important city in the middle ages, but there are few remains of that period. The remains of Hecatompylos extend from Frat, 16 m S. to Gúsheh, 20 m W. Damghan was destroyed by the Afghans in 1723. Fath Ali Shah was born here in 1772. Damghan is famous for the excellent quality of its almonds.

**DAMIANI, PIETRO, SAINT** (c. 1007–1072), celebrated ecclesiastic, was born at Ravenna, and after some years of teaching about 1035 entered the hermitage of Fonte Avellana, near Gubbio, where he became superior some eight years later. He entered into communication with the emperor Henry III., addressed to Pope Leo IX. in 1049 his *Liber Gomorrhianus* denouncing the vices of the clergy, and soon became associated with Hildebrand in the work of reform. As a trusted counsellor of successive popes he was made cardinal bishop of Ostia in 1057, and presided over a council at Milan in 1059. He assisted Alexander II

in his struggle with the anti-pope, Honorius II; and having served the papacy as legate to France and to Florence was allowed to resign his bishopric in 1067. After a period of retirement at Fonte Avellana, he proceeded in 1069 as papal legate to Germany, and persuaded the emperor Henry IV to give up his intention of divorcing his wife Bertha. He died at Faenza on Feb. 22, 1072. Damiani was a determined foe of simony and clerical marriage, and a vigorous controversialist.

His works published by Cardinal Cajetan, 4 vols (Rome, 1606–15) are reprinted in Migne, *Patrol. Lat.* v 144 and 145. See F. Neukirch, *Das Leben des Peter Damiani* (Göttingen, 1875), Kleinermanns, *Der heilige Petrus Damiani* (Steyl, 1882), R. Biron, *St. Pierre Damien* (1908), J. A. Encres, *Petrus Damiani und die weltliche Wissenschaft* (Munster, 1910).

**DAMIEN, FATHER**, the name in religion of JOSEPH DE VEUSTER (1840–1889), Belgian missionary, born at Tremeloo, near Louvain, on Jan. 3, 1840. In 1858 he joined the Society of the Sacred Heart of Jesus and Mary (also known as the Precious Congregation) and while still in minor orders, in 1863 went as a missionary to the Pacific islands, taking the place of his brother who had been prevented by illness. On reaching Honolulu he was ordained priest in 1864. Struck with the sad condition of the lepers, whom the Hawaiian Government deported to Molokai island, in 1873 he volunteered to take spiritual charge of the settlement. Besides attending to the spiritual needs of the lepers, he managed, by the labour of his own hands and by appeals to the Hawaiian Government, to improve the water-supply, the dwellings, and the victualling of the settlement, and after five years received assistance from other resident priests. He succumbed to leprosy on April 15, 1889. Some ill-considered imputations upon Father Damien by a Presbyterian minister produced a memorable tract by Robert Louis Stevenson (*An Open Letter to the Rev. Dr. Hyde*, 1890).

See *Life and Letters of Fr. Damien*, ed. by his brother, Fr. Pamphile (London, 1889) and M. Quinlan, *Damien of Molokai* (London, 1909), which reproduces Stevenson's letter.

**DAMIENS, ROBERT FRANÇOIS** (1715–1757), a Frenchman who made an attempt on the life of Louis XV. on Jan. 5, 1757. As the king was entering his carriage, he rushed forward and stabbed him with a knife, inflicting only a slight wound. His mind seems to have been unhinged by the ecclesiastical controversies of the moment. He was condemned as a regicide, and sentenced to be torn in pieces by horses in the Place de Grève. Before being put to death he was barbarously tortured.

See *Pièces originales et procédures du procès fait à Robert François Damiens* (Paris, 1757).

**DAMIETTA**, a town of Lower Egypt, on the eastern (Damietta or Phatnitic) branch of the Nile, a few miles above its mouth and 125 m N.N.E. of Cairo by rail. Pop (1917) 30,984. The town is built on the east bank of the river between it and Lake Menzala. Though ill-built and partly ruinous, the town possesses some fine mosques, with lofty minarets, public baths and busy bazaars. Along the river-front are many substantial houses with terraces and steps leading to the water. Their wooden lattices of saw-work are very graceful. Once the third town in Egypt, it enjoys now little more than a coasting trade, and ships of over 6ft. draught must anchor in the offing.

Damietta is a Levantine corruption of the Coptic name *Tamiat*, Arabic *Dumyât*. The original town was 4 m nearer the sea than the modern city. Under the Saracens it had great wealth and commerce, and, as the eastern bulwark of Egypt, was frequently attacked by the crusaders. In June 1249, Louis IX. of France occupied Damietta without opposition, but being defeated near Mansura in the February following, and compelled (April 6) to surrender himself prisoner, Damietta was restored to the Muslims as part of the ransom exacted. To prevent further attacks from the sea the Mameluke sultan Bibars blocked up the Phatnitic mouth of the Nile (about 1260), razed old Damietta to the ground, and transferred the inhabitants to the site of the modern town. Damietta gives its name to dimity, a kind of striped cloth, for which the place was at one time famous. Cotton and silk goods are still manufactured here and there is some trade in rice and salted fish.

**DAMIRI**, the correct name of KAMAL UD-DIN MUHAMMAD IBN MUSA UD-DAMIRI (1125-1198), Arabian writer on canon law and natural history, he belonged to one of two towns called Damir, near Damascus and spent his life in Egypt. Of the Shafiite school of law, he became professor of tradition in the *Rabniyya* at Cairo, and also at the mosque el-Azhar, in connection with this work he wrote a commentary on the *Minhaj ut-Talibin* of Nawawi (1077). He is, however, better known in the history of literature for his *Life of Animals* (*Hayat ul-Hayawan*), which treats in alphabetical order of 931 animals mentioned in the Koran, the traditions and the poetical and proverbial literature of the Arabs.

The use of the animals in medicine, their lawfulness or unlawfulness as food, their position in folk-lore are the main subjects treated while occasionally long irrelevant sections on political history are introduced.

Several editions have been made at various times of extracts, among them the poetical one by Suyuti (1505), which was translated into Latin by A. Echelenius (1667). Bocharus in his *Herpeticon* (1763) used Damiri's work. There is a translation of the whole into English by Lieutenant-Colonel Jayakar (Bombay, 1900-1903).

**DAMJANICH, JÁNOS** (1804-1849), Hungarian soldier, was born at Stássa in the Banat. On the outbreak of the Hungarian war of independence he was promoted to be a major of the third Honvéd regiment at Szeged, for although he was an orthodox Serb he was from the first a devoted adherent of the Magyar Liberals. At the beginning of 1849 he was appointed commander of the 3rd army corps in the middle Theiss on account of his reputation for ability and valour. He fought battle after battle so that after the battle of Isaszeg Kossuth, at the ensuing review at Godollo, expressed the sentiments of the whole nation when he doffed his hat as Damjanich's battalions passed by. Always a very democrat, Damjanich uncompromisingly supported the extremist views of Kossuth, and was appointed commander of one of the three divisions which, under Görgei, entered Vác in April 1849. After the catastrophe of Világós Damjanich surrendered to the Russians, by whom he was handed over to the Austrians, who shot him in the market place of Arad a few days later.

See Othon Hamvay, *Life of János Damjanich* (Budapest, 1904)

**DAMMAR** or **DAMMER**, a resin or rather series of resins, obtained from various coniferous trees of the genus *Agathis* (*Dammara*). East Indian dammar or cat's eye resin is the produce of *Agathis Dammara*, which grows in Java, Sumatra, Borneo and other eastern islands and sometimes attains a height of 80-100ft. The resin oozes in large quantities from the tree in a soft viscous state, with a highly aromatic odour, which however, it loses as it hardens by exposure. The resin is much esteemed in oriental communities for incense-burning. Dammar is imported into England by way of Singapore, and as found in British markets it is a hard, transparent, brittle, straw-coloured resin, destitute of odour. It is readily soluble in ether, benzol and chloroform, and with oil of turpentine it forms a fine transparent varnish which dries clear, smooth and hard. The allied kauri gum, or *dammar* of New Zealand (Australian *dammar*), is produced by *Agathis australis*, or kauri-pine, the wood of which is used for wood paving. Much of the New Zealand resin is found fossil in circumstances analogous to the conditions under which the fossil copal of Zanubar is obtained. Dammar is besides a generic Indian name for various other resins, which, however, are little known in western commerce. Of these the principal are black dammar, yielded by *Camarium strictum* (family Burseraceae) and white dammar, Indian resin, or pine varnish, the produce of *Fateria indica* (family Dipterocarpaceae). Sal dammar is obtained from *Shorea robusta*; *Syntherisma microcarpa* is the source of rock dammar and other species of the genus *Agathis* are the source of other resins.

**DAMMARTIN**, a small town of France in the department of the Ardennes, 10 m. S.W. of Metz. Situated on a hill from

count of Dammartin, made himself master of the town in the 10th century. His dynasty was replaced by another family in the 11th century. Reynald I (Renaud), count of Dammartin (d. 1227), who was one of the coalition crushed by Philip Augustus at the battle of Bouvines (1214), left two co-heiresses, of whom the elder Maud (Matilda or Mahaut), married Philip Hurepel, son of Philip Augustus, and the second Alex, married Jean de Trie, in whose line the countship was reunited after the death of Philip Hurepel's son Alberic. In the 15th century the countship was acquired by Antoine de Chabannes (d. 1488) by his marriage with Marguerite, heiress of Reynald V of Nanteuil-Aci and Marie of Dammartin. Antoine de Chabannes fought under the standard of Joan of Arc, became a leader of the *Écorcheurs*, took part in the war of the public weal against Louis XI, and then fought for him against the Burgundians. The collegiate church at Dammartin was founded by him in 1480, and his tomb and effigy are in the chancel. His son, Jean de Chabannes, left three heiresses, of whom the second left a daughter who brought the countship to Philippe de Bouainvillers by whose heirs it was sold in 1554 to the dukes of Montmorency. In 1632 the countship was confiscated by Louis XIII and bestowed on the princes of Condé.

**DAMME**, a decayed city of Belgium (pop. 1,100),  $4\frac{1}{2}$  m. N.E. of Bruges, once so important as a commercial port that it had its own maritime law, known as *Droit maritime de Damme*. It is on the canal from Bruges to Sluys (Ecluse), but in the middle ages a navigable channel called the Zwyn connected it with the North sea; the battle of Sluys, in which Edward III destroyed the French fleet, was fought in 1340 at its mouth. In 1490 a treaty was signed at Damme between the people of Bruges and the archduke Maximilian, and very soon after the channel became completely silted up, and the foreign merchant guilds or "nations" removed to Antwerp. The marriage of Charles the Bold and Margaret of York, sister of Edward IV, was celebrated at Damme on July 2, 1468. The town, although long neglected, preserves some remains of its former prosperity. The tower of Notre Dame, dating from 1180, is a landmark across the dunes, and the church, although a shell, merits inspection; out of a portion of the ancient markets a *hôtel-de-ville* has been constructed, and in the hospital of St. Jean are a few pictures; and in the Place is a statue (1860) to Jacob Van Maerlaet, the Flemish poet, who was clerk to the magistrates of Damme in the late 13th century.

**DAMOCLES**, one of the courtiers of the elder Dionysius of Syracuse. When he spoke in extravagant terms of the happiness of his sovereign, Dionysius is said to have invited him to a sumptuous banquet, at which he found himself seated under a naked sword suspended by a single hair (Cicero *Tusc.* v. 21. Horace *Odes*, iii. 1, 17; Persius iii. 40).

**DAMOH**, a town and district of British India, in the Jubbulpore division of the Central Provinces. The town of Damoh is situated on the railway from Katni to Bina, a branch of the G.I.P. railway, 48 m. E. of Saugor. It has small local industries and a large cattle market, and is a distributing and collecting centre for the district. Being situated below rocky hills it is decidedly hot. In pre-railway days its population was about 3,000, which had increased to 17,000 in 1911. In 1921, owing to the ravages of influenza, the population had fallen to 15,296. Damoh was looted by mutineers from Jubbulpore in 1857 and the district office was burnt.

The DISTRICT OF DAMOH is one of the smallest in the Central Provinces, having an area of 2,818 sq. m. and a population of 287,126. It is one of the Vindhyan districts and on the north and north-east borders Bundelkhand. It is drained by the Sonar and Bearna rivers which flow northwards into the Ken, and thus eventually reach the Jumna. The district is mainly wheat producing, but its agriculture is liable to severe vicissitudes of drought and excessive rain, and its population and prosperity have fluctuated greatly. The central plain is rich and fertile but the areas to both the north and south are hilly and jungle. Its people,



been taken. Dyeing weaving pottery and the manufacture of bell metal utensils are the chief industries. Cattle slaughtering for the export of green meat bones, hides horns and hoofs has been established near Damoh, the old and infirm cattle from long distances being brought in for slaughtering. Except for a little iron ore and sandstone for building, there is no mineral wealth in the district. There are notable temples at Bandakpur and Kundalpur and there are old Hindu and Jain remains at Nohta.

**DAMON AND PHINTIAS** (not Pythias), Syracusan Pythagoreans, devoted friends. Condemned to death by Dionysius of Syracuse, Phintias begged a short respite that he might arrange his affairs. Damon pledged his life for the return of his friend; and Phintias returned in time. The tyrant released both and begged to be admitted to their friendship (Diod. Sic. x. 4; Cicero, *De Off.* iii. 45; cp Hyginus, *fab.* 257).

**DAMOPHON**, a Greek sculptor of Messene, who executed many statues for the people of Messene, Megalopolis, Aegium, and other cities of Peloponnesus. Considerable fragments, including three colossal heads from a group by him representing Demeter, Persephone, Artemis, and the giant Anytus, have been found on the site of Lycosura in Arcadia, where there was a temple of the goddess called "The Mistress." They are preserved in part in the museum at Athens and partly on the spot. Hence there arose controversy as to the date of the artist, who was assigned to various periods, from the 4th century B.C. to the 2nd A.D. G. Dickins, however, by the help of inscriptions proved the date to be the 2nd century B.C.

See G. Dickins, *Annual of the British School at Athens* (xii and xiii).

**DAMP**, vapour or mist, and hence moisture. In the vocabulary of coal-miners "firedamp" is marsh gas, which, when mixed with air and exploded produces "choke damp" "after damp" or "suffocating damp" (carbon dioxide). "Black damp" consists of accumulations of irrespirable gases, mostly nitrogen, which cause the lights to burn dimly, and the term "white damp" is sometimes applied to carbon monoxide. As a verb, the word means to stifle or check, hence damped vibrations or oscillations are those which have been reduced or stopped, instead of being allowed to die out naturally, the "dampers" of the piano are small pieces of felt-covered wood which fall upon the strings and stop their vibrations as the keys rise; and the "damper" of a chimney or flue, by restricting the draught, lessens the rate of combustion.

**DAMPIER, WILLIAM** (1652-1715), English buccaneer, navigator and hydrographer, was born at East Coker, Somersetshire in 1652. Having early become an orphan, he was placed with the master of a ship at Weymouth, in which he made a voyage to Newfoundland. On his return he sailed to Bantam in the East Indies. He served in 1673 in the Dutch War under Sir Edward Sprague, and was present at two engagements (May 28, June 4); but then fell sick and was put ashore. In 1674 he became an under-manager of a Jamaica estate, but continued only a short time in this situation. He afterwards engaged in the coasting trade, and thus acquired an accurate knowledge of all the ports and bays of the island. He made two voyages to the Bay of Campeachy (1675-76), and remained for some time with the logwood-cutters, varying this occupation with buccaneering. In 1678 he returned to England, again visiting Jamaica in 1679 and joining a party of buccaneers, with whom he crossed the Isthmus of Darien, spent the year 1680 on the Peruvian coast, and sacking, plundering and burning, made his way down to Juan Fernandez island. After serving with another privateering expedition in the Spanish Main, he went to Virginia and engaged with a captain named Cook for a privateering voyage against the Spaniards in the South Seas. They sailed in Aug. 1683, touched at the Guinea coast, and then proceeded round Cape Horn into the Pacific. Having touched at Juan Fernandez, they made the coast of South America, cruising along Chile and Peru. They took some prizes, and with these they proceeded to the Galapagos islands and to Mexico, falling in with the latter near Cape Blanco. While they lay here Captain Cook died, and the command devolved on Captain Davis, who, with several other pirate vessels, English and French, raided the west

American shores for a next year, attacking Guayaquil Puebla No. 2, etc. At last Dampier leaving Davis, went on board Swan's ship, and proceeded with him along the northern parts of Mexico as far as southern California. Swan then proposed as the expedition met with "bad success" on the Mexican coast to run across the Pacific and return by the East Indies. They started from Cape Corrientes on March 31, 1686, and reached Guam in the Ladrones on May 20, the men, having come almost to an end of their rations, had decided to kill and eat their leaders next, beginning with the "lustiest and fleshy" Swan. After six months' drunkenness and debauchery in the Philippines, the majority of the crew, including Dampier, left Swan and thirty-six others behind in Mindanao, cruised (1687-1688) from Manila to Pulo Condore, from the latter to China and from China to the Spice Islands and New Holland (the Australian mainland). In March 1688 they were off Sumatra, and in May off the Nicobars, where Dampier was marooned (at his own request, as he declares, for the purpose of establishing a trade in ambergris) with two other Englishmen, a Portuguese and some Malays. He and his companions contrived to navigate a canoe to Achin in Sumatra, but the fatigues and distress of the voyage proved fatal to several and nearly carried off Dampier himself. After making several voyages to different places of the East Indies (Tongking, Madras, etc.), he acted for some time, and apparently somewhat unwillingly, as gunner to the English fort of Benkulen. Thence he ultimately contrived to return to England in 1691.

In 1699 he was sent out by the English Admiralty in command of the "Roebuck," especially designed for discovery in and around Australia. He sailed from the Downs on Jan. 14, with twenty months' provisions, touched at the Canaries, Cape Verdes and Bahia, and ran from Brazil round the Cape of Good Hope direct to Australia, whose west coast he reached on July 26, in about 26° S. Anchoring in Shark's Bay, he began a careful exploration of the neighbouring shore-lands, but found no good harbour or estuary, no fresh water or provisions. In September, accordingly, he left Australia, recruited and refitted at Timor and thence made for New Guinea, where he arrived on Dec. 3. By sailing along to its easternmost extremity, he discovered that it was terminated by an island, which he named New Britain (now Neu Pommern), whose north, south and east coasts he surveyed. That St. George's bay was really St. George's channel, dividing the island into two, was not perceived by Dampier; it was the discovery of his successor, Philip Carteret. Nor did Dampier visit the west coast of New Britain or realize its small extent on that side. He was prevented from prosecuting his discoveries by the discontent of his men and the state of his ship. In May 1700 he was again at Timor, and thence he proceeded homeward by Batavia (July 4-Oct. 17) and the Cape of Good Hope. In February 1701 he arrived off Ascension island, when the vessel foundered (Feb. 21-24), the crew reaching land and staying in the island till April 3, when they were conveyed to England by some East Indiamen and warships bound for home. In 1705-1707 Dampier commanded two Government privateers on an expedition to the South Seas with grievous unsuccess, better fortune attended him on his last voyage, as pilot to Woodes Rogers in the circumnavigation of 1708-1711. On the former venture Alexander Selkirk, the master of one of the vessels, was marooned at Juan Fernandez; on the latter Selkirk was rescued and a profit of nearly £200,000 was made. But four years before the prize-money was paid Dampier died (March 1715) in St. Stephen's parish, Coleman street, London. Dampier's accounts of his voyages are famous. He had a genius for observation, especially of the scientific phenomena affecting a seaman's life; his style is usually admirable—easy, clear and manly. His knowledge of natural history, though not scientific, appears surprisingly accurate and trustworthy. (C. R. B.)

See Dampier's *New Voyage Round the World* (1697); his *Voyages and Descriptions* (1699), a work supplementary to the *New Voyage*; his *Voyage to New Holland in . . . 1699* (1703, 1709); *Dampier's Voyages* (ed. J. Masefield, 1906); W. C. Russell, *William Dampier* ("English Men of Action," 1889); also Funnell's *Narrative of the Voyage of 1703-1707*; Dampier's *Vindication of his Voyage* (1707); Welbe's *Answer to Captain Dampier's Vindication*; Woodes Rogers, *Cruising Voyage Round the World* (1712).

**DAMROSCH, LEOPOLD** 1832-1955; German-American musician and conductor, born in Posen, Prussia, Oct. 22, 1832. In early life a pianist, he became Konzertmeister at Weimar, then conductor of the Philharmonic Society at Breslau, he went to America as conductor at the Metropolitan Opera House and founded the Oratorio Society, New York, 1874, the New York Symphony Society, 1878, etc.

His son, **WALTER JOHANNES DAMROSCH** (1867- ), American musician and conductor was born at Breslau, Germany, Jan. 30, 1867. He went to America in 1871, and ten years later began his career as conductor in Newark, New Jersey. On the death of his father in 1897 he was appointed conductor of the Metropolitan Opera House, the New York Symphony Society and the Oratorio Society. In 1894 he founded the Damrosch Opera Company for producing Wagner and in 1896 produced Wagner's *Parsifal* in concert form for the first time in the United States. In 1903 he was appointed director of the New York Symphony Orchestra, remaining conductor up to Feb. 1927. He was then appointed musical adviser to the National Broadcasting Company, informal lectures on Wagner with music having developed into lecture recitals over the radio. His compositions include *The Scarlet Letter* (1894); *Cyranus* (1915); and music for Euripides' *Medea*, *Iphigenia in Aulis* (Berkeley, 1915) and Sophocles' *Electra* (1917). He wrote an autobiography, *My Musical Life* (1923).

Another son, **FRANK HEINO DAMROSCH**, was born at Breslau, June 22, 1869. He became in 1905 director of the Institute of Musical Art, New York City, and wrote a *Popular Method of Sight Singing and Some Essentials in the Teaching of Music*.

**DAMS.** From immemorial times dams have been constructed of earth and masonry for the purpose of forming reservoirs for the storage of water to ensure regular supplies to communities for domestic purposes and for irrigation. There are records of a huge earthen dam on the Tigris and a large masonry dam on the river Nile, built almost in prehistoric times which remained in service for incredibly long periods, and the Romans built numerous massive masonry dams in Italy and northern Africa. All the early masonry dams were characterized by excessive width of base usually three to four times the height.

The production of hydro-electric energy and the application of irrigation on a large scale are two forms of development which have expanded very rapidly in the 20th century in countries having the requisite conditions and resources and in many cases have involved enormously greater storage of water than that required for even the largest towns. The progress in scientific design and in magnitude of dam structures has been correspondingly extensive, and new types of structure have been introduced to meet the call for greater economy in a class of work which is seldom cheap.

**Types of Dams.**—The principal types are (a) earth dams, (b) masonry or concrete gravity dams, (c) rock-fill dams, (d) single horizontal arch, (e) multiple buttress dams, (f) large river dams, or barrages.

While types (a) and (b) have been used from antiquity, the others are products of the 19th and 20th centuries.

**Earth Dams.**—Earth dams are largely used on account of their permanence and cheapness and convenience of construction where suitable material is available in the vicinity. Security depends on the construction being adequately watertight to prevent scouring away of any of the earth by water passing through the dam, and on the installation of a spillway and spillway channel formed in masonry concrete or rock sufficient to pass the maximum flood without allowing any water to pass over the top of the earth bank. Water passing over the top would form ruts on the surface of the embankment which would be carried down in a puddle which has been made of the same material. The puddle is made of the same material as the embankment and its proper con-

struction. A relatively thin watertight core wall of concrete or reinforced concrete is frequently used now as being practicable for most sites and quicker to construct than a puddle wall.

The slopes of the embankment vary according to the height of the dam and the nature of the material. Generally the slope next the water is made rather flat frequently from 1.4½ to 1.3½ while the outer slope is somewhat steeper 1.2 to 1.3. In high

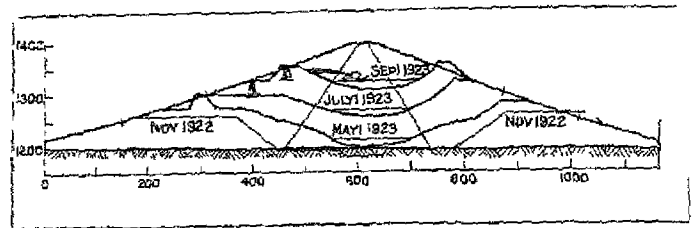


FIG. 1.—CROSS-SECTION OF THE DAVIS BRIDGE DAM, VERMONT

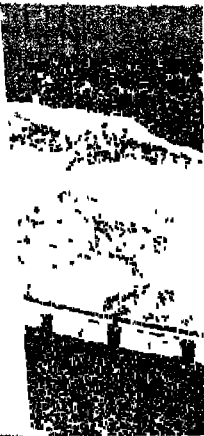
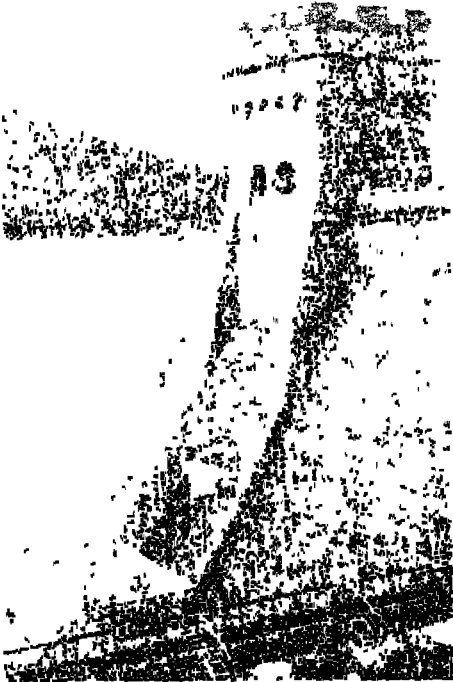
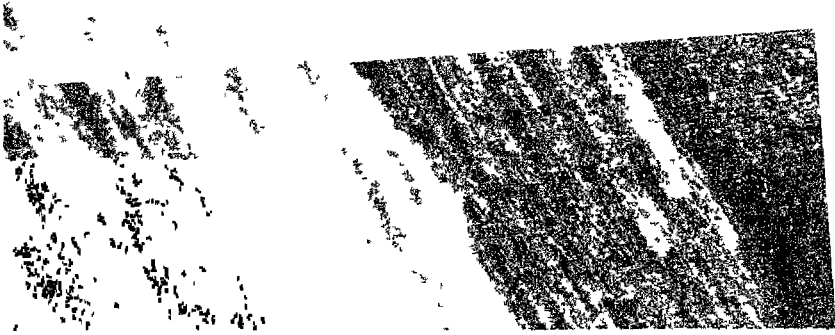
dams the slopes in the lower part are flattened out still more as compared with the upper part and in all cases the water slope must be protected by stone or concrete paving or beaching sufficiently massive to withstand wave action and prevent the earth of the embankment from being disturbed.

The trend of development in America for the construction of large earth dams is towards the attainment of watertightness by the formation of a wide hearting of fine material bound with fine clay and silt separated and washed into the centre by hydraulic sluicing from the earth as dumped in banks along the upper and lower sides of the dam. Fig. 1 shows a cross-section of the Davis Bridge dam in Vermont, 200 ft high, with an earthworks volume of 1,000,000 cu yd, which was constructed in less than two years by this method.

**Rock-fill Dams.**—A rock-fill dam depends for its stability on an embankment of tipped rock material and for its watertightness on a skin of concrete or reinforced concrete laid on the hand-built water face and carried down in the form of a vertical cut-off wall to an impervious stratum. Lack of suitable earth material and excessive cost of concrete lead to consideration of the rock-fill type of dam. The embankment is usually formed with rock of all sizes as blasted from the quarry, the outer face being roughly built to a plain surface with large blocks and the inner face more carefully and solidly built to a uniform surface and formed with grooves or keyways to furnish a grip for the concrete. For important dams, special drainage arrangements are made for catching up at the back of the skin any water which may percolate through it, and leading it by special drains through to the downstream side so as to obviate risk of scour under the dam. The water face is made steep (1:1 or steeper) to minimize the quantity of skin concrete, the outer face being generally somewhat flatter, about 4:3.

The largest dam of this type yet constructed is the Dix river dam in Kentucky, U.S.A., built 1923-25. This has a height of 275 ft. and a volume of rock-fill of 1,747,000 cubic yards. The upstream slope varies from 1:1 at the top to 1:2.1 at the bottom. Downstream, the slopes are 1:1 at top and 1:4.1 at the bottom. A thick layer on the upstream face was hand-built with large stones, while the rest of the material was side-tipped from wagons. The watertight skin of reinforced concrete varies in thickness from 8 in. at the top to 18 in. at the bottom.

**Gravity Dams.**—Though dams of massive masonry have been used for thousands of years it was not till the 19th century that a proper scientific basis for design was developed by Prof. Rankine and others so that the width could be reduced from three to four times the height to something less than the height. The tendency in gravity dams is to use the simple triangular form for even the highest dam and to use concrete to the exclusion of masonry. The triangular form gives a uniform stability condition at any horizontal section, and the maximum stresses in the material are directly proportional to the depth below T.W.L. Assuming a usual inclination of the waterface, say 1:2.6, and concrete of normal density, the necessary inclination of the outer face will depend on the amount of upward water pressure on the base. It is by means of effective drainage arrangements upward pressure is



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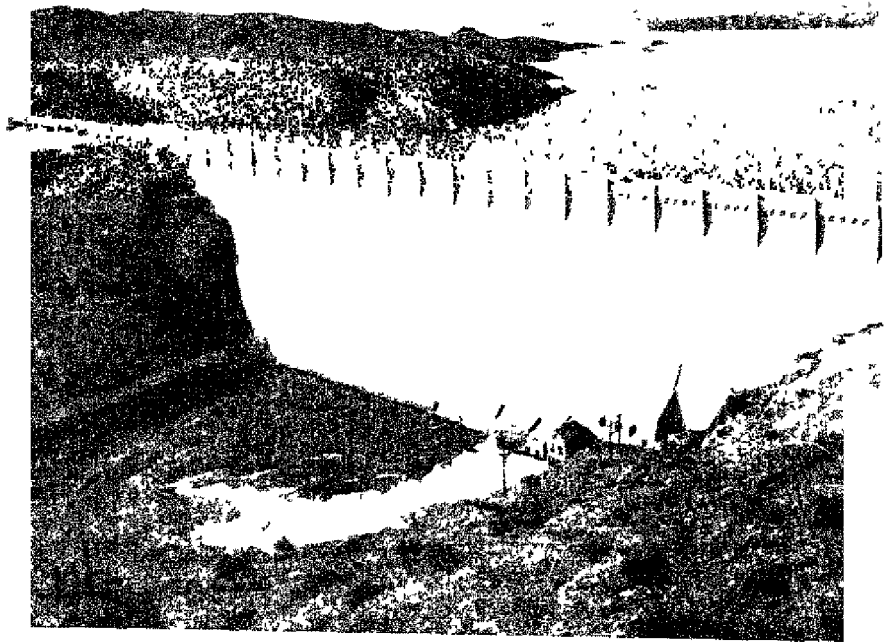
ECTOR, PUBLICITY I

### GRAVITY AND HORIZONTAL ARCH DAMS

1 Dam, *Derwent valley, England*  
2 Dam, *Derwent valley, England*  
3 Dam, *Derwent valley, England*

4 Side view of horizontal arch dam, Pretoria, South Africa  
5 Stance gate showing power hoist. Nile dam, Assiut, Egypt  
6 Buttressed spillways of a gravity dam, California

# DAMS



OF THE U.S. BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

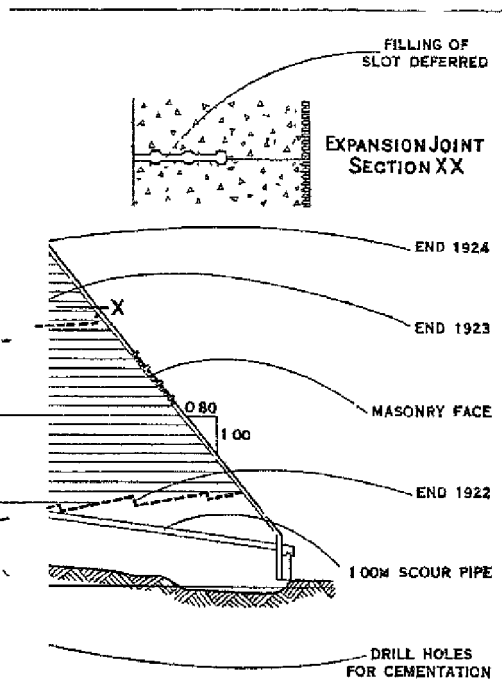
## WATER SUPPLY DAMS FOR IRRIGATION PROJECTS

1 Elephant Butte dam, Salt River irrigation project, Arizona. Horizontal arch of storage dam showing spillways at either side and discharge at base of main spillway in a narrow gorge. Each end of dam is fixed by stone block abutments. Concrete is used to natural rock.

2 Elephant Butte dam, Rio Grande. Concrete gravity type of dam with outlet at base. Concrete is heaviest, tapering with height. Spillways are determined by amount of water to be discharged.

# DAMS

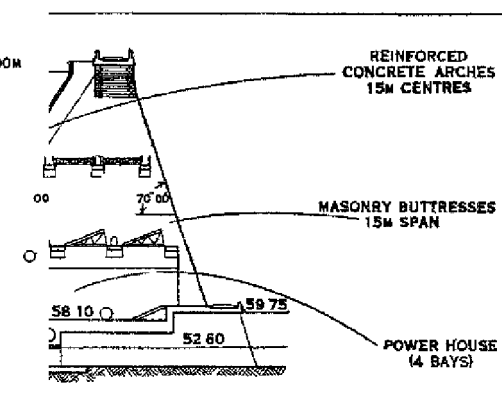
ter slope of about 0.65:1 will suffice. If the allowance of upward water pressure on the full head at the inner face to zero at the outer slope will require to be about 0.80:1. If, necessary to allow for heavy ice pressure at the all greater slope, up to 0.85:1, will be required ensure that the resultant will pass within the



CROSS SECTION OF BARBERINE DAM, SWITZERLAND

that there will be no tension on the concrete, and ensures at inner and outer toes when the slope is slightly less than that produced by a column of height as the wall. If, therefore, the compressive put at the moderate value of 400 lb. per sq in height of the triangular gravity dam will be over depth of concrete produces a stress of about (inch)

tion requires a rich concrete mixture next the bottom to ensure watertightness and also maximum stress at the inner and outer edges near



CROSS SECTION OF THE TIRSO DAM, SARDINIA

use of high dams. The proportion of cement to may vary from 4 cwt per cu yd for the body wt or more for the places of maximum water

dam in Switzerland, completed 1925, and shown fig 2 illustrates the application of the triangular with excellent arrangements for sealing the base through drill holes, and for providing for ex- change in the upper part. The dam is of concrete young from 250 to 300 kg of cement per cu m

is without drainage arrangements and is de- on the base varying from full-head at the outside. The slope of the waterface is 1:20:0.80:1. The cross section also indicates the gneiss applied on the outer slope which has and is subject to severe temperature variatio

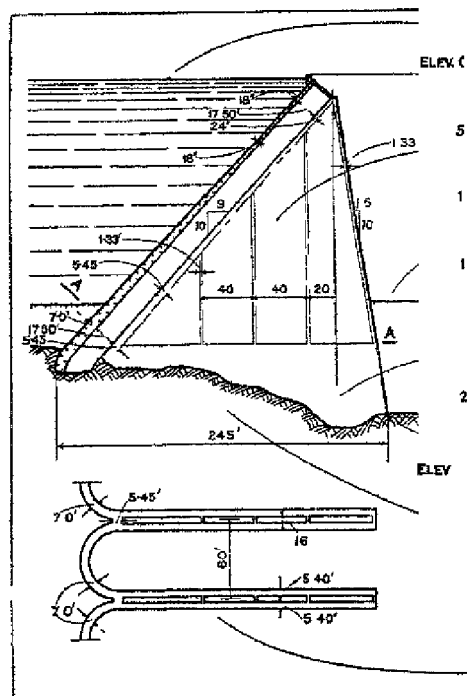
The greatest dam of this type yet projected dam of the Los Angeles flood control pro a maximum height of 438 ft a base width contain over 3 1/4 million cu yd. of concrete capacity of 8 000 million cu ft would not b

**Horizontal Arch Dams.**—The horizont only for narrow gorges with sound rock at great thrust from the abutments. The w horizontal plane being constant the appropri plane will be a segment of a cylinder of un radius of the extrados is constant at all dep required will be directly proportional to the vertical section will then be of triangular face is vertical the angle of the outer slo radius and the working compressive stre- the formula

$$\tan \alpha = \frac{0.43r}{c}$$

where  $r$  = radius of extrados in feet  
 $c$  = average compressive stress in lb

The value of  $c$  for actual dams is usually be per sq in and should depend on the qua Increased economy in concrete can be ob



BY COURTESY OF F. A. HORTZELI

FIG 4—PLAN OF LAKE PLEASANT (ARIZ) MULTIPLE ARCH DAM. SHOWN ABOVE, SIDE ELEVATION OF HIGHEST BUTTRESS SECTION THROUGH THE ARCHES AND HOLLOW BUTTRESSES

constant angle system of construction where arch increases from the bottom of the dam- ance with the varying width of the gorge. This type, constructed in 1928, is the Pacoima d county flood control project with a maxim thickness varying irregularly from 8 ft at the bottom and radius of the water face v the top to about 200 ft at the bottom

**Multiple Buttress Dams.**—In multiple water load may be supported and transie either by reinforced flat slabs or by arches. In construction a spillway section can readily be flat slabs also on the outer face formed

# DAMS

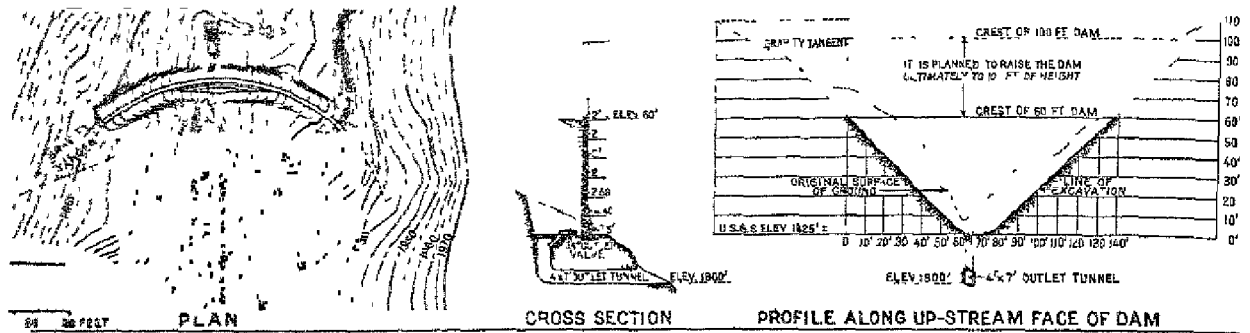


FIG 5—PLAN PROFILE AND CROSS-SECTION OF THE EXPERIMENTAL DAM AT STEVENSON CREEK

section Brook main dam of the Newfoundland Power Company is of this type and about 1,000 ft. long and 75 ft. high. It carries a single-line railway. The buttresses, spaced 20 ft. apart, are of plain concrete from 16 in. to 44 in. thick. The buttresses are supported by simple beams to support the water pressure. Flat concrete is an uneconomical type of construction for support of high water pressures as compared with arches and entail a large amount of concrete with close spacing the practicable maximum is 20 feet.

In arch dams the buttress spacing may be from 15 to 20 ft. long on the general height of the dam. The highest arch dam constructed in Europe to 1928 is the Tirso dam in Italy. The buttresses spaced at 50 ft. centres, are of concrete sloped at the outer face to suit the direction of the water pressure and are designed to be independently stable under the maximum loadings transmitted to them by the arches. The arches are of concrete, nearly semi-circular, lightly reinforced, and have a thickness varying from 20 in. at top to 5½ ft. at bottom. The dam provides storage for the triple purposes of power generation and river regulation, the power house being located in the spaces between the buttresses.

An arch dam of this type constructed in the United States is the Grand Canyon dam in Arizona which has a maximum height of 70 ft. The arches and buttresses are of reinforced concrete with a spacing of 60 ft. and the buttresses have an average height of 16 ft. but are of cellular construction with a spacing of 10 ft. Vertical and horizontal sections of this dam are shown in Plate I.

Special circumstances arise in regard to dams whether installed for purposes for irrigation or for the production of hydro-electric power. It is generally necessary that close limits be placed on the flood and backing-up height, so that provision must be made for passing very large quantities of flood water. The circumstances are accentuated in the case of a dam on a river carrying much water, where it is desired to store water to give a regulated supply during the dry season. In all such cases movable openings are necessary on a dam to regulate the flow of water. In the case of a dam where regulation is essential a series of large rectangular spillways is operated by machinery is most common. The Aswan dam on the Nile (Plate I, fig. 5), has a crest of 100 ft. high and a capacity of 100,000,000 cu. ft. Water is discharged through two large spillways. The Aswan dam on the Nile river, Egypt, is the largest masonry dam in the world. It has a crest of 100 ft. high and a capacity of 100,000,000 cu. ft. Water is discharged through two large spillways. The Aswan dam on the Nile river, Egypt, is the largest masonry dam in the world. It has a crest of 100 ft. high and a capacity of 100,000,000 cu. ft. Water is discharged through two large spillways.

The river bed. The gates are separated by piers, usually of concrete which must be capable of supporting the maximum water load from a panel of the barrage as well as the erections and machinery for operating the gates. The gates are fully opened to pass the first part of the wet season flood and scour the reservoir bed clean and closed in time to conserve the later and cleaner part of the flow. The Vaal river barrage is an interesting example of this type of dam, on a river whose annual silt burden is estimated at 1,200,000 tons and maximum flood flow 187,000 cusecs.

The Olive Bridge dam, forming the principal structure in the Asnokan reservoir of the New York City Catskill water supply system, is an interesting type of modern masonry construction. It is founded on solid ledge-rock and was built of cyclopean concrete faced with smoothly finished concrete blocks. At each end the masonry section is flanked with earthen dikes built of selected earth which was spread in thin layers and thoroughly compacted by rolling. The reservoir formed by this dam has a water surface of 8,180 ac., giving an available capacity to the City of New York of 128,000 million gallons.

BIBLIOGRAPHY—W. G. Bligh, *Dams and Weirs* (Chicago, 1915); C. W. Smith, *Construction of Masonry Dams* (1915); G. F. Swan, *Conservation of Water by Storage* (1915); W. P. Creager, *Engineering for Masonry Dams* (1917); E. Wegmann, *The Design and Construction of Dams* (8th ed., 1927); P. Ziegler, *Der Talsperrenbau* (1927) (J. W. I.)

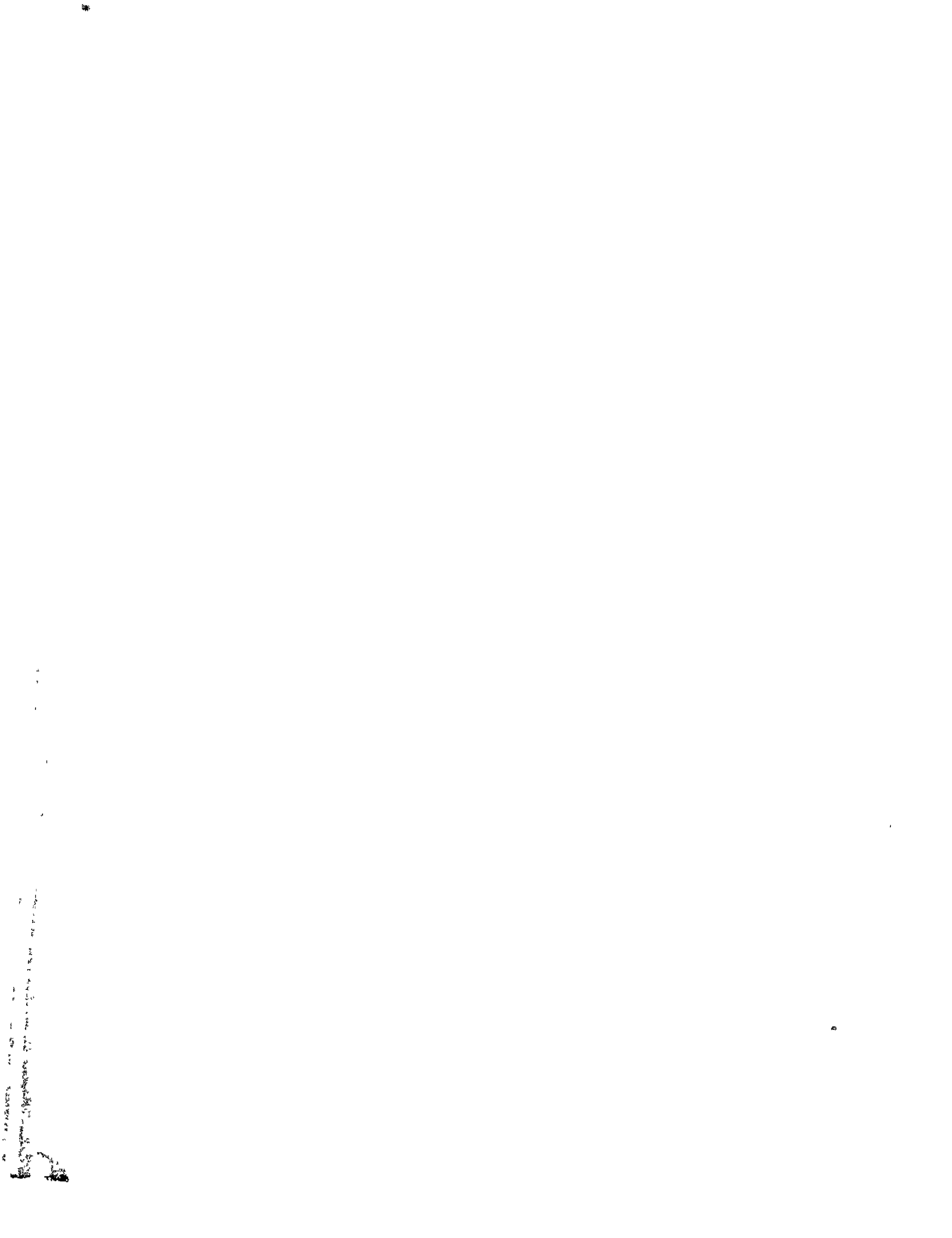
## EXPERIMENTAL ARCH DAM AT STEVENSON CREEK

There is much divergence of engineering opinion as to the distribution of stresses in an arch dam. Experimental knowledge is therefore desired and at the suggestion of Fred A. Noetzi an investigation of arch dams was started in 1922 in the United States by the Engineering Foundation, the joint research organization of the American Societies of Civil, Mechanical, Electrical, Mining and Metallurgical Engineers. A committee of hydraulic engineers was organized. Observations on existing dams were undertaken, and funds were collected for the construction of an arch dam to be built for purely experimental purposes. In all about 75 organizations and individuals including power companies, industries, bankers, governmental bureaux, universities, constructors and engineers, joined in subscribing a fund of about \$120,000 for the purpose of constructing an extremely slender arch dam 60 ft. high, which would be raised later to 100 ft. and tested to destruction, if possible. A plan, profile and cross-section of the experimental dam is shown in fig. 5.

Such a dam was built in the spring of 1926 in the steep granite gorge of Stevenson Creek, Calif., about 60 m. east of Fresno. On this creek, strong granite walls afforded perfect foundation conditions. The reservoir was small and could be filled as desired from a nearby tunnel of the Southern California Edison Company. Even if the dam should break while the reservoir was full, no damage would result. The dam was built of Portland cement concrete without steel reinforcement. It was completed in June, 1926, to a height of 60 feet. It has trestles and platforms for and a 24 in. pipe for diverting the water of the creek past the dam during the tests. The thickness of the dam at the

# DAMS







quantity of concrete in the dam is about 450 cu yards. Special care was taken to obtain a concrete of a high degree of uniformity. In other respects the concrete was of a commercial mixture, failing a compression at about 2,000 lb. per sq in. at the age of 28 days. The dam was built under the direction of H. W. Dennis.

**Measuring Devices.**—Several hundred instruments and measuring posts were placed in the concrete during the construction of the dam and read at frequent intervals. The strains in the interior of the dam were measured by means of electric tele-strain gauges, embedded in the concrete at an elevation of 20 feet. On the surface the strains were measured with strain gauges. The temperature changes in the concrete were determined by means of about 140 electric resistance coils. The deflections of the dam were measured by means of vertical clinometers in seven vertical sections; and by triangulation. The changes of curvature of the arches under load were measured by means of a radius meter. Special instruments were devised for measuring any movements of the bed rock.

**The Testing.**—During the summer of 1926, 13 complete load tests were made with the reservoir partly and completely filled. All tests were made usually between midnight and the early morning hours, in order to minimize temperature changes of the arch during any one test. Generally, for each load test, "no load" readings were taken on all the instruments at about midnight of the day of testing, with no water in the reservoir. Then the reservoir was filled as quickly as possible to the desired elevation, and a complete series of "load" readings were taken. The water was then let out from the reservoir and the "no load" readings repeated for checking purposes.

**Results.**—From the observed data of deflections and strains, the bending moments, shears and stresses in a number of vertical and horizontal planes through the arch dam have been determined. From this has been determined the probable division of the total water pressure between the vertical cantilevers and the horizontal arches into which, as is customary, an arch dam is assumed to be divided for convenience of analysis. The deflections, moments, shears and loads on the middle vertical cantilever were deduced by repeated differentiation from deflections measured with the clinometer. In a similar way were determined the moments, shears and loads carried by the horizontal arch elements at elevations 10 ft. apart. The remarkable degree of accuracy of the test results is well illustrated by the fact that the sum of the partial loads of cantilever and arches is substantially equal to the total water pressure, which, of course, must be the case. The stresses are based on a modulus of elasticity of 3,600,000 lb. per sq in., as determined by laboratory and field tests. The reasonable agreement between design and test data is evident. Two months after completion of the last test series the dam was overtopped by an unexpectedly large flood to a depth of about three feet. In spite of this crucial test the dam did not fail and thus illustrated most forcibly the great strength of a well built arch dam even of extremely thin cross section. A celluloid model  $\frac{1}{10}$  the dimensions of the Stevenson Creek dam was tested by loading with mercury. The results showed remarkable agreement with the tests on the full scale structure. Models of larger sizes, of mortar and other substances are being planned as an aid and guidance in the design of future arch dams. The experiments on the Stevenson Creek test dam and on small models have yielded very valuable results. The tests have shown conclusively that under load an arch dam acts in accordance with the well established laws of elasticity. The results of the investigation should lead to much economy.

(F. A. N.)

**DAN**, a tribe of Israel named after a son of Jacob and Bilhah, the maid of Rachel. The earlier home of the tribe was to the west of Judah, where it seems that they occupied the sea coast, covering the caravan routes, where the weakness of the later kings of the Egyptian 18th dynasty made it possible for them freely to plunder travellers (Judges v. 17; Gen. xlix.). The Philistine settlements naturally came into contact first with this tribe, and in the days of Samson their territory was reduced to small compass, embracing only the neighbouring villages of Zorah and Eshtaol. The story of Samson grows out of the struggle which ended in the

expulsion of the Danites. In Judges xv. 1 seq. we have the narrative of their migration to a new site in the far north. This was their home during the whole period of the northern monarchy and their settlement centred round one of the most famous sanctuaries in Israel. The fact that several of the famous Israelite artists (especially in metal) are connected with the tribe of Dan (of e.g. Exod. xxxi. 6; II Chron. ii. 13 seq.) has suggested that early tradition connected Dan with the Calebites and Kenites.

In the monarchic period the importance of Dan is almost entirely religious. It was a home of bull worship, and tradition ascribes the introduction of this cult to Jeroboam I (I Ki. xii. 28-30), but the shrine is far older, and its priesthood traced its descent from Moses himself (Judges xviii. 30). Dan was subsequently either regarded as the embodiment of wickedness or entirely ignored (the list of the redeemed in Rev. vii. 5-8 omits the tribe of Dan altogether). Late speculation that the Antichrist should spring from it appears to be based upon an interpretation of Gen. xlix. 17.

**DAN**, a light-skinned patrilineal people (formerly cannibal) sometimes known as the Jula cannibals, on the French Ivory coast and in Liberia in the basin of the upper Kavalley. The villages are independent. Family property is joint with individual ownership of personal possessions. They practise husbandry and arboriculture (millet, yam, kola, coco-nut oil and rubber). They are animists and practise ordeal by poison and by boiling oil.

See M. S. Vendex, "Ethnographie du Cercle de Man, Côte d'Ivoire," *Revue Ethn. et Trad.* 409 (1924).

**DAN**, a town which marked the northern limit of Palestine reckoned "from Dan to Beersheba." It is now identified with *Tell-el-Kadhi*, a mound 4 m. west of Banias, in a jungle of rank vegetation. From its western base issues a mighty fountain (*Leddān*), the largest of the sources of the Jordan. *Laish*, or *Leshem* (Judges xviii.), was its name prior to its conquest by migrating Danites and it formed, seemingly, a colony or dependence of Sidon. Here the Danites set up Micah's graven image (Judges xviii. 30f.), and Jeroboam erected one of his golden calves (I Ki. xii. 29). Its name disappears from history with its capture by Ben-Hadad of Damascus (I Ki. xv. 20). An attempt has been made to locate Dan at *Bāniās* based on a direct statement of Theodore and a vague allusion of the Jerusalem Talmud; but it is against it the definite testimony of Josephus (*Antiq.* i. 10 i. etc.) and that of Eusebius and Jerome (*Onom. Sac.*) as well as the evidence from the survival of the name (both Dan and *Kadhi* signify judge). *Tell-el-Kadhi* is now in British Mandated Territory. A preliminary survey of the mound for excavation purposes has been made since the World War.

**DANA, CHARLES ANDERSON** (1819-1897), American journalist, was born in Hinsdale, N.H., on Aug. 8, 1819. In 1839 he entered Harvard, but the impairment of his eyesight in 1841 forced him to leave college. From Sept. 1841 until March 1846 he lived at Brook Farm (q.v.), where he was made one of the trustees. He had previously written for the *Harbinger*, the Brook Farm organ, and had written as early as 1844 for the Boston *Chronotype*. In 1847 he joined the staff of the *New York Tribune*, and in 1848 he wrote from Europe letters to it on the revolutionary movements of that year. Returning to the *Tribune* in 1849, he became its managing-editor, and in this capacity actively promoted the anti-slavery cause. In 1862 his resignation was asked for, apparently because of wide temperamental differences between him and Greeley. Secretary of war Stanton immediately made him a special investigating agent of the war department in this capacity Dana spent much time in the field, reporting to Stanton frequent reports. He went through the Vicksburg campaign and was at Chickamauga and Chattanooga, and urged the placing of Gen. Grant in supreme command of all the armies in the field. In 1864-65 Dana was second assistant-secretary of war. He became the editor and part-owner of the *New York Sun* in 1868, and remained in control of it until his death. Under Dana's control the *Sun* opposed the war, and Dana was a bitter critic of Grant as president; and in 1872 took part in the Liberal Republican

the Democrat candidate for the presidency, in 1876 opposed the Electoral Commission and continually referred to Hayes as the "fraud president." In 1884 it supported Benjamin F. Butler, the candidate of Greenback-Labor and Anti-Monopolist parties, for the presidency and opposed Blaine (Republican) and even more bitterly Cleveland and Democrat; it supported Cleveland and opposed Harrison in 1888, and in 1896, on the free-silver issue, it opposed Bryan, the Democratic candidate for the presidency. Dana's literary style came to be the style of the *Sun*—simple, strong, clear "boiled down." *The Art of Newspaper Writing*, containing lectures which he wrote on journalism, was published in 1900. With George Ripley he edited *The New American Cyclopaedia* (1857-63), reissued as the *American Cyclopaedia* in 1873-76. He edited an anthology, *The Household Book of Poetry* (1857). *Dana's Reminiscences of the Civil War* was published in 1896, as was his *Eastern Journeys, Notes of Travel*. He died at Glen Cove, Long Island, N.Y., on Oct. 17, 1897.

See James Wilson, *The Life of Charles A. Dana* (1907); and Frank M. O'Brien, *The Story of the "Sun," New York, 1833-1918* (1918).

**DANA, FRANCIS** (1743-1811) American jurist, was born in Charlestown (Mass.) June 15, 1743. He graduated at Harvard in 1762, was admitted to the bar in 1767, became a leader of the Sons of Liberty, and in 1774 was a member of the first provincial congress of Massachusetts. He was a member of the Massachusetts Executive Council (1776-80) and a delegate to the Continental Congress (1776-78). In the autumn of 1779 he was appointed secretary to John Adams, who had been selected as minister plenipotentiary to negotiate treaties of peace and commerce with Great Britain and in Dec. 1780 he was appointed diplomatic representative to the Russian Government. He remained at St. Petersburg from 1781 to 1783, but was never formally received by the empress Catherine. In 1784 he was again chosen a delegate to Congress, and in 1785 he became a justice of the Massachusetts supreme court over which he presided (1792-1806) with ability and distinction. He was an earnest advocate of the adoption of the Federal constitution, was a member of the Massachusetts convention which ratified that instrument and was one of the most influential advisers of the leaders of the Federalist party. He died at Cambridge (Mass.), April 15, 1811.

His son, **RICHARD HENRY DANA** (1787-1879), was born in Cambridge (Mass.), Nov. 15, 1787. After graduation from Harvard in 1808 he was admitted to the bar; but literature was his absorbing interest. From 1815 until 1821 he was associated with Jared Sparks and Edward T. Channing in the editorial control of the *North American Review*, and in 1821-22 he put forth a miscellany, *The Idle Man*. He published his first volume of *Poems* in 1827; and in 1833 appeared his *Poems and Prose Writings*, republished in 1850 in two volumes. An English edition, *The Buccaneer and Other Poems*, was issued in 1844. Dana died in Boston, Feb. 2, 1879.

**RICHARD HENRY DANA** (1815-1882), son of the last-mentioned, was born in Cambridge (Mass.), Aug. 1, 1815. He entered Harvard in the class of 1835, but an illness affecting his sight necessitated a suspension of his college work, and in Aug. 1834 he shipped before the mast for California, returning in Sept. 1836. This voyage was really a turning point in his career, renewing his health, turning him into a self-reliant, energetic man with broad interests and keen sympathies, and giving him the material for his *Two Years before the Mast* (1840), one of the best American books on the sea. Not only is this still widely read at home and abroad, but it also has historic significance. It created interest in California prior to the gold rush; with Melville's *White-Jacket* (1850) it led to reforms in the treatment of sailors; and it vividly preserves a bygone epoch. Before the publication of his book, Dana had completed his legal training at Harvard, and he now began the writing of his *Seaman's Manual*, which was bringing him a wide reputation. In 1841 he published *The Seaman's Friend*, republished in England as *The Seaman's Manual*, a useful and readable book. In spite of the ostracism and danger

it involved, Dana became prominently associated in 1848, with the Free Soil movement and volunteered his services for negroes seized under the Fugitive Slave Act. In 1857 he became a regular attendant at the meetings of the famous Boston Saturday club, to the members of which he dedicated his account of a vacation trip, *To Cuba and Back* (1850). He returned to America from a trip round the world in time to participate in the presidential campaign of 1860, and after Lincoln's inauguration he was appointed United States district attorney for Massachusetts. In this office in 1863 he won before the Supreme Court of the United States the famous prize case of the "Amy Warwick," on the decision in which depended the right of the Government to blockade the Confederate ports without giving the Confederate States an international status as belligerents. He brought out in 1865 an edition of Wheaton's *International Law*, his notes constituting a most learned and valuable authority on this subject and its hearings on American history and diplomacy; but Dana was charged by the editor of two earlier editions, William Beach Lawrence with infringing his copyright, and was involved in litigation for 13 years. Dana's political aspirations were largely frustrated. He declined the position of United States district judge, but he became a member of the Massachusetts house of representatives (1867-68), and in 1867 was retained, with William M. Everts, to prosecute Jefferson Davis, whose admission to bail he counselled. Although the Senate refused to ratify Grant's nomination of him for minister to England, he was, in 1877, one of the counsel for the United States before the commission that met at Halifax, N.S., to arbitrate the fisheries question between the United States and Great Britain. In 1878 he gave up his law practice, and he devoted the rest of his life to study and travel. He died in Rome, Italy, Jan. 6, 1882.

For the elder Richard Henry Dana, see J. G. Wilson, *Bryant and His Friends* (1885). For the younger, see C. F. Adams, *Richard Henry Dana, a Biography* (1890) and *Exercises . . . Celebrating the One Hundredth Anniversary of the Birth of Richard Henry Dana* (Cambridge, 1916).

**DANA, JAMES DWIGHT** (1813-1895), American geologist, mineralogist and zoologist, born in Utica, New York, on the 12th of February 1813. He early displayed a taste for science which had been fostered by Fay Edgerton, a teacher in the Utica high school, and in 1830 he entered Yale College, in order to study under Benjamin Silliman the elder. Graduating in 1833, for the next two years he was teacher of mathematics to midshipmen in the navy, and sailed to the Mediterranean while engaged in his duties. In 1836-37 he was assistant to Professor Silliman in the chemical laboratory at Yale, and then, for four years, acted as mineralogist and geologist of a United States exploring expedition, commanded by Captain Charles Wilkes, in the Pacific ocean (see WILKES, CHARLES). His labours in preparing the reports of his explorations occupied parts of thirteen years after his return to America in 1842. In 1844 he again became a resident of New Haven, married the daughter of Professor Silliman, and in 1850, on the resignation of the latter was appointed Silliman Professor of Natural History and Geology in Yale College, a position which he held till 1892. In 1846 he became joint editor and during the later years of his life he was chief editor of the *American Journal of Science and Arts* (founded in 1818 by Benjamin Silliman), to which he was a constant contributor, principally of articles on geology and mineralogy. A bibliographical list of his writings shows 214 titles of books and papers, beginning in 1835 with a paper on the conditions of Vesuvius in 1834, and ending with the fourth revised edition (finished in February 1895) of his *Manual of Geology*. His reports on *Zoophytes*, on the *Geology of the Pacific Area*, and on *Crustacea*, summarizing his work on the Wilkes expedition, appeared in 1846, 1849 and 1852-1854, in quarto volumes, with copiously illustrated atlases, but as these were issued in small numbers, his reputation more largely rests upon his *System of Mineralogy* (1837 and many later editions in 1892), *Manual of Geology* (1862; ed. 4, 1895), *Manual of Mineralogy* (1848), afterwards entitled *Manual of Mineralogy and Lithology* (ed. 4, 887) and *Corals and Coral Islands* (872 ed. 2 1890). In 1887 Dana revisited the Hawaiian Islands and the results of his further investigations were pub-

lished in a quarto volume in 1890 entitled *Claa te stis of Volcanoes*. By the Royal Society of London he was awarded the Copley medal in 1877 and by the Geological Society the Wollaston medal in 1874. His powers of work were extraordinary, and in his 82nd year he was occupied in preparing a new edition of his *Manual of Geology*, the 4th edition being issued in 1895. He died on the 14th of April 1895.

His son EDWARD SALISBURY DANA, born at New Haven on the 16th of November 1849, is author of *A Textbook of Mineralogy* (1877; new ed. 1898) and a *Text Book of Elementary Mechanics* (1881). In 1879-80 he was professor of natural philosophy and then became professor of physics at Yale.

See *Life of J. D. Dana*, by Daniel C. Gilman (1899).

**DANAÆ** (Gr. *dā-nā-ā*, anglicized *dān'ā-ē*), in Greek legend, daughter of Acrisius, king of Argos. According to the myth, her father having been warned by an oracle that she would bear a son by whom he would be slain, confined Danaë in a brazen tower. But Zeus descended to her in a shower of gold, and she gave birth to Perseus, whereupon Acrisius placed her and her infant in a wooden box and threw them into the sea. They were finally driven ashore on the island of Seriphus, where they were picked up and brought to Polydectes, king of the island. For her subsequent adventures see PERSEUS.

**DANAGLA**: see BARABRA.

**DANAO**, a municipality (with administration centre and 45 *barrios* or districts) of the province and island of Cebu, Philippine islands, on the east coast, at the mouth of the Danao river, 17 m. N.N.E. of Cebu, the provincial capital. Pop. (1913) 22,581, of whom only 9 were whites. It is in the centre of a rich agricultural region producing rice, corn, sugar, copra and cacao. Coal is mined in the vicinity. In 1918, it had five manufacturing establishments with an output valued at 218,900 pesos: five small sugar-mills; and 230 household industry establishments with output valued at 47,300 pesos. Of the seven schools, five were public. The language spoken is Cebu-Bisayan.

**DANAUS**, in Greek legend, son of Belus, king of Egypt, and twin-brother of Aegyptus. He was born at Chemmis (Panopolis) in Egypt, but having been driven out by his brother he fled with his 50 daughters to Argos, the home of his ancestress. The 50 sons of Aegyptus arrived in Argos, and Danaus was obliged to consent to their marriage with his daughters. But to each of these he gave a knife with injunctions to slay her husband on the marriage night. They all obeyed except Hypermetra, who spared Lynceus. She was brought to trial by her father, acquitted and afterwards married to her lover. Being unable to find suitors for the other daughters, Danaus offered them in marriage to the youths of the district who proved themselves victorious in racing contests (*Pindar, Pythia, ix, 117*).

According to another story Lynceus slew Danaus and his daughters and seized the throne of Argos (schol. on Euripides, *Hecuba*, 886). In the other world the Danaides were condemned to the endless task of filling with water a vessel which had no bottom. Crime and punishment alike have been variously explained by mythologists.

See articles in Pauly-Wissowa's *Realencyklopädie* and W. H. Roscher's *Lexikon der Mythologie*; Campbell Bonner, in *Harvard Studies*, xii. (1902).

**DANBURITE**, a rare mineral species consisting of calcium and boron orthosilicate,  $\text{CaB}_2(\text{SiO}_4)_2$ , crystallizing in the orthorhombic system and discovered in 1839 at Danbury, Conn., whence its name, and where it occurs embedded in dolomite. The crystals are transparent to translucent, and colourless to pale yellow, they are prismatic in habit, and closely resemble topaz in form and interfacial angles. There is an imperfect cleavage parallel to the basal plane; hardness 7, specific gravity 3.0. Splendid crystals have been found in Japan.

**DANBURY**, a city of south-western Connecticut, 65 m. N.N.E. of New York city, on the Still river; one of the county seats of Fairfield county. It is served by the New York, New Haven and Hartford railroad. The population was 18,943 in 1920 (21% foreign-born white) and was estimated locally at 22,000 in 1928. The city lies in a broad plain, surrounded by the foot-

hills of the Berkshires and retains much of the delightful aspect of a New England village. It is the seat of a State normal school, opened 1904. The predominant industry is the manufacture of felt hats, begun in 1780, which in 1928 was represented by over 30 factories, employing 5,000 workers. Other important manufactures are hat-making machinery, silver-plated ware, electric trucks, silk braid, thread, ball and roller bearings and electric insulators. The aggregate factory output in 1927 was valued at \$35,392,543. An agricultural fair is an annual event. The town of Danbury was settled in 1684. The borough was chartered in 1822 and became a city in 1889. In 1776 a depot of military supplies was established here, which in April, 1777, was raided by Governor Tryon of New York. In his retreat he was attacked at Ridgefield (9 m. S.) by the Americans under General David Wooster, who was fatally wounded in the conflict. Several books about Danbury were written by James Montgomery Bailey (1841-94), founder and for many years proprietor of the *Danbury News*, whose humorous sketches in the *News* made himself and the paper famous.

The "Danbury Hatters' Case," a suit for damages brought by a manufacturing firm against 186 hatters of Danbury in 1902, on the ground that their boycott was a violation of the Sherman Act, is important in the annals of organized labour in America. Damages were awarded to the plaintiff and his contention was upheld by a decision of the U. S. Supreme Court in 1915.

**DANBY, THOMAS OSBORNE, EARL OF**: see LEEDS, THOMAS OSBORNE, 1ST DUKE OF.

**DANBY, FRANCIS** (1793-1861), English painter, was born in the south of Ireland on Nov. 16, 1793, and died at Exmouth on Feb. 9, 1861. He led a wandering life, but spent his last 20 years in England. A good example of his work is "Fisherman's Home—Sunset" in the National Gallery, and the "Departure of Ulysses from Ithaca" (1854). His sons, James Francis (1816-73) and Thomas (1817?-86), were also well-known artists.

**DANCE**, the name of an English family distinguished in architecture, art and the drama. GEORGE DANCE, the elder (1700-1768) obtained the appointment of architect to the City of London, and designed the Mansion House (1739), the churches of St. Botolph, Aldgate (1741), St. Luke's, Old street, St. Leonard, Shoreditch; the old excise office, Broad street; and other public works of importance. His eldest son, JAMES DANCE (1722-1774), was educated at the Merchant Taylors' school and St. John's college, Oxford. He took the name of Love and became an actor and playwright, connected for 12 years with Drury Lane theatre. He wrote a number of comedies—the earliest *Pamela* (1742).

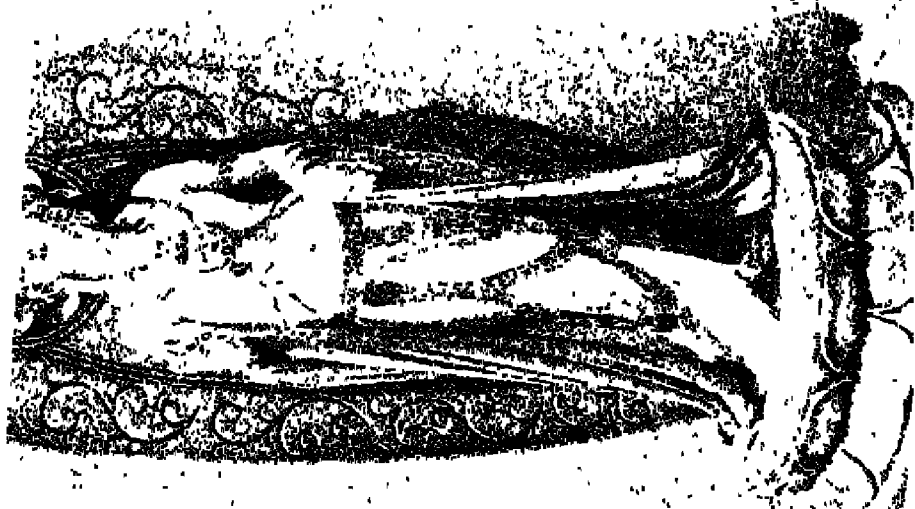
George Dance's third son, SIR NATHANIEL DANCE-HOLLAND, BART (1735-1811), studied art under Francis Hayman in Italy, where he formed a hopeless attachment for Angelica Kauffmann. From Rome he sent home "Dido and Aeneas" (1763). On his return to England he took up portrait-painting with great success, and contributed to the first exhibition of the Royal Academy, of which he was a foundation member, full-length portraits of George III. and his queen. These, and his portraits of Captain Cook and of Garrick as Richard III, engraved by Dixon, are his best-known works. In 1790 he became M.P. for East Grinstead, taking the additional name of Holland. He was made a baronet in 1800.

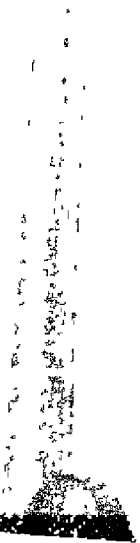
George Dance's fifth and youngest son, GEORGE DANCE, the younger (1741-1825), succeeded his father as City surveyor and architect in 1768. He had spent several years abroad, chiefly in Italy, and had already distinguished himself by designs for Blackfriars bridge. His first important public work was the rebuilding of Newgate prison in 1770. The front of the Guildhall was also his. He, too, was a foundation member of the Royal Academy. His son, CHARLES DANCE (1794-1863), was for 30 years registrar, taxing officer and chief clerk of the insolvent debtors' court. In collaboration with J. R. Planché and others, or alone, he wrote a great number of extravaganzas, farces and comediettas. He was one of the first of the burlesque writers, and was the author of those produced so successfully by Madame Vestris for years at the Olympic.

**DANCE**. Dancing consists in the rhythmical movement of any or all parts of the body in accordance with some scheme of



# DANCE





## HISTORY

The term dancing in its widest sense includes three things (1) the spontaneous activity of the muscles under the influence of some strong emotion, such as social joy or religious exultation; (2) definite combinations of graceful movements performed for the sake of the pleasure which the exercise affords to the dancer or to the spectator, (3) carefully trained movements which are meant by the dancer vividly to represent the actions and passions of other people. In the highest sense it seems to be for prose-gesture what song is for the instinctive exclamations of feeling. At a Mexican feast to the god Huitzilopochtli the noblemen and women danced tied together at the hands, and embracing one another, the arms being thrown over the neck. This resembles the dance variously known as the Greek Bracelet or Brawl, *Ἰσχυρός*, or Bearsfoot; but all of them probably are to a certain extent symbolical of the relations between the sexes. In a very old Peruvian dance of ceremony before the Inca, several hundreds of men formed a chain, each taking hold of the hand of the man beyond his immediate neighbour, and the whole body moving forwards and backwards three steps at a time as they approached the throne.

The rude imitative dances of early civilization are of extreme interest. In the same way the dances of the Ostyak tribes (Northern Asia) imitate the habitual sports of the chase and the gambols of the wolf and the bear and other wild beasts, the dancing consisting mainly of sudden leaps and violent turns which exhaust the muscular powers of the whole body. The Kamchadales, too, in dancing, imitate bears, dogs and birds. The *Kru* dances of the Coast Negroes represent hunting scenes, and on the Congo, before the hunters start, they go through a dance imitating the habits of the gorilla and its movements when attacked. The Damara dance is a mimic representation of the movements of oxen and sheep, four men stooping with their heads in contact and uttering harsh cries. The canter of the baboon is the humorous part of the ceremony. The Bushmen dance in long irregular jumps, which they compare to the leaping of a herd of calves, and the Hottentots not only go on all-fours to counterfeit the baboon, but they have a dance in which the buzzing of a swarm of bees is represented. The Kennowis in Borneo introduce the mas and the deer for the same purpose. The Australians and Tasmanians in their dances called *corrobories* imitate the frog and the kangaroo (both leaping animals). The hunt of the emu is also performed, a number of men passing slowly round the fire and throwing their arrows about so as to imitate the movements of the animal's head while feeding. The Gonds are fond of dancing the bison hunt, one man with skin and horns taking the part of the animal. Closely allied to these are the mimic fights, almost universal among tribes to which war is one of the great interests of life. The Bravery dance of the Dahomans and the Hoolee of the Bhil tribe in the Vindhya Hills are illustrations. The latter seems to have been reduced to an amusement conducted by professionals who go from village to village,—the battle being engaged in by women with long poles on the one side, and men with short cudgels on the other. There is here an element of comedy, which also appears in the Fiji club-dance. Thus, although no doubt originally suggested by war, is enlivened by the presence of a clown covered with leaves and wearing a mask. The monotonous song accompanying the club-dance is by way of commentary or explanation. So, also, in Guatemala there is a public *bule* or dance, in which all the performers, wearing the skins and heads of beasts, go through a mock battle, which always ends in the victory of those wearing the deer's head. At the end the victors trace in the sand with a pole the figure of some animal; and this exhibition is supposed to have some historical reference. But nearly all savage tribes have a regular war-dance, in which they appear in fighting costume, handle their weapons, and go through the movements of challenge, conflict, pursuit, and victory. The dances generally supply the stimulus of war. The dances of the Natal Kafir, and the dances of the warriors for the love of the women, are primarily to be traced to the same source. The dances of the

ground and darting their short spears or assegais to vantage the sky. In Madagascar, when the men are absent on war, the women dance for a great part of the day, believing that this inspires their husbands with courage. In this, however, there may be some religious significance. These war-dances are totally distinct from the institution of military drill, which belongs to a later period when social life has become less impulsive and more reflective. (The Greek *καρπαία* represented the surprise by robbers of a warrior ploughing a field. The gymnopaedic dances imitated the sterner sports of the palaestra.) There can be little doubt that some of the characteristic movements of these primitive hunting and war-dances survive in the smooth and ceremonious dances of the present day. But the early mimetic dance was not confined to these two subjects; it embraced the other great events of savage life—the drama of courtship and marriage, the funeral dance, the consecration of labour, the celebration of harvest or vintage, sometimes, too, purely fictitious scenes of dramatic interest, while other dances degenerated into games. (The Greek *Lenæa* and *Dionysæa* had a distinct reference to the seasons.) For instance, in Yucatán one man danced in a cowering attitude round a circle while another followed, hurling at him *bohordos* or canes, which were adroitly caught on a small stick. Again, in Tasmania, the dances of the women describe their 'clamber for the opossum, diving for shell-fish, digging for roots, nursing children and quarrelling with husbands.' Another dance, in which a woman by gesture taunts a chieftain with cowardice, gives him an opportunity of coming forward and recounting his courageous deeds in dance. The funeral dance of the Todas (another Indian hill-tribe) consists in walking backwards and forwards, without variation, to a howling tune of "ha! hoo!" The meaning of this is obscure, but it can scarcely be solely an outburst of grief. In *Dobromy*, the blacksmiths, carpenters, hunters, braves and ... tools and instruments, join in a dramatic ... are a form of dance which is almost precisely equivalent to the spoken incantation. It is used by the professional devil-dancer of the wild Veddahs for the cure of diseases. An offering of eatables is put on a tripod of sticks, and the dancer, decorated with green leaves, goes into a paroxysm of dancing, in the midst of which he receives the required information. This, however, rather belongs to the subject of religious dances.

It is impossible here to enumerate either the names or the forms of the sacred dances which formed so prominent a part of the worship of antiquity. After the middle of the 18th century there were still traces of religious dancing in the cathedrals of Spain, Portugal and Roussillon—especially in the Mozarabic Mass of Toledo.

## HISTORIC DANCES, 15TH-19TH CENTURY

**France and Italy.**—Italy, in the 15th century, saw the renaissance of dancing, and France may be said to have been the nursery of the modern art, though comparatively few modern dances are really French in origin. The national dances of other countries were brought to France studied systematically and made perfect there. An English or ... only amongst peasants, would be taken to France, polished and perfected, and would at last find its way back to its own country no more recognizable than a piece of elegant cloth when it returns from the printer to the place from which as "grey" material it was sent. The fact that the terminology of dancing is almost entirely French is a sufficient indication of the origin of the rules that govern it.

The earliest dances that bear any relation to the modern art are probably the *danses basses* and *danses hautes* of the 16th century. The *danse basse* was the dance of the court of Charles IX and of good society, the steps being very grave and dignified, not to say solemn, and the accompaniment a psalm tune. The *danses hautes* or *baladines* had a skipping step, and were practised only by the peasants and the ... More lively dances, such as ... into France from Italy ... these the interest was ... of the same period were the *Brads* ... and known in England

the *Balle* a kind of general dance which was capable of all the varieties which we see in the *Balles des Ermites* *Branles des Fermiers* and the *Branles des Lavandières*. The *Branle* in its original form had steps like the *Allemande*.

Perhaps the most famous and stately dance of this period was the *Pavane* of Spanish origin, which is very fully described in Laborde's *Orchestre*. The earliest work in which a dance is found is purely described. The *Pavane*, which was really more a procession than a dance, must have been a very gorgeous and imposing sight and it was perfectly suited to the dress of the period, the stiff brocades of the ladies and the swords and heavily-lacquered hats of the gentlemen being displayed in its simple and dignified measures to great advantage.

In the *Pavane* and *Branle*, and in nearly all the dances of the 17th and 18th centuries the practice of kissing formed a not unimportant part and seems to have added greatly to the popularity of the pastime. Another extremely popular dance was the *Sarabande* which however, died out after the 17th century. It was originally a Spanish dance, but enjoyed an enormous success for a time in France. Every dance at that time had its own tune or tunes which were called by its own name and of the *Sarabande* the chevalier de Grammont wrote that "it either charmed or annoyed everyone, for all the guitarists of the court began to learn and God only knows the universal twanging that followed."

Monsieur des Yveteaux in his 80th year desired to die to the tune of the *Sarabande*, "so that his soul might pass away sweetly."

The *Courante* was a court dance performed on tiptoe with slightly jumping steps and many bows and curtseys. The minuet and the waltz were both in some degree derived from it, and it had much in common with the famous *Seguidilla* of Spain. It was a favourite dance of Louis XIV who was an adept in the art, and it was regarded in his time as of such importance that a nobleman's education could hardly have been said to be begun until he had mastered the *Courante*.

The dance which the French brought to the greatest perfection—which many indeed, regard as the fine flower of art—was the *Minuet*. Its origin, as a rustic dance, is not less antique than that of the other dances from which the modern art has been evolved. It was originally a *branle* of Poitou, derived from the *Courante*. It came to Paris in 1650 and was first set to music by Lully. It was at first a gay and lively dance but on being brought to court it soon lost its sportive character and became grave and dignified. It is mentioned by Beauchamps, the father of dancing-masters who flourished in Louis XIV's reign, and also by Blondy, his pupil; but it was Pecour who really gave the minuet its popularity, and although it was improved and made perfect by Dauberval, Gardel, Marcel and Vestris, it was in Louis XV's reign that it saw its golden age. It was then a dance for two in moderate triple time, and was generally followed by the gavotte. Afterwards the minuet was considerably developed, and with the gavotte became chiefly a stage dance and a means of display; but it should be remembered that the minuets which are now danced on the stage are generally highly elaborated with a view to their spectacular effect, and have imported into them steps and figures which do not belong to the minuet at all, but are borrowed from all kinds of other dances. The original court minuet was a grave and simple dance, although it did not retain its simplicity for long. But when it became elaborated it was glorified and moulded into a perfect expression of an age in which deportment was most sedulously cultivated and most brilliantly polished. The "languishing eye and smiling mouth" had their due effect in the minuet; it was a school for civility, courtesy and ceremony; the hundred slow graceful movements and curtseys, the pauses which had to be filled by neatly-turned compliments, the beauty and bravery of attire—all were eloquent of graces and outward refinements which we cannot boast now. The fact that the measure of the minuet has become incorporated in the structure of the symphony shows how important was its place in the polite world.

The *Gavotte*, which was often danced as a pendant to the minuet, was also originally a peasant dance, a *dance des Gavois* and consisted chiefly of kissing and

It also became stiff and

artificial and in the later and more prudish half of the 18th century the ladies received bouquets instead of kisses in dancing the gavotte. It rapidly became a stage dance and it has never been restored to the ballroom. Gretry attempted to revive it but his arrangement never became popular.

Other dances which were naturalized in France were the *Ecosaise*, popular in 1760; the *Cotillon*, fashionable under Charles X derived from the peasant *branles* and danced by ladies in short skirts; the *Galop*, imported from Germany, the *Lancers*, invented by Laborde in 1836 the *Polka*, brought by a dancing-master from Prague in 1840; the *Schottische*, also Bohemian, first introduced in 1844, the *Bourree*, or French clog-dance, the *Quadrille*, known in the 18th century as the *Contre-danse*; and the *Waltz*, which was danced as a *volte* by Henry III of France, but only became popular in the beginning of the 19th century. We shall return to the history of some of these later dances in discussing the dances at present in use.

**Spain.**—If France has been the nursery and school of the art of dancing, Spain is its true home. There it is part of the national life the inevitable expression of the gay contented, irresponsible sunburnt nature of the people. The form of Spanish dances has hardly changed, some of them are of great antiquity, and may be traced back with hardly a break to the performances in ancient Rome of the famous dancing-girls of Cadiz. The connection is lost during the period of the Arab invasion, but the art was not neglected, and Jovellanos suggests that it took refuge in Asturias. At any rate, dances of the 10th and 12th centuries have been preserved uncorrupted. The earliest dances known were the *Turdion*, the *Gibdana*, the *Pié-de-gibao*, and (later) the *Madama Orleans*, the *Alemana* and the *Pavana*. Under Philip IV theatrical dancing was in high popularity, and ballets were organized with extraordinary magnificence of decoration and costume. They supplanted the national dances, and the *Zarabanda* and *Chacona* were practically extinct in the 18th century. It is at this period that the famous modern Spanish dances, the *Bolero*, *Seguidilla* and the *Fandango*, first appear.

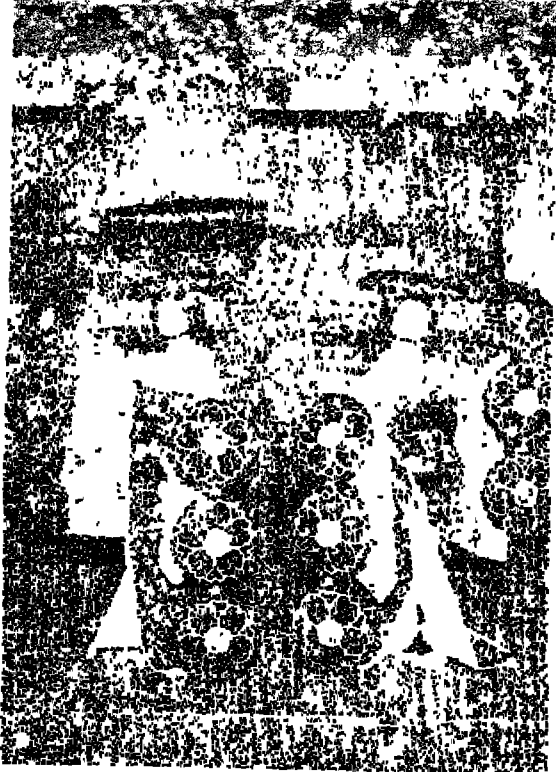
Of these the *Fandango* is the most important. It is danced by two people in 6-8 time, beginning slowly and tenderly, the rhythm marked by the click of castanets, the snapping of the fingers and the stamping of feet, and the speed gradually increasing until a whirl of exaltation is reached. A feature of the *Fandango* and also of the *Seguidilla* is a sudden pause of the music towards the end of each measure, upon which the dancers stand rigid in the attitudes in which the stopping of the music found them, and only move again when the music is resumed. M. Vuillier, in his *History of Dancing*, gives the following description of the *Fandango*:—"Like an electric shock, the notes of the *Fandango* animate all hearts. Men and women, young and old, acknowledge the power of this air over the ears and soul of every Spaniard. The young men spring to their places, rattling castanets or imitating their sound by snapping their fingers. The girls are remarkable for the willowy languor and lightness of their movements, the voluptuousness of their attitudes—beating the exactest time with tapping heels. Partners tease and entreat and pursue each other by turns. Suddenly the music stops, and each dancer shows his skill by remaining absolutely motionless, bounding again into the full life of the *Fandango* as the orchestra strikes up. The sound of the guitar, the violin, the rapid tic-tac of heels (*tacones*), the crack of fingers and castanets, the supple swaying of the dancers, fill the spectator with ecstasy. The measure whirls along in a rapid triple time. Spangles glitter, the sharp clank of ivory and ebony castanets beats out the cadence of strange, throbbing, deepening notes—assonances unknown to music, but curiously characteristic, effective and intoxicating. Amidst the rustle of silks, smiles gleam over white teeth, dark eyes sparkle and droop and flash up again in flame. All is flutter and glitter, grace and animation—quivering, sonorous, passionate, seductive."

The *Bolero* is a comparatively modern dance, having been invented by Sebastian Cerezo, a celebrated dancer of the time of King Charles III. It is remarkable for the free use made in it of the arms and is said to be derived from the ancient *Zarabanda*, a violent and dance which has entirely disappeared.





# DANCE



137 OF 138 PAGES

## CHARACTERISTIC DANCES OF JAPAN

1. "Doboj" a favorite dance, named after the monetary  
 2. "Kagami-mata" (mirror-maid), danced by an actor.  
 3. "Fujimiyama" (Fujimiyama), danced by actors.  
 4. "Fujimiyama" (Fujimiyama), danced by actors.  
 5. "Doboj" a favorite dance, named after the monetary

where it originated. 6. Fox in  
 7. "Doboj" danced by a girl  
 8. "Kisen" a favorite dance, named after the  
 9. "Doboj" a favorite dance, named after the monetary

and with which the later Saraband has practically no link in common. The step of the *Bolero* is low and gliding but well marked. It is danced by one or more couples. The *Seguilla* is hardly less ancient than the *Fandango*, which it resembles. Every province in Spain has its own *Seguilla*, and the dance is accompanied by *coplas*, or verses, which are sung either to traditional melodies or to the tunes of local composers, indeed, the national music of Spain consists largely of these *coplas*.

The *Jota* is the national dance of Aragon, a lively and splendid, but without dignified and reticent, dance derived from the 16th-century *Passacaille*. It is still used as a religious dance. The *Cachuca* is a light and graceful dance in triple time. It is performed by a single dancer of either sex. The head and shoulders play an important part in the movements of this dance. Other provincial dances now in existence are the *Jaleo de Jerez*, a whirling measure performed by gypsies, the *Palotéa*, the *Polo*, the *Gallegada*, the *Muyneria*, the *Habas Verdes*, the *Zapateado*, the *Zorongo*, the *Vito*, the *Tirano* and the *Tripola Trapala*. Most of these dances are named either after the places where they are danced or after the composers who have invented tunes for them. Many of them are but slight variations from the *Fandango* and *Seguilla*.

**Great Britain.**—The history of court dancing in Great Britain is practically the same as that of France, and need not occupy much of our attention here. But there are strictly national dances still in existence which are quite peculiar to the country, and may be traced back to the dances and games of the Saxon gleemen. The *Egg* dance and the *Carole* were both Saxon dances, the *Carole* being a Yule-tide festivity of which the present-day Christmas carol is a remnant.

The oldest dances which remain unchanged in England are the *Morris* dances, which were introduced in the time of Edward III. (See MORRIS DANCE.)

Dancing practically disappeared during the Puritan régime, but with the Restoration it again became popular. It underwent no considerable developments, however, until the reign of Queen Anne, when the glories of Bath were revived in the beginning of the 18th century, and Beau Nash drew up his famous codes of rules for the regulation of dress and manners, and founded the balls in which the polite French dances completely eclipsed the simpler English ones.

The only true national dances of Scotland are reels, strathspeys and flings, while in Ireland there is but one dance—the jig, which is there, however, found in many varieties and expressive of many shades of emotion, from the maddest gaiety to the wildest lament. Curiously enough, although the Welsh dance often, they have no strictly national dances.

**Popular Dances of Universal Importance.**—The *Waltz* is no doubt the most popular of the 19th century dances. Its origin is a much-debated subject, the French, Italians and Bavarians each claiming for their respective countries the honour of having given birth to it. As a matter of fact the waltz, as it is now danced, comes from Germany; but it is equally true that its real origin is French, since it is a development of the *Volte*, which in its turn came from the *Lavolta* of Provence, one of the most ancient of French dances. The *Lavolta* was fashionable in the 16th century and was the delight of the Valois court. The *Volte* danced by Henry III. was really a *Valse à deux pas*, and Castil-Blaze says that "the waltz which we took again from the Germans in 1795 had been a French dance for four hundred years." The change, it is true, came upon it during its visit to Germany, hence the theory of its German origin. The first German waltz tune is dated 1770—"Ach! du lieber Augustin." It was first danced at the Paris opera in 1793, in Gardel's ballet *La Danse-mante*. It was introduced to English ballrooms in 1812, when it roused a storm of ridicule and opposition, but it became popular when danced at Almack's by the emperor Alexander in 1816. The waltz *à trois temps* has a sliding step in which the movements of the knees play an important part. The tempo is moderate, so as to allow three distinct movements on the three beats of each bar; and the waltz is written in 3-4 time and in eight-bar sentences. Walking up and down the room and occasionally breaking into the

step of the dance is not true waltzing and the habit of pushing one's partner backwards along the room is an entirely English one. But the dancer must be able to waltz equally well in all directions, pivoting and crossing the feet when necessary in the reverse turn. It need hardly be said that the feet should never leave the floor in the true waltz. Gungl, Waldteufel and the Strauss family may be said to have moulded the modern waltz to its present form by their rhythmical and agreeable compositions. There are variations which include hopping and lurching steps, these are degradations, and foreign to the spirit of the true waltz.

The *Quadrille* is of some antiquity, and a dance of this kind was first brought to England from Normandy by William the Conqueror, and was common all over Europe in the 16th and 17th centuries. The term quadrille means a kind of card game, and the dance is supposed to be in some way connected with the game. A species of quadrille appeared in a French ballet in 1745 and since that time the dance has gone by that name. It then consisted of very elaborate steps, which in England have been simplified until the degenerate practice has become common of walking through the dance. The quadrille, properly danced, has many of the graces of the minuet. It is often stated that the square dance is of modern French origin. This is incorrect, and probably arises from a mistaken identification of the terms quadrille and square dance. "Dull Sir John" and "Faine I would," were square dances popular in England 300 years ago.

An account of the country-dance, with the names of some of the old dance-tunes, has been given above. The word is not, as has been supposed, an adaptation of the French *contre-danse*, neither is the dance itself French in origin. According to the *New English Dictionary*, *contre-danse* is a corruption of "country-dance," possibly due to a peculiar feature of many of such dances, like Sir Roger de Coverley, where the partners are drawn up in lines opposite to each other. The English "country-dances" were introduced into France in the early part of the 18th century and became popular; later French modifications were brought back to England under the French form of the name, and this, no doubt, caused the long-accepted but confused derivation.

The *Lancers* were invented by Laborde in Paris in 1836. They were brought over to England in 1850, and were made fashionable by Madame Sacré at her classes in Hanover Square Rooms.

The *Polka*, the chief of the Bohemian national dances, was adopted by society in 1835 at Prague. Josef Neruda had seen a peasant girl dancing and singing the polka, and had noted down the tune and the steps. From Prague it readily spread to Vienna, and was introduced to Paris by Cellarius, a dancing-master, who gave it at the Odéon in 1840. It took the public by storm, and spread like an infection through England and America. Everything was named after the polka, from public-houses to articles of dress. Mr. Punch exerted his wit on the subject weekly, and even *The Times* complained that its French correspondence was interrupted, since the polka had taken the place of politics in Paris. The true polka has three slightly jumping steps, danced on the first three beats of a four-quaver bar, the last beat of which is employed as a rest while the toe of the unemployed foot is drawn up against the heel of the other.

The *Galop* is strictly speaking a Hungarian dance, which became popular in Paris in 1830. But some kind of a dance corresponding to the galop was always indulged in after *Voltes* and *Contre-danses*, as a relief from their constrained measures.

The *Barn-dance* is no doubt of American origin, its height of popularity being toward the end of the 19th century. It was customary for the farmer who wished to build a new barn to call his neighbours for a "working" and finish the job within a certain time, which a dance was "thrown." The dance is still very popular in certain rural sections, and does not necessarily confine itself to new or empty barns. The square dance, or some form of group dancing, is executed to the accompaniment of a two- or three-piece string band or the neighbouring fiddle.

The *Paul Jones* is one of the many "sets" that comprise an evening of barn-dancing. A number of couples are required for the performance as well as a "caller" who gives direction as to the action of each couple.

The *Washington Post* belongs to America.



# DANCE



2



A. K. COOMARASWAMY, (8) THE MUSEUM OF FINE ARTS BOSTON, PHOTOGRAPHS, (2) WIELE AND KLEIN, (6, 7, 10)

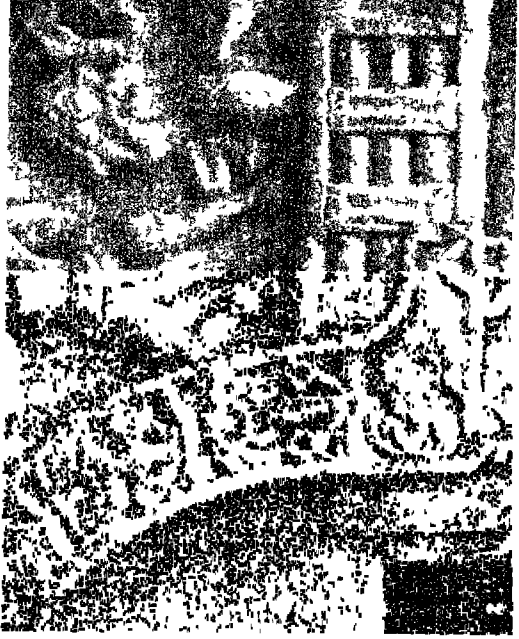
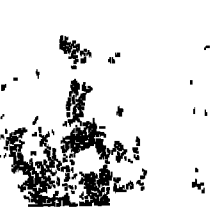
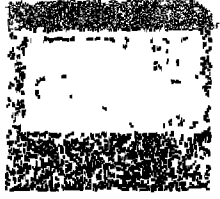
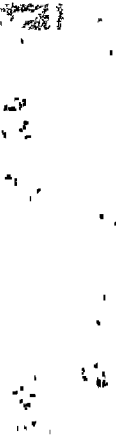
## FOLK AND RELIGIOUS DANCES

wearing peshwaz and dupatta. The musical accompaniment is provided by a group of musicians. 2. Dance of Southern India. 3. Dance of the South. 4. Dance of the South. 5. Dance of the South. 6. State dance. Mysore temple.

Bezawada Madras, 16th century. 7. Dance of Siva (Nataraj). 8. Dance of the South. 9. Dance of the South. 10. Dance of the South.

# DANCE

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personality. Aesthetic experience, from the Indian point of view, is the work of the spectator. All that the artist can do is to provide the conditions. The dance is in no way strange or exotic to the Indian audience. Its continuous rhythm, which can be more nearly paralleled in Western art by the music of Bach than by that of Beethoven, leads the spectator not away from himself but far into himself. It is just because the visible spectacle is not insistent nor something to be curiously observed, but something that penetrates beyond the threshold of consciousness to the inner world of each beholder that it can be watched for many hours without fatigue. Circumstantially of course, the dance is more varied than at first it seems to be: for example, not only do the names of successive dances change, but with every hour of the night the modes of the accompanying music must change in accordance with a well-understood convention. It is not this variation however that explains the lack of monotony: that is due to a quality inherent in the art itself, whereby the spectator loses consciousness of the passage of time. It will be understood that this is not an art which can be transported to a foreign land, and perhaps the only opportunity that Europeans in Europe have ever had to witness oriental dancing was when King Sisowath brought his Cambodian dancers to Marseille and Paris.

**Aesthetic Experience.**—Mention has been made above of flavour in Indian aesthetics. Flavour (*rasa*) is that emotional quality which distinguishes a work of art from a mere statement, and aesthetic emotion from the emotions experienced in daily life. To the Indian the dance, like any other art, has a spiritual significance independent of its theme or charm, for "by clearly expressing the flavour, and enabling men to taste thereof, it gives them the wisdom of Brahma, whereby they may understand how every business is unstable; from which indifference to such business, and therefrom, arise the highest virtues of peace and patience, and thence again may be won the bliss of Brahma."

The so-called oriental dancing of the European stage is in almost all respects unlike the dancing of the East where, for example, the dancer is always more, and not less fully clothed than are other women in daily life, and where if there be in the dance some erotic allusion, this not only has a definite significance, but is made in such a way as entirely to escape the notice of a western audience. The movements of the so-called oriental dancers of the West are indeed sinuous; but the fluidity of eastern movement is something far more than this. It is not even serpentine, but more like the wreathing of smoke. Nothing in India corresponds to the ball-room dancing of Europe and America; the mixed dancing of this kind is shocking to Indian ideas of propriety.

**Education.**—Dancers (female) are to a certain extent trained (Plate I, figs. 3-4) by performers of their own caste and sex, but more especially by male dancing-masters, Brahmans, who are familiar with the literature as well as the practice of the art. Gopādasā speaks of the art as "a pleasing sacrificial feast to the eyes of the gods . . . and the one chief amusement of human beings." He exhibits his pupil Mālavikā before the king, queen and certain courtiers. Her performance is adjudged perfect in the following terms: "All was blameless, and in accordance with the rules of art; for the meaning was completely expressed by her [upper] limbs, which were full of language, while the movement of her feet was in perfect time, and she represented the moods to perfection. . . . In the successive developments of the acting, emotion kept banishing emotion from its place, it was a vivid picture of a series of passions" (*Mālavikāgnimitra*, Act II).

An account of the education of a dancer is found in the Tamil *Arthaśāstra*. In her fifth year by means of a horizontal rod, wound about with betel leaves, held by two dancers. The dancer, holding betel leaves, etc., and touching plenty, touches the rod. The instructor, holding the rod, is hunted by the instructor in the same time the instructor is placed on the ankles. Instruction is

begun in her seventh year, and must last at least five years. The theoretical part is usually given by a Brahman teacher, the practical exercises by an elderly and retired danseuse. In her twelfth year the pupil may appear in public and the teacher receives a reward.

Domingo Paes, writing about 1520, describes a room in the Vijayanagar palace in which the royal dancers practised and performances were given. On one side was a painted recess where the women cling on with their hands in order better to stretch and loosen their bodies and legs. Presumably there was a horizontal rod against the wall, like that used by modern ballet-dancers for practice. At the other end of the room was the place occupied by the king during a performance, and in the middle of the wall was a golden image of a woman, or rather girl of 10 years, with her arms in the position taken at the end of a dance.

Generally speaking, the costume of a dancer does not differ markedly from that of local fashion, except by its greater richness. One part of it, the bells, however, is special and essential: a string of these, a hundred or two hundred in number, is bound round the ankles at the time of dancing, and the sound of these bells, as the dancer moves her feet in time, forms part of the music. When the dancer uses them on before dancing, she will invariably touch them to her eyes and forehead and murmur a brief prayer, and those who are learned in the lore of dancing say that "that dancing is vulgar and inauspicious which the actress does not begin with prayer."

Like other vocations in India, that of music, dancing and acting is in the main an hereditary profession. There have always been and still are some Brahmans and others of high caste who are expert both in the theory and practice of music, but the profession as practised by members of special castes has always had a low social status. At the present day the "Anti-Naught movement" represents an endeavour to boycott the professional dances on puritanical grounds (with reference to the morals of the dancers, not to the character of the dance). It is desired to banish the danseuse alike from private and public entertainments and from all connection with temple service.

#### HISTORY OF THE DANCE IN INDIA

**Vedic Dances.**—Ritualistic dances are mentioned in the Vedas. Thus in the Mahāvratā ceremony, women celebrate to the sound of the lute the patrons of the ceremony, maidens dance round the fire with water-pitchers while the Stotra is being performed. They pour water on the fire, an act of sympathetic magic intended to produce rain, and the song shows that they desire richness in milk, as well as water for the cows. At the close of the Horse Sacrifice also girls dance round the Mārjāliya fire with water-pots on their heads, beating the ground with their feet and singing "This is honey." They are said to endow the sacrificers with might. Again, four or eight women dance at the house of the bride, at a wedding.

The word *īyati* in the Black Yajur Veda refers to the accompaniment of recitation by pantomimic gesture. The *Nata Sūtras* mentioned by Pāṇini must have been handbooks of gesture, analogous to the later works on *abhinaya*.

**Dancing as a Court Function.**—In the Buddhist and Epic periods, dancing is well known as a normal court function and as a means of paying honour to a king or distinguished guest. Thus the festival of the gods takes place in Indra's city, he is host, and the other gods come and take their seats in due order as spectators of the dance of the Gandharvas and Apsaras. The gods themselves may sing and dance in honour of a human saint, but the dancers and musicians proper are the Gandharvas and Apsaras. The latter are beautiful girls, often employed by the gods to seduce the great saints from their meditations, for which there is a parallel in the Buddha legend in the attempted seduction of Gautama by the three daughters of Māra, who dance before him. More often the Apsaras are simply the dancers in heaven, by whom the gods are entertained and honoured. Equally characteristic was the keeping of troupes of dancers at royal courts on earth. Whatever the social status of professional dancers may always have been and despite the fact that the art like others is an



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**Dancing as an Accomplishment.**—Dancing and music as a royal accomplishment may be illustrated by the following examples. In the *Dvayavadāna* (Cowell and Neill, p. 544 *et seq.*) King Rudrāyana plays the lute (*vīṇā*) while his wife Candrāvati dances; the Gupta emperor, Samudragupta, had coins struck in which he is represented as seated and playing on the lyre or lute, while an inscription of the same great monarch at Allahābād records his skill in music. Kālidāsa represents King Agnivarman as competing with actors in their art. In Devendra's *Uttarādhyayana-īkū* (Meyer, *Hindu Tales*, p. 105) King Udāyana plays on the lute while his wife dances, but drops the plectrum of the lute, at which the queen is angered and asks "Why have you spoilt the dance?" In the *Mahāvamsa*, ch. lxiii. v. 82, 83, Parākrama Bāhu I. (of Ceylon) is said to have built a theatre beside his palace "that so he might listen to the . . . singers, and witness the delightful dance," while his queen Rūpavati, who was young and beautiful, and an embodiment of all the traditional virtues of a Hindu wife "was skilled in dancing and was richly endowed with a mind as keen as the point of a blade of grass." These instances will suffice to show that the modern prejudice against dancing as an art to be studied by persons of honourable social status has no foundation in classic tradition.

**Dancing as a Religious Office.**—Still more interesting is the ritual service of dancing in temples. The proper occasions of dancing are festivals, celebrations, processions of men or gods, marriages, reunion of friends, first occupation of towns or houses, the birth of children and similar auspicious events. The dance is essentially an honour paid to the chief guest and particularly to kings. Now the daily ritual or service performed at the shrine of a deity is essentially the same as the daily service of a king, and it is therefore only natural that dancing before the shrine should form a part of the regular morning and evening offices. At wealthy shrines a considerable number of Devadāsīs ('women servants of the deity') are permanently attached to the temple both to perform this office and to take part in the dramas which are presented in the temple on certain holidays. This practice has survived in southern India to the present day, but we have earlier records of it on a more lavish scale (N. M. Penzer, *The Ocean of Story*). Inscriptions of Rājārāja and other of the Cola kings (in the Tanjore district, at the beginning of the 11th century) refer to theatres and the establishment of large numbers of dancers in connection with temples, and for this purpose we find that private as well as royal endowments were made. Thus the assembly or town council of Sāttanūr gave lands for the maintenance of Sanskrit plays, Rājārāja brought from other temples and settled at Tanjore as many as 400 dancing girls, Kulōttunga III appointed an additional dancing-master in the temple who had to dance with gestures. The entertainment of the god enshrined is modelled upon that of a god in his heaven, and that of a king on earth.

#### DANCES OF THE GODS

The Veda knows of gods who dance; thus, in *Rigveda* x, 72, we have a creation hymn in which the gods, dancing apparently in a ring, set up a rhythmic flux in the primeval waters, and this magic dance sets all nature in motion.

When there, O gods, ye stood in the primeval sea, holding each the other by the hand, then rose from you as dancers (*nṛtyatām iva*) clouds of dust.

Indra is also said to appear as an aged dancer, as a presage of victory in battle, Uśas, the Dawn, is called a dancer adorning herself. But none of these conceptions of a dancing god or gods seems to have had the importance later attained in the case of Śiva, who as the divine dancer *par excellence* is known as Natarāja.

**Dance of Śiva.**—We find an invocation (commencement of the *Mirror of Gesture*) addressed to Śiva, the great patron of the drama and an actor whose gesture is the world process, whose

spe h s the sum of all languages, and whose ornaments are the moon and stars. His dances are *tāṇḍava* dances, energetic and virile. The most significant is the *nāḍānta*, represented in the well-known south Indian metal images of Nattarāja (Plate I, fig. 7). The significance of this dance is often alluded to in the mediaeval Śaiva literature: "Our Lord is the dancer, who, like the heat latent in firewood, diffuses his power in mind and matter, and makes them dance in their turn." More specifically, the dance represents the deity's five activities (*Pañcakriyā*), viz., the world process of creation or evolution, maintenance, and destruction or involution, the embodiment of souls and their release from the cycle. The drum in the upper right hand stands for creative sound, the flame in the upper left for the fire of destruction or change. It should be understood that in Indian mythology the cosmic process is conceived as a succession of vast cycles of manifestation and non-manifestation, or creation and destruction; and also that the phenomenal world at all times is one of perpetual change involving perpetual creation and destruction. The dance is the entire process in all its complexity, and it is only rightly apprehended when it is realized as taking place within the worshipper's own consciousness. Śiva is also called Sudalaiyādi, Dancer of the Burning Ground (cemetery), and the heart of the lover of god, made bare of all else, is this bare field prepared for him. The same idea is met with in connection with the goddess in the form of Kālī.

I have made a burning-ground of my heart  
 That Thou, Dark One, haunter of the burning-ground  
 Mayest dance the eternal dance therein.

Śiva also performs an evening dance on Mt. Kailāsa, before the assembled gods and the goddess, and paintings of the subject are known. The elephant-headed deity, Ganeśa, son of Śiva, is also spoken of as taking part in this evening dance, and is represented in sculpture as dancing. It is probable that most of the dances referred to above belong to the non-Aryan and ancient Dravidian elements in the personality of Śiva-Rudra. The *tāṇḍava* in particular, and the dance of Kālī, must have been originally orgiastic dances, later interpreted in a philosophical and mystical sense. The principal "primitive deity" in Ceylon, Gale Yakā, the God of the Rock, is worshipped by an annual dance on the summit of the rock, sacred to him, with which may be compared the ritual dances of south Indian hill-men in honour of Murugaṅ.

While every Śaiva temple in southern India has a copy of the metal image of Śiva as Nattarāja kept in a special Hall of Audience (*sabhā-maṇḍapa*) at Cidambaram, he is worshipped in this form as the principal deity; here in the Golden Hall (*kanaka-sabhā*) is the premier Nattarāja image of the south. The western and eastern gopurams of this temple, dating from the 13th century, contain sculptured panels with accompanying text, illustrating no less than 93 of the 108 dancing poses described in the *Bharatiya Nāṭya-śāstra*.

**Dances of Other Deities.**—The elephant-headed deity, Gaṇapati, son of Śiva, is a patron of the stage and himself often dances. In Buddhist art numerous feminine divinities, corresponding in a general way to Kālī of the Hindu pantheon, are represented as dancing. Dances of victory are attributed in the Sīlappadigāram to Subrahmaṇya, the god of war. According to the commentator, Adiyārkunallār Subrahmaṇya, having slain the demon Sūrapadmāsura, danced his war-dance of triumph on the heaving wave-platform of the ocean-stage, to the accompaniment of the rattle of his drum, and subsequently danced in derision of the flying demons the *kudakūttu*, or umbrella dance. This dance is still sometimes performed during temple processions, when the god's umbrella-bearer cuts some capers with his unwieldy parasol borne before the deity. Other familiar dances of a deity are those of Kṛṣṇa, the cowherd incarnation of Viṣṇu. One of these is the pot-dance (*kudakūttu*), originally a pastoral folk-dance, but used by Kṛṣṇa as a dance of victory after the defeat of Bānāsura. Another dance of victory took place after the poisonous dragon Kālīya finally had been overcome. Kṛṣṇa is again often represented dancing a childish dance with a pat of butter, of which he was very fond. But the most significant of his dances is the





ATER COMPANY PHOTOGRAPHS (1) LENARE LTD, FROM C B COCHRAN'S 1928 REVUE (5) GUTTENBERG FROM C B

### BALLROOM AND EXHIBITION DANCES

ballroom during the 60's (as danced by  
le in C B Cochran's 1928 revue)  
Argentina, this dance is widely used as an  
nited States but has never become popular

4. The Castle Walk, named after Vernon and Irene Cas  
variation of the one-step and is danced to one  
about 1913-15 it was the most popular form of  
ing was its sole feature, but one walked on ones  
if starting to skip, instead of coming down on th

of the second decade of the 20th century  
oc al purposes and was eventually used for

5 The old fashioned waltz showing costumes designed  
6 The Two step, showing the proper position for ballr

# DANCE



1932 CASTLE McLAUGHLIN

## PS IN MODERN BALLROOM DANCING AS DANCED BY IRENE CASTLE /

square step in the fox-trot, the most popular of modern ballroom. It was first danced widely in 1900, although it was an *air of earlier negro music*. The fox-trot is danced in *two* and may be played in two distinct tempos: the slow fox-trot is most frequently used, and the fast fox-trot

2 Start of walk in the one-step, a popularity in modern social dance fox-trot, being faster, but the It consists chiefly of walking *fr* added occasionally to aid in turn

The One step and the Fox trot are the most popular dances. The former being used far more extensively of any other dance but a remarkably wide variety is practised in these simple steps. Such a tendency toward less athletic steps has meant a greater attraction for the ballroom and consequently a steady growth of interest in modern dancing. The second decade of the 20th century saw a more complicated programme, such as the Hesitation Waltz, the Maxixe (which never should have been done except as an exhibition dance) and the Tango. The latter seemed ideally suited to the ballroom but never gained a firm footing in America. Originating in Argentina it seems dependent upon the Latin temperament for success. Dancers in the United States were intrigued by it and tried in every way to master it, but somehow never caught the rhythm and proper swing.

The Charleston created more of a furore than any dance brought out in recent years, but again did not prove suitable to the ballroom floor and consequently died out almost as suddenly as it appeared. The dance was not new, having been performed among the negroes of the Southern States for years, and being brought to the front by an enthusiast who saw in it great possibilities as a stage attraction. It was never graceful, and decidedly too energetic to be included in modern ballroom dances. The same may be said of the Black Bottom. Even as an attraction suited only for the stage, it created considerable adverse criticism because of its suggestive qualities when executed according to the original dance. Both these dances were really more talked about than danced, but for a short while they gained world-wide fame. Like most fads they were more harmful than constructive, and have little to do with the history of the dance.

The Fox-trot, an outgrowth of negro music, and earlier connected with such names as Ragtime, Blues and Jazz, has been danced since about 1913 and is firmly established in the programme of modern dances. It is typically American in rhythm, is danced in  $\frac{3}{4}$  time and played in two distinct tempos—slow fox-trot, perhaps the more popular, and fast fox-trot. The predominance of this as a modern ballroom dance calls for a simple description of how it is performed.

As in all ballroom dances, the lady faces the gentleman with her left hand resting lightly on his right shoulder, his right arm encircling his partner and the hand placed in the middle of the lady's back, just below the shoulders. The gentleman's left arm and the lady's right arm are extended with elbow bent at such an angle (see Plate II) as to avoid the stiff arm, "pump-handle" appearance. A springiness in knee and ankle is essential, and to acquire grace and ease one's weight should be placed on the ball of the foot. The key-note or foundation of the fox-trot, as well as the one-step and waltz, is the square step, taught to beginners. With an intimate knowledge of it, one can dance all three of these dances by only adopting the proper tempo and adding a few simple steps for variety.

First, one should master the square step without turning.

Draw a chalk-line square on the floor (fig 1), and stand in the lower left-hand corner, *A*, place the right foot in the lower right-hand corner *B*; draw the left foot up to it and then step forward with the right foot to *C*, swing the left foot in an arc to *D*, (indicated by arrows) draw the right foot back to the lower left-hand corner *A*, swing the left foot in an arc to *B* (indicated by arrows) as before, and continue as at first. This can be performed at all three tempos, facing in one direction. When you learn to turn while doing it, the square step is very precise while learning this. The square step turns more elastic. Now go through a square step each time on the plain just given and accompany it with the following:

Turning the body so as to face *E*. The left foot goes to *X* and the right foot draws up to it the heel back slightly turns to *X* 3 so as to swing the body around to a position facing *S* and right foot goes over to *X* 4, the left foot drawing up to it, the right foot forward to *X* 5, the left foot over to *X* 6, with the body facing *W*, the right foot draws up to the left foot, which then goes back to *X* 7. Now step out on the right foot to *S E* corner and continue the square turn. To reverse, perform this same

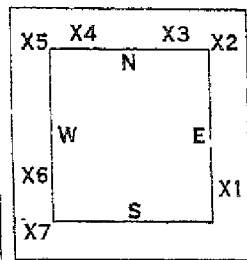


FIG 2

square step with the turn in reverse, starting out by stepping directly to the left, drawing the right foot up to the left foot, and stepping forward on the left foot (turning in the opposite direction).

After the beginner has learned to dance the square step gracefully the rest is simple. A certain amount of walking forward and backward between square step turns comprises most of the dancing of to-day. A few quick side-slides like the old

Two-step are added quite frequently, and a very pretty style of the fox-trot that has become quite popular is the old "Boston," which was formerly performed to waltz time. The forward and backward swing to this movement is particularly attractive and graceful, and lends an entirely new note to the fox-trot. The weight is lifted on a different part of the beat placing the accent in an unusual place.

The One-step, danced somewhat less than the fox-trot, is executed to  $\frac{2}{4}$  time. It is a little more violent than the fox-trot, being faster, but the steps are simpler and the tempo does not lend itself to so great a variety of movements. It consists chiefly of walking forward and back with a square step added occasionally to aid in turning. Anybody who can walk can one-step, but a sense of rhythm to keep time to the music is essential. The author has always maintained that it matters little what the dancer does with his feet, so long as he keeps time. Nothing is more agonizing to a good dancer than to be forced by the partner to dance out of time with the music.

The Castle Walk is sometimes danced to a one-step. It is to the one-step what the Boston is to a fox-trot, depending on the change of weight or the accent of the beat. From 1913 to 1915 it was the most popular form of the one-step. It looked ridiculous at first, but was such fun to do that it spread like magic throughout the dancing world. Walking was its main feature, but one walked on one's toes, lifting up (as if starting to skip) instead of coming down on the beat, giving a childish, carefree swing that was irresistible. The lady partner went backwards most of the time, and the square step was not needed, dancers rounding the corners like an aeroplane banking a turn. It required considerable room, but was of such a joyous motion that it produced no end of merriment. It was originated by Vernon and Irene Castle.

In 1928 many of the old dances were revived in London, and during the course of an evening such old-timers as the Polka, the Galop and various forms of the barn-dance were performed. The revival met with considerable enthusiasm in London, the ensemble dance producing an act that was both novel and amusing.

**The Music.**—The traditional dance band of strings and piano has been supplanted by the "jazz" band to a great extent, especially in the United States. This consists of various combinations, the most common of which is piano, violin, saxophone, banjo and trap. The latter uses a side-drum, a bass drum and cymbals played with the feet and various other instruments on which he plays as well as his drum-sticks in alternation with the side-drum, according to the rhythm of the ensemble. The impetus in dance orchestras resulting in the different parts of the different players in "extemporizing" on the tune. Broadcasting stations assign certain hours for one or two dances, and the effective is a great variety of music for the home (I. C. McL.)

*Dance, Ancient and Modern* (London 1911); L. Poind, *Poetic Origins and the Dance* (New York 1921); L. C. Wimberly, "Minstrelsy, Music, and the Dance," *Library of Theatrical Studies in Language, Literature and Drama*, No. 4 (Lincoln, 1921); C. J. Sharp and Alice P. Copp, *The Dance* (Am. Hist. Survey of Dancing in Europe, 1922); Warren D. Hamblin, *Tribal Dancing and Social Development* (London, 1926); Indian-American, "C. Wissler, "General Discussion of Shamanistic and Dancing Societies," *Amer. Museum of Nat. Hist. Anthropological Paper* 301 ii, p. 853-876 (New York 1926); E. W. Hawkes, "The Dance Festivals of the Alaskan Eskimo," *Ann. of Pa. Anthropological Pub.* vol. VI, no. 2 (Philadelphia) 1924; *Dancing and Dancers* J. E. C. Fitch, *Modern Dances and Dancers* (London, 1923); Caroline S. and C. H. Coffin, *Dancing and Dancers of Today* (New York, 1924); Vernon and Irene York, *Modern Dances* (New York, 1924); Ted Shawn, *Ruth St. Denis, Pioneer and Prophet* (San Francisco, 1920); M. N. H. Doubler, *The Dance* (New York, 1925); Ted Shawn, *The American Ballet* (New York 1926); General A. L. and Lucie P. March, *The Dance in Literature* (New York 1924); E. A. Dukson, ed., *Poems of the Dance* (New York 1925)

**DANCOURT, FLORENT CARTON** (1661-1725), French dramatist and actor, was born at Fontainebleau on Nov. 1, 1661. In 1685, in spite of the strong opposition of his family, he appeared at the Théâtre Français. One of his most famous impersonations was Alceste in the *Misanthrope* of Molière. His first play *Le Notaire obligé*, produced in 1685, was well received. *Le Désertion des jouteuses* (1687) was still more successful. *Le Chevalier à la mode* (1687) is generally regarded as his best work though his claim to original authorship in this and some other cases has been disputed. In *Le Chevalier à la mode* appears the bourgeoisie infatuated with the desire to be an aristocrat. The type is developed in *Les Bourgeoises à la mode* (1692) and *Les Bourgeoises de qualité* (1703). Dancourt was a prolific author, and produced some 50 plays in all. He died on Dec. 7, 1725. The plays of Dancourt are faithful descriptions of the manners of the time and as such have real historical value. Most of them incline to the type of farce rather than of pure comedy. Voltaire defined his talent in the words "Ce que Regnard était à l'égard de Molière dans la haute comédie le comédien Dancourt l'était dans la farce."

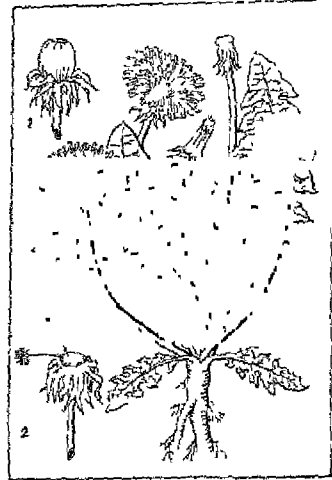
His two daughters, Manon and Marie Anne (Mimi), both obtained success on the stage of the Théâtre Français.

See *Oeuvres complètes* (12 vols. 1760); *Théâtre choisi*, ed. F. Sarcey (5 vols. 1884). Also J. Lemaitre, *La comédie après Molière et le théâtre de Dancourt* (2nd ed., 1903).

**DANDELION** (*Taraxacum officinale*), a perennial herb belonging to the family Compositae (q.v.). The plant has a wide range, being found in Europe, Central Asia, North America, and the Arctic regions, and also in the south temperate zone. The leaves form a spreading rosette on the very short stem, they are smooth, of a bright shining green, sessile and tapering downwards. The name dandelion is derived from the French *dent-de-lion*, an appellation given on account of the tooth-like lobes of the leaves. The long tap-root has a simple or many-headed rhizome, it is black externally, and is very difficult of extirpation. The flower-stalks are smooth, brittle, leafless, hollow and very numerous. The flowers bloom from April till August, and remain open from five or six in the morning to eight or nine at night. The flower-heads are golden yellow, and reach 1½ to 2 in. in width; the florets are all strap-shaped. The fruits are olive or dull yellow in colour, and are each surmounted by a long beak, on which rests a pappus of delicate white hairs, which occasions the ready dispersal of the fruit by the wind; each fruit contains one seed. The globes formed by the plumed fruits are nearly two inches in diameter. The involucre consists of an outer spreading (or reflexed) and an inner and erect row of bracts. In all parts of the plant a milky juice is present. The root externally is brown and wrinkled, internally white, with a yellow centre and concentric paler rings. It is two inches to a foot long, and about a quarter to half an inch in diameter. The leaves are bitter, but are sometimes eaten as a salad; they serve as food for silkworms when mulberry leaves are not to be had. The root is roasted as a substitute for coffee. Several varieties of the dandelion are recognized by botanists, they differ in the degree and mode of cutting of the leaf-margin and the erect or spreading character of the outer series of bracts

*T. paludosum*, the marsh dandelion, flowers in late summer and autumn and the outer bracts of its involucre.

The red-seeded dandelion (*T. rubrum*) is very similar to the common species, but has beaked fruits and more deeply



DANDELION, SHOWING THE LEAVES THAT ARE EATEN AS SALAD. THE ROOT IS USED FOR MEDICINAL PURPOSES.

- 1 Unopened head
- 2 Ripe head, from which all the winged seeds except two have been removed

sight (the story that he had been blinded by Manuel Comnenus while he was proving a most energetic and Venetian authority over the Duke of Hungary's protection owing to the arrival of the Pisan fleet defeated by the Venetians, the Emperor had meanwhile the Eastern emperor deposed, and the new emperor was a Venetian. Dandolo therefore insisted that the Venetians who asked Venice for free port. Dandolo subsidized the promise that payment would be made aside and assist him in the red command of the expedition, and then induced the crusaders to elect Alexius, for the dethronement of the fleet wintered at Zara, and then, for the Bosphorus. For the capture and the erection of the Latin empire.

Immense booty was secured from other treasures the four bronze statues of St. Mark's. Dandolo was one of the throne of the new Latin empire was elected and crowned on Majorca and several other islands formed an uninterrupted chain of a large part of Constantinople (with the lord of a quarter and a half of the privileges. But hardly had the various provinces rose in rebellion in Thrace. A Latin army was defeated in 1205, and the emperor himself was a fragment of the force being a prisoner. But he was now old and ill, and

Enrico Dandolo's sons distinguished in service, and his grandson Giovanni Dandolo. The latter's son Andrea came to war against Genoa in 1294, and was a prisoner, he was so overwhelmed by the capture of his head against

Navagero) Francesco Dandolo, also known as Dandolo Cane, was doge from 1329 to 1339. During his reign the Venetians went to war with Martino della Scala, lord of Verona with the result that they occupied Treviso and otherwise extended their possessions on the *terra firma*. Andrea Dandolo (c. 1307–1354) the last doge of the family, reigned from 1343 to 1354. He had been the first Venetian noble to take a degree at the university of Padua, where he had also been professor of jurisprudence. The terrible plague of 1348, wars with Genoa against whom the great naval victory of Lepanto was won in 1353, many treaties and the subjugation of the seventh revolt of Zara, are the chief events of his reign. The poet Petrarch, who was the doge's intimate friend, was sent to Venice on a peace mission by Giovanni Visconti, lord of Milan. "Just incorruptible, full of zeal and of love for his country, and at the same time learned, of rare eloquence, wise, affable, and humane" is the poet's verdict on Andrea Dandolo (*Vainor epist* xix). Dandolo died on Sept. 7, 1354. He is chiefly famous as a historian, and his *Annals* to the year 1280 are one of the chief sources of Venetian history for that period; they have been published by Muratori (*Rer Ital Script* tom. xxi). He also had a new code of laws compiled (issued in 1346) in addition to the statute of Jacopo Tiepolo. Another well-known member of this family was Silvestro Dandolo (1796–1866), son of Guolamo Dandolo, who was the last admiral of the Venetian republic and died an Austrian admiral in 1847. Silvestro was an Italian patriot and took part in the revolution of 1848.

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**DANDOLO, VINCENZO**, COUNT (1758–1819), Italian agricultural chemist, a native of Venice, welcomed the advent of Napoleon in Italy (1796), and was a member of the grand council of the Cisalpine Republic at Milan. From 1805–09 he was governor of Dalmatia, where he sought to improve agriculture. He died at Venice on Dec. 13, 1819. Dandolo wrote several treatises on agriculture, vine-cultivation, and the rearing of cattle and sheep, and a work on silk-worms, which was translated into French by Fontaneille.

**DANDURAND, RAOUL** (1861– ), Canadian lawyer and statesman, was born on Nov. 4, 1861, at Montreal. Educated at Montreal college and Laval university, he was admitted to the bar in 1883. He applied himself to the local organization of the Liberal Party, and was successively from 1898 to 1909 member of the senate, Speaker of the senate and member of the privy council. His chief work is *Traité théorique et pratique de droit criminel* (Montreal, 1890). He was president of the 6th Assembly of the League of Nations.

**DANDY**, a word which about 1813–16 became a London colloquialism for the exquisite of the period. It is probably derived from the French *dandin*, "a ninny or booby," but in *The Northampton Mercury* (April 17, 1819), occurs the following: "Origin of the word 'dandy.' This term, which has been recently applied to a species of reptile very common in the metropolis, appears to have arisen from a small silver coin struck by King Henry VII, of little value, called a *dandyprat*; and hence Bishop Fleetwood observes the term is applied to worthless and contemptible persons."

It was Beau Brummel, the high-priest of fashion, who gave dandyism its great vogue, though it existed before his day. About the middle of the 18th century was founded the Macaroni club. This was a band of young men of rank who had visited Italy and sought to introduce the southern elegances of manner and dress into England. Their costume is described as "white silk breeches, very tight coat and vest, with enormous white neckcloths, white silk stockings and diamond-buckled, red-heeled shoes." For some time the moving spirit of the club was Charles James Fox. It was with the advent of Brummel however that the cult of dandyism became a social force. Beau Brummel was supreme dictator in

matters of dress, and the Prince Regent is said to have wept when he disapproved of the cut of the royal coat. Around the Beau collected a band of young men whose insolent and affected manners made them universally unpopular. Their chief glory was their clothes. They wore coats of blue or brown cloth with brass buttons, the coat-tails almost touching the heels. Their breeches were buckskin, so tight that it is said they "could only be taken off as an eel would be divested of his skin." A pair of highly polished Hessian boots, a waistcoat buttoned incredibly tight so as to produce a small waist, and opening at the breast to exhibit the frilled shirt and cravat, completed the costume of the true dandy.

See Barbey D'Aurevilly, *Du dandysme et de G. Brummel* (1837), Sir A. Conan Doyle, *Rodney Stone* (1896).

**DANEGELD**, an English national tax originally levied by Aethelred II as a means of raising the tribute which was the price of the temporary cessation of the Danish ravages. This expedient was first adopted in 991 and was repeated in 994, 1002, 1007 and 1012. With the accession of the Danish king Canute, the original *raison d'être* of the tax ceased to exist but it continued to be levied though for a different purpose, assuming now the character of an occasional war-tax. It was, apparently not levied by Edward the Confessor in the latter part of his reign but William the Conqueror revived it immediately after his accession, and it was with the object of facilitating its collection that he ordered the compilation of Domesday Book. It continued to be levied until 1163, in which year the name Danegeld appears for the last time in the Rolls. Its place was taken by other imposts of similar character but different name.

**DANELAGH**, the name given to those districts in the north and north-east of England which were settled by Scandinavian invaders in the 9th and 10th centuries and in which Danish customary law subsequently prevailed. The real settlement of England by Danes began in the year 876, when a division of the great army, which had been ravaging widely over England, divided out Northumbria among its members. Next year, another portion of the same army divided out Eastern Mercia and in 880 so much of the army as remained in England divided out East Anglia. A similar division of Wessex had been prevented by the victories of King Alfred (q.v.), and between 880 and 890 definite boundaries were drawn between Alfred's kingdom and that of Guthrum, king of East Anglian Danes. The boundary thus drawn ran along the Thames estuary to the mouth of the Lea (a few miles east of London), then up the Lea to its source, then due north to Bedford then up the Ouse to Watling street at Stony Stratford. From this point the boundary is left undefined, perhaps because the kingdoms of Alfred and Guthrum ceased to be conterminous here. Thus Eastern Mercia, Northumbria from Tees to Humber, East Anglia, and the shires to the immediate west and south were handed over to the Danes and henceforth constitute the district known as the Danelagh.

The three chief divisions of the Danelagh were: (1) the kingdom of Northumbria, corresponding, roughly, to the modern Yorkshire, (2) the kingdom of East Anglia, (3) the district of the five (Danish) boroughs—lands grouped round Leicester, Nottingham, Derby, Stamford and Lincoln. Of the history of the two Danish kingdoms we know very little. Guthrum of East Anglia died in 890, and later we hear of a King Eric or Eohric who died in 902. The history of the Northumbrian kingdom is yet more obscure. The original Danish kingdom seems to have come to an end in 909, but within a decade this region was overrun by fresh invaders of Norwegian rather than Danish extraction, and Northumbria was not brought definitely under English rule before the middle of the 10th century.

More is known of the history of the five boroughs. From 907 onwards Edward the Elder, working together with Aethelred of Mercia and his wife, worked for the recovery of the Danelagh. In that year Chester was fortified. In 911–912 an advance on Essex and Hertfordshire was begun. In 914 Buckingham was fortified and the Danes of Bedfordshire submitted. In 917 Derby was the first of the five boroughs to fall, followed by Leicester a few months later. In the same year after a keen struggle all

the town's belonging to the borough of Northampton, as far north as the Welton Hill, the border of modern Northamptonshire, submitted to Edward and at the same time Colchester was rendered a large portion of Essex submitted and the whole of the East Anglian Daneland. Stamford was the next to yield and followed by Nottingham, and in 920 there was a general submission on the part of the Danes.

Although the independent existence of the Danelagh did not last for half a century it profoundly affected the later history of the region. It was subsequently distinguished by a large population of free peasant landowners, who undoubtedly represent the descendants of the Danish settlers of the Viking age. The signs of Scandinavian occupation are particularly evident in Yorkshire and the territory of the five boroughs, where land was cut into ploughlands and oxgangs instead of hides (q.t.) and yardlands where the Scandinavian *tepenrake* replaces the English *landraf* (t.t.) and where many traces of Scandinavian methods of monetary and fiscal computation survived into the middle ages. For at least two centuries the language of this region must have been a Scandinavian dialect, gradually modified by English influences from the south. In the early 12th century the legal custom of the Danelagh was sharply distinguished from the customs of Wessex and English Mercia, and to the present day a Scandinavian institution, the *riding*, survives, in the three ridings of Yorkshire. A number of Danish place-names still exist in the original Danelagh.

See J. C. H. R. Steenstrup, *Normannerne* (4 vols., 1876-82), P. Vinogradoff, *English Society in the Eleventh Century* (1908), F. M. Stenton, *Daneland Charters* (1920), and *The Danes in England* (1928). The place-names of this region are discussed by E. Ekwall in the *Introduction to the Survey of English Place-Names*, pt. I, ch. iv. (1924).

**DANGERFIELD, THOMAS** (c. 1650-1685), English conspirator, was born at Walton, Essex, the son of a farmer. He began his career by robbing his father, and, after a wandering life on the continent, took to counterfeiting, for which offence and others he was many times imprisoned. Faithless to everyone, he first tried to involve the duke of Monmouth and others by concealing information about a Presbyterian plot against the throne, and this having been proved a lie, he pretended to have discovered a Catholic plot against Charles II. This was known as the "Meath Plot," from the place where the incriminating documents were hidden at his suggestion, and found by the king's officers by his information. Mrs. Elizabeth Cellier—in whose house the plot was—allegedly to the countess of Powis, who had befriended Dangerfield when he posed as a Catholic, was, with her parrot, actually tried for high treason and acquitted (1680). Dangerfield, when examined (Oct. 16 1680) at the bar of the House of Commons, made other charges against the duke of York, the countess of Powis and the earl of Peterborough. He continued to defame the Roman Catholics in a long series of pamphlets, among others being *Dangerfield's Narrative*. This led to his trial for libel, and on June 29, 1685 he received sentence to stand in the pillory on two consecutive days, be whipped from Aldgate to Newgate, and two days later from Newgate to Tyburn. On his way back he was struck in the eye with a cane by a barrister, Robert Francis, and died shortly afterwards from the blow. The barrister was tried and executed for the murder.

**DANGEROUS TRADES.** By the British Factory and Workshops Act 1901, cases of industrial lead, phosphorus, arsenical and mercurial poisoning, also of anthrax, must be reported to the Chief Inspector of Factories, Home Office. Subsequently, carbon monoxide poisoning and chronic ulceration, as well as other occupational diseases, had previously been notified. The inclusion of industrial poisoning at first presented difficulties from the point of view of workers.

**Lead Poisoning** was among the first of the industrial diseases thus made notifiable, it is therefore compensable. Lead miners do not suffer from the malady but from disease of the lungs due to inhalation of rock dust. Smelters of the ore and refiners develop plumbism (Lat. *plumbum*, lead) through inhalation of the fumes. Workers in white lead factories are peculiarly prone to plumbism owing to white lead dust (carbonate) being soluble in the respiratory and digestive passages. A similar liability applies to house painters—especially during the "burning-off" and "dry-rubbing down" of old lead painted surfaces. The substitution of "wet" for "dry" rubbing down will diminish plumbism among painters. Opinions are divided as to whether the occupational illness of painters may not be as much due to the turpentine in the paint as to the pigments. Persons working in lead become anaemic. There is a personal and family idiosyncrasy to plumbism, and young females are if anything more predisposed to it than males. The symptoms are colic, the presence of a blue line on the gums close to the teeth, paralysis of the muscles of wrists and fingers, albuminuria, and in the acute and serious form blindness and convulsions. Lead is found in the internal organs after death.

As a result of periodical examination of workers in lead factories, also in potteries which use lead glazes, cases of plumbism have considerably decreased during the last 25 years, as well as in consequence of better ventilation of the workrooms, means for the removal of dust, personal hygiene, and attention to the bowels. Lucifer match making is no longer a dangerous trade owing to the substitution of sesquisulphide of phosphorus for the harmful white phosphorus. *Mercurial poisoning* occurs among men employed in the preparation of rabbits' skins by nitrate of mercury for hat making, in makers of scientific instruments of precision such as thermometers and barometers, and in men repairing electric meters. *Carbon bisulphide* used as a solvent in rubber industries causes a peculiar form of intoxication not unlike alcoholic, accompanied by staggering gait and mental excitement, also paralysis of the limbs in the more chronic cases. Carbon bisulphide is used extensively in the manufacture of artificial silk from cellulose. *Benzene* or *Benzol* used in "dry-cleaning" causes headache and drowsiness, while its nitric acid products, nitrobenzene and amido-benzene, destroy the red blood corpuscles inducing pallor of face with marked blueness of the lips, tongue and finger nails, irregularity of the heart's action and collapse. The blueness mentioned is due to the formation of aniline in the body. *Toxic jaundice* was occasionally met with during the war in persons in munition works handling the material of or inhaling vapours of dust from high explosives. *Anthrax*, *Wool-Sorters' Disease* or *Splenic fever* attacks workers employed in opening bales of infected wools. In the form of a local pustule the disease occurs in butchers and in men handling infected hides. It is due to an organism, the *bacillus anthracis*, which may gain entrance into the lungs by inhalation of dust to which spores are adherent; it may also enter through the broken skin or by the alimentary canal through persons eating infected flesh. The pulmonary form is extremely dangerous, it may cause death within 24 hours. If seen early the local pustule can be excised satisfactorily. A preventive serum has been used with encouraging results, but the essential thing is to have all bales of imported wool carefully opened and thoroughly disinfected before distributing it to the workers. During 1926 in Great Britain there occurred 38 cases of anthrax with three deaths.

**Cancerous Ulceration.**—Epitheliomatous or cancerous ulceration occurs in tar and mineral oil workers, makers of arsenical dip for sheep, and in mule spinners in cotton mills. Chimney sweeps have long been known to be subject to scrotal cancer. Workmen exposed to splashes of hot pitch and mineral oil develop brown patches and warts on their forearms. The warts may disappear or break down and are followed by ulceration which becomes malignant. Mule spinners in cotton mills have recently exhibited a high morbidity rate of epitheliomatous ulceration. In view of the increase of cancer generally, the large number of cases of scrotal cancer in mule spinners is not only a cause of anxiety but a matter calling for research.



ton Ulceration Was Added to the  
n 1920

92.	1923	1924	1925	1926	Total
9 <sup>1</sup>	14 <sup>1</sup>	11	35 <sup>2</sup>	27	143 <sup>4</sup>
6	14 <sup>1</sup>	15 <sup>2</sup>	23 <sup>4</sup>	18 <sup>3</sup>	89 <sup>12</sup>
2 <sup>1</sup>	6 <sup>1</sup>	1 <sup>2</sup>	9 <sup>2</sup>	15 <sup>9</sup>	41 <sup>18</sup>
5 <sup>1</sup>	6	2 <sup>1</sup>	4	2	22 <sup>2</sup>
.	15 <sup>2</sup>	79 <sup>17</sup>	78 <sup>66</sup>	88 <sup>20</sup>	265 <sup>73</sup>

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of coal is a hazardous occupation, led by fire, gassing, also accidents in the roof. Apart from these, coal operation

the United States more men are in the number of men working in coal countries; on the other hand the number of tons of coal raised, than in any other country. Many accidents by employing more super-equipment and falls of roof. Com-ground conditions these are more r man in U.S.A. than in European e surface, the seams are thicker, interrupted. During the five years r of fatalities per one million tons lives, in Great Britain 4.52 lives; in Prussia 11.85 lives. The follow- alities to numbers employed:

100 Full Year (300-day) Workers

France	Belgium	Prussia
..		3.15
		3.73
		3.40
1.43	1.30	2.47
1.13	1.12	2.16
	.91	
	.91	

so becoming increasingly employed ways the possibility of an electric igniting coal dust. Miners are liable are displacement it, also "beat hand," an inflamma- he palm of the hand which may ters are a comparatively healthy table

Death Rate per 1000

Coal miners		All males	
1900-2	1910-12	1900-2	1910-12
885	727	1004	790
89	75	187	141
53	61	69	78

ating improvement in general oc- m industry may be cited. With rous, respiratory and circulatory s. A. ... in other textile workers. The ed and retired males was during 1911, was in cotton operatives for, while bronchitis, which was 58 ed in cotton operatives 92 and 57

atures with humidity. Males suffer more from chest diseases than females, the latter more from digestive troubles and anaemia. Dust rich in silica is present in all the dry processes. The high temperatures and humidity predispose to colds, and the dust to asthma. Female operatives standing at work all day in high temperatures develop varicose veins and ulcers on the limbs and suffer from debility and anaemia. Weavers suffer from "twister's cramp," an infection of the muscles of the forearm, thumb and index finger, attended by a considerable amount of pain and followed by muscular weakness. Of accidents in cotton mills the largest numbers occur on Tuesday and on Friday and in relation to the hours of the day the maximum appears to be reached between the hours of 10 to 11 A.M. with a progressive decrease thereafter to the end of the working day.

**Compressed Air.**—Divers and men working in caissons in compressed air are liable to illness of a special kind. Inside the caisson men work practically speaking without discomfort; in order to enter this iron chamber they must pass through an attached "compression" lock and be gradually subjected to a rise of air pressure equal to that inside the caisson into which they will descend. Inside the caisson, beyond possibly experiencing unpleasant sensations due to the drums of the ears being forcibly driven inwards, the men are capable of doing even more work than on the surface, but all the while, owing to air being passed into the chamber under high pressure, their blood and tissues are becoming supersaturated with the nitrogen in the atmospheric air. In the body the gas becomes liquefied. It is not until the end of the shift when men are about to leave work and undergo "decompression" that symptoms arise. The men return to the lock wherein they had been "compressed" to undergo "decompression," and if this is done too rapidly bubbles of nitrogen gas gradually appear in the minute blood vessels, which arrest the circulation, or blebs of gas develop in the liver and central nervous system. So that a man who has been too rapidly decompressed may emerge from the chamber apparently well, yet on his way home be overtaken with severe pains in the limbs (bends) and be seen to stagger and fall, paralysed in his legs. Should such an event happen close to his work and the individual be carried back and placed in a warmed "recompression" chamber, upon being subjected to increasing increments of pressure and kept therein for two or three hours and then slowly decompressed, his pains will usually disappear and the power of walking be regained. By this mode paralysed caisson workers have been relieved and their muscular function and equilibration restored three hours after having left work. Some men are more liable to the malady than others, stout men particularly, for fat dissolves by bulk more nitrogen than the blood and tissues. Men above 40 years of age should not be employed in caissons. Supersaturation of the body liquids and tissues with atmospheric nitrogen is determined by the amount of pressure in the caisson, duration of exposure, and the absorbability of the tissues. Symptoms hardly ever occur in men who have worked under 28 lb pressure. Danger arises when the pressure mounts to 40-50 lb, above that of the outside atmosphere. The essential thing is slow decompression, not less than 2 mins. for every 3 lb of pressure worked in, and should this have exceeded 30 lb then at a rate of 1 min. per lb. Professor John Haldane introduced as a means of treatment "stage" decompression, i.e., decompression is suddenly made, for example from 30 lb. to 15. and thereafter at a uniform slow rate.

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**DANIEL**, the name given to the central figure of the biblical book of Daniel (see below). Two other personages mentioned in the Old Testament bear this name, see I Chron. iii. 1, Ezra viii. 2, Neh. x. 6. Daniel the prophet is known to us only as a character in Jewish fiction. He is mentioned in Ezek. xiv. 14. 20 between Noah and Job as one of three foremost saints of Israel and in xxviii. 3 as the type of wisdom. Thus may mean either that such stories as those in our book of Daniel were in circulation as early as the 6th cent. B.C. or (as the ...)

is more probably that the book of Ezekiel was written in the 3rd century B.C. (see below).

According to Dan. 1:3 the Babylonian chief eunuch was commanded to bring to the court certain youths of the Judean captivity, "of the children of Israel, and of the king's seed, and of the nobles" to serve in the king's palace. It is apparent that Daniel is thought of as one of the nobles, or even of the royal line. Thus Josephus *Ant.* x. 10. 1 and the *Lives of the Prophets* various Greek recensions, the latter adding that his birthplace was Ugar Beth-Horon, and that he was buried in the royal vault in Babylon. In the biblical account, the earlier narrator says that his life extended to the first year of king Cyrus" (i. 21, cf. vi. 29), while the later author represents him as still living "in the third year of Cyrus" (x. 1). In the late rabbinical tradition (*Midr. Šir ha-Sirim* vi. 3) he is said to have returned to Jerusalem among the exiles freed by the royal edict. The Jewish traveller Benjamin of Tudela (12th cent. AD) was shown his tomb in Susa and notices of this tomb are found as early as the 6th century.

**Daniel, Book of.**—The Book of Daniel stands between Esther and Ezra in the third great division of the Hebrew Bible known as the *Hagiographa*, in which are classed all works which were not regarded as forming part of the Law or the Prophets.

The book consists of two widely different portions—a didactic and popular narrative in successive episodes, chaps. i–vi.; and a series of prophetic visions, chaps. vii–xii. Chaps. ii–vii. are in Aramaic the remainder is Hebrew. The unity of the whole has been maintained by the great majority of scholars (Bevan, *Canon*, pp. 6, 23 note). Recently, however, theories of composite authorship have gained ground, see Dalman, *Worte Jesu* (1898), p. 11, and the works named below. The differences between the two parts are indeed many and striking, notably in the following particulars: (1) Style irrespective of the changes in language and subject matter. In the first half, including the Hebrew chapter i., it is generally simple and without any unusual features; in the second half it is obscure and difficult to a remarkable degree. (2) In the mental attitude of the author, and his portrayal of the character of Daniel there is a profound difference to be seen. (3) The Persian words, so numerous in i.–vi., are entirely absent in vii.–xii. (4) There is nothing in the first half of the book to suggest the presence of the arch-enemy, Antiochus Epiphanes, always in the background of the second half, contrast *ii.* 39–43 with vii. 23–25. (5) There is a manifest contradiction between i. 21 (cf. vi. 29), the statement that Daniel "continued until the first year of Cyrus," and x. 1, the account of the vision in that king's third year. It is natural to suppose that a later author had in mind the words of vi. 29, but forgot, or chose to disregard those of i. 21. (6) The use of the two languages finds its only convincing explanation in the theory of dual authorship (see following).

The great majority of scholars at the present day agree that neither the whole book nor the first half containing the narratives, can have been written in the time of the Babylonian monarchy, or even in the earlier part of the Persian period. The chief reasons for this conclusion are the following:

1. The position of the book among the *Hagiographa* seems to show that it was introduced after the final collection of the "Later Prophets" had been made. The collectors of the prophetic writings, who in their care did not neglect even the parable of Jonah, would hardly have ignored the record of so great a prophet and foreteller of future events as Daniel is represented to have been.

2. Jesus ben Sirach (Ecclesiasticus), who wrote about 180 B.C., in his otherwise complete list of Israel's leading spirits, makes no mention of Daniel.

3. The internal evidence is even stronger than the external, as will appear in the particulars which here follow. The historical inaccuracies in the narrative chapters are such as could be credited only to a writer who lived long after the events described. The statement at the very beginning of the book, that "in the third year of the reign of Jehoiakim" Nebuchadnezzar besieged and "captured Jerusalem, and carried the Jewish king and the vessels

of the temple to Babylon, finds no support in the history known to us, but seems to be the work of a writer who combined II Chron. xxxvi. 6 f. with II Kings xxiv. 1. The use of *Kasdim*, "Chaldeans," as the name of a class of magicians is a striking anachronism (see CHALDEEA); and the position of Daniel, a devout Israelite, as 'the master of the magicians' at the Babylonian court (iv. 6) is more easily comprehensible in edifying romance than in actual history.

The four kingdoms of chap. ii introduce a still greater difficulty. The first kingdom is the Babylonian (vs. 38), the fourth is the Greek empire (cf. chap. viii.), the third, immediately preceding the Greek (viii. 20 f., x. 20), is the Persian. The identity of the second kingdom is then made certain by numerous passages, it is the kingdom of the Medes whose reigning king, called "Darius the Mede," took possession of Babylon upon the death of Belshazzar, and at the close of his reign was succeeded by Cyrus (v. 30, vi. 1, 29, cf. ix. 1, x. 1, xi. 1). There was, however, in fact no Median power which came "after" the Babylonian (ii. 39) and in turn yielded the throne of Babylon to the Persians (xii. 1). The name Darius is not Median, and we have certain knowledge that the immediate successor of Nabonidus and Belshazzar as ruler of Babylon was Cyrus. Comparison with the list of Persian kings in the book of Ezra seems to show that in the last centuries B.C. the Jewish learned tradition transposed the reign of Cyrus with that of Darius I. Hystaspis the latter being regarded as king of the Medes. The reign of Cyrus was believed to have been immediately followed by those of Xerxes and Artaxerxes, Ezra iv. 5 (where the reference is to Darius II. Nothus), 6, cf. Montgomery, *Comm.*, p. 423 (See EZRA and NEHEMIAH, Books).

The highly interesting narratives of Nebuchadnezzar and Darius can hardly be regarded as true pictures of these monarchs. The former erects a golden image and commands all the people in his realm to fall down and worship it at a given signal; afterwards he confesses the God of Israel, and decrees that any subject of his who shall say anything against this God shall be cut in pieces. Darius commands by royal statute that "whosoever shall ask a petition of any god or man for 30 days," save of the king himself, shall be cast into the den of lions. After Daniel's rescue, the king confesses the God of Israel, and writes to all the peoples, nations, and languages, commanding them to fear this living God, whose dominion is everlasting. All this is plainly popular narration rather than historical record, even though one and another of the items have an undoubted basis of fact. The picture of Belshazzar in chap. v. has quite generally been pronounced unhistorical by modern scholars, but recent discoveries have tended to show that the historical background of the chapter is substantially correct. Documents in cuneiform prove that Belshazzar, the son of Nabonidus, exercised at Babylon such administrative powers as belonged to no mere crown prince; indeed, it is expressly stated that in the third year of Nabonidus the king entrusted the kingship to his eldest son, Belshazzar (Sidney Smith, *Babylonian Historical Texts*, 1924, pp. 84 sqq.). This would seem to explain the dignity of "the third ruler in the kingdom," conferred upon Daniel. Whether, and in what way, Belshazzar could be correctly described as the lineal descendant ("son") of Nebuchadnezzar is a question which future discoveries may settle.

4. The late date of the second half of the book, chaps. vii.–xii., is evidenced in many ways, not merely by the fact that its author presents a detailed sketch of contemporary history, especially in chap. xi., extending down to the time subsequent to the desecration of the temple at Jerusalem by Antiochus Epiphanes. In both literary and religious character it is a product of the later Greek period. The "apocalypse" as a distinct branch of Jewish literature makes its first appearance at this time, in the books of Daniel and Enoch, and continues henceforth in many similar compositions; its most characteristic features clearly represent a late stage in the history of Jewish thought. See the article "Apocalypse" in the *Jewish Encyclopedia*, Montgomery, *Comm.*, 78–81. The way in which Daniel in ix. 2 refers to the authoritative scriptures naturally suggests a time subsequent to the final redaction of the Law and the Prophets. A like impression is given by the

angeology of the visions including the names of the angels Gabriel and Michael (*cf.* the book of Tobit). The doctrine of the resurrection *xi* 2 appears now for the first time in clear and definite form (it had already received expression in *Is* *xxvi* 19). Not only the resurrection of the righteous but also that of at least a part of the wicked among the Jews is predicted, and the fact well illustrates the growing prominence of the individual, as contrasted with the nation, in the type of theology here represented. Some scholars have seen in this doctrine, as well as in other features of the theology of the book, evidence of the influence of Zoroastrianism (thus Kohut, Bousset, and especially Eduard Meyer *Ursprung und Anfaenge des Christentums*), but the arguments in support of this theory are unconvincing.

5 Finally, the linguistic evidence points unequivocally to a date more than two centuries later than the supposed time of the prophet Daniel. Comparison of the language of the sufficiently abundant inscriptions and papyri shows beyond question that the Aramaic of *Dan* *ii-vii* represents a type which cannot possibly be carried back of 300 B.C. (Torrey, *Esra Studies*, 161-166, G. R. Driver, *Journal of Bibl. Lit.* *xlv* 120 sqq., 325, and especially Baumgartner, "Das Aramaische im Buche Daniel," *Z. A. T. W.* *xlv* [1927], 122 sqq.) The Hebrew of the book is also of a very late type, *see* Bevan, *Comm.* 28-35. The presence of Greek words, especially the names of the musical instruments in *iii* 7, 10, 15, adds its significant contribution to the many-sided argument.

The book, then, is not a record of historical fact, but in its first half an edifying romance, and in its second half a typical apocalypse. The narrative portion is excellently suited to its purpose, and in the handling of the successive episodes the author's ability as a story-teller is as evident as his religious fervour. Chapter *v*, in particular, is powerfully dramatic, a gem of the world's literature. The popularity of the stories is early attested by the existence of varying recensions. The old Greek version (as old as the middle of the 2nd century B.C.), now extant in a single ms., supported by the Syriac Hexaplanic version, differs very considerably from the standard text in *chaps* *iv-vi*, and is here probably the rendering of a text which was reproduced from memory (Our standard Greek is the rendering of Theodotion, 2nd century A.D.) The influence of the second half of the book, the visions, was even more powerful and pervasive than that of the stories, determining to a considerable extent the course of the Jewish apocalyptic tradition, and affecting profoundly the early Christian scriptures. The visions are strongly patriotic in their immediate purpose, and there is abundant evidence that they gave in full measure the encouragement and the new religious impulse that they were designed to give. Very little attention is paid in them to the unseen world, their author does not concern himself with the secrets of the universe (contrast the book of Enoch). The eschatology of the book—immensely important as it is, and strongly emphasized by the author himself—is given the briefest possible space, *vii* 13 seq., 27, *xii* 1-3. That to which everything else is subordinated is the prediction of the immediate future. The Jews are soon to be delivered from their oppressors and the faithful will triumph forever. In making his final and most vivid prophecy, the writer at length passes over from the known to the unknown in a very striking manner. In *chap* *xi*, verses 3-39 present in the form of a prediction the detailed history of the Greek empire in the East, from the conquest of Alexander down to the latter part of the reign of Antiochus Epiphanes. Verses 40-45 continue this with an almost equally vivid description of events which had not yet taken place, but were only expected by the writer, namely, the wars which should result in the death of Antiochus and the fall of his kingdom. The mysterious symbolism employed in the computation of various intervals of time is another highly characteristic and significant feature of the Daniel visions. Thus, the "time, times, and a half" (*xii* 7) which must elapse before the end which has been foretold, the "weeks" (seven-year periods) of *ix* 24-27; and the enigmatic numbers of days in *viii* 14 and *xii* 11 sqq. For the interpretation of these ever-fascinating riddles the reader is referred to the standard commentaries. The influence

of the book on the Messianic hope of the Jews is still another fact of great importance. The "man" ("son of man") of *vii* 13 becomes henceforth a definitely Messianic title, as in the Book of Enoch and the Christian scriptures, on the other hand the "anointed one" of *ix* 26 doubtless refers to the high priest Onias III, who was assassinated at Antioch c. 171 B.C. (*II Macc* *iv* 33-38), referred to in *xi* 22 as 'the prince of the covenant'.

The strange manner of occurrence of the two languages—first Hebrew, then Aramaic, then Hebrew again, the alternation not corresponding to any changes in subject matter or literary character—furnishes a riddle which many scholars have been content to abandon as insoluble. The view that the book, as we have it, is in its original linguistic form and the work of a single author (Behr, Kamphausen) certainly leaves the principal difficulties unexplained. It has been a favourite theory that the book was originally written in Hebrew, and that a portion of it was lost or destroyed in the Maccabean wars and afterward supplied from an Aramaic version (so Lenormant, Bevan, Prince). "This hypothesis stumbles on the fact that the Aramaic begins neatly at the appropriate point" (Montgomery, *Comm.*, p. 92). There are other significant features, mentioned above, for which it fails to account. A theory first proposed by the present writer and adopted by Montgomery, *Comm.*, recognizes two distinct halves of the book, an earlier and a later, and explains the alternation of languages as the work of the later writer, who himself devised this way of joining his own work to that of his predecessor. The original work, consisting of popular narratives written in Aramaic, comprised the first six chapters, *vi* 29 forming the natural conclusion. The author of the apocalyptic chapters, *vii-xii*, writing in the name of Daniel and with the purpose of supplementing the book already existing, composed his first vision, *chap* *vii*, in Aramaic, wrote the remaining chapters, *viii-xii*, in Hebrew (the natural, almost essential, language of the older Jewish apocalypses), and replaced the original Aramaic of *i* 1-ii 4a with his own rendering of it into Hebrew. An excellent place for making the transition was offered by *ii* 4, the verse in which the Chaldaean soothsayers first address the king. This ingenious proceeding made of the whole an indissoluble unit. *Chap* *i* is indispensable to *ii* seq., while on the other hand *viii* seq. (Hebrew) could not possibly be separated from *vii* (Aramaic), for the successive revelations are manifestly all of one piece, and *viii* 1b significantly alludes to the preceding vision.

The date of the latter half of the book (and thus of the complete work) is given approximately by allusions to contemporary events. It was written in the time of Antiochus IV Epiphanes, after the desecration of the temple (*viii* 11-14), which took place in Dec. 167 B.C. (for this date, and the others here given, *see* Kolbe's epoch-making *Beiträge zur syrischen und jüdischen Geschichte*, Berlin, 1926). If, as some think, *viii* 14 implies that the writer had seen the rededication of the sanctuary (Dec. 164), while on the other hand the passage *xi* 40-45 shows, as all agree, that the death of Epiphanes (April 163) was still in the future, the visions are dated almost to the month.

The date of the first half of the book, the stories, is indicated with great probability by the allusions and the symbolism in *chap* *ii*. The historical sketch terminates with the attempted alliance, through marriage, of the Ptolemaic and Seleucid kingdoms (so most *comms.*) at a time when the contrast between the two was like that between iron and clay. This would perfectly apply to the political conditions at the time when the crushing blow was inflicted on the northern kingdom by Ptolemy III Euergetes in 246 B.C., immediately after the murder of Antiochus II, the Seleucid king, and his newly espoused wife, Berenice, the daughter of Ptolemy II. At no other time in the history of the two kingdoms was the contrast so strongly marked, the northern kingdom was not only impotent, it was actually crumbling. The provinces of the Euphrates and Tigris were now lost; Asia Minor was soon to follow; the two sons of Antiochus II. were arrayed against each other. The most probable date for Daniel *i-vii* would seem to be between 246 and 240, the year of the peace concluded between Ptolemy III. and Seleucus II. This dating satisfies all the conditions known to us: nor is there any evident objection to it, if

the fact of composition is accepted. Those few who postulate for Ezekiel a date c. 590 obtain an interval sufficient to account for the allusions to Daniel (see above), and for the mention of Ezekiel by the Septuagint.

**BIBLIOGRAPHY**—The commentaries of A. A. Bevan (1892), Behrmann (1883), J. D. Prince (1899), Marti (1907), and especially Marguerite *De la version Araméenne Commentaire*, 1907, with full bibliography. *Treves, No. 2, on the Aramaic Part of Daniel* (Trans. Cong. Acad. of Arts and Sciences iv, 1909, 241-287), supplemented in *Journal Am. Or. Soc.* xlv (1923), 229-232. In the above article use has been made of the article by J. D. Prince in the 11th edition of *The Encyclopedia*. (C. C. T.)

The "additions to Daniel" are three in number. *Susannah and the Elders*, *Bel and the Dragon*, and *The Song of the Three Children*. The two former have no organic connection with the book of Daniel, the last is inserted between verses 23 and 24 of chap. iii.

**Susannah**—This addition was placed by Theodotion before chap. i, and *Bel and the Dragon* at the close, whereas by the Septuagint and the Vulgate it was reckoned as chap. xiii after the twelve canonical chapters. *Bel and the Dragon* as xiv. Theodotion's version is the source of the Peshitto and the Vulgate, for all three additions and the Septuagint is the source of the Syro-Hexaplaric, which was published by Ceriani (*Mon. Sacr.* vi). The legend recounts how that in the early days of the Captivity Susannah the beautiful and pious wife of the rich Joakim, was walking in her garden and was there seen by two elders who were also judges. Inflamed with lust, they made infamous proposals to her, and when repulsed they brought against her a false charge of adultery. When brought before the tribunal she was condemned to death and was on the way to execution, when Daniel interposed and, by cross-questioning the accusers apart, convinced the people of the falsity of the charge.

The most interesting part of the story is the latter half, which deals with the trial. It has been plausibly conjectured that the characteristic features of this section point to its composition about 100-90 B. C. when Simon ben Shetah was president of the Sanhedrin and when the Pharisees were attempting to bring about a reform in the administration of the law courts. See Ball in the *Speaker's Apocrypha*, ii, 319 f.

The language was Semitic. The original of Theodotion's Greek seems to have been Hebrew, notice especially the idiom (not Aramaic) in vs. 25. In the "Septuagint" version the evidence is not so clear; certain features seem rather to point to Aramaic. See further Ball in the *Speaker's Apocrypha*; Rothstein in *Kautsch's Apokryphen*, D. M. Kay in *Charles' Apocrypha*.

**Bel and the Dragon**—We have here two independent narratives, in both of which Daniel appears as the destroyer of heathenism. It is possible as the commentators have remarked, that some details of the story of the dragon were suggested by the Babylonian mythology. The legend of Habakkuk, who brings food to Daniel in the lions' den, is an interesting feature. The Greek exists in two recensions, those of the "Septuagint" and Theodotion. The original language, which was certainly Semitic, seems to have been Hebrew though this has not been demonstrated conclusively. See Ball and Rothstein (as above), Witton Davies in *Charles' Apocrypha*.

**Song of the Three Children**—This section is composed of the *Prayer of Azariah*, the *Song of the Three Children*, and the *Hymn of the Three Children*. The original text of the *Prayer of Azariah* and the *Song of the Three Children* was in Aramaic. The *Hymn of the Three Children* was in Greek. It shows that our text is a translation of the original. See Ball and Rothstein (as above), *Speaker's Apocrypha*. (C. C. T.)

**DANIEL** (DANIEL, DANIEL) Russian travel-writer and one of the founders of the Russian middle class. He journeyed to the East, to the Levant about 1240-1245. He was the abbot of a monastery probably

have accompanied Baldwin, who treated him with marked friendliness, on an expedition against Damascus (c. 1107). Though Daniel's narrative beginning at Constantinople, omits some of the most interesting sections of his journey, his work has considerable value. His picture of the Holy Land preserves a record of conditions (such as the Saracen raiding almost up to the walls of Christian Jerusalem, and the friendly relations subsisting between Roman and Eastern Churches in Syria) peculiarly characteristic of the time, his three excursions—to the Dead sea and Lower Jordan, to Bethlehem and Hebron, and towards Damascus—gave him an exceptional knowledge of certain regions. In spite of blunders in topography and history, his observant and detailed record is among the most valuable of mediaeval documents relating to Palestine. It is also important in the history of Russian language, and in the study of ritual and liturgy. Several Russian friends and companions, from Kiev and an old Novgorod, are recorded by Daniel as present with him at the Easter Eve "Miracle" in the church of the Holy Sepulchre.

There are 76 mss. of Daniel's Narrative, of which only five are anterior to AD 1500, the oldest is of 1475 (Leningrad. Library of Ecclesiastical History, 9/1086). Three editions exist, of which I. P. Sakharov's (1849) is perhaps the best known (in *Narratives of the Russian People*, vol. ii, bk. viii, pp. 1-45). See also the French version in *Itinéraires russes en orient*, ed. M<sup>e</sup> B. de Khitovo (Geneva, 1889) (*Société de l'orient latin*), and the account of Daniel in C. R. Beazley, *Dawn of Modern Geography* (1897) etc. ii, 155-174.

**DANIEL, ARNAULT** (fl. late 12th century), French troubadour, was born at Ribeyrac in Péngord and became a member of the court of Richard the lion-hearted. He has become famous through the praise of Dante who ranks him with the Lustful in the seventh circle of purgatory. Arnault's amatory poems, though often obscure, are technical masterpieces of versification.

See E. Canello, *La Vita e le opere del trovatore Arnaldo Daniel* (Halle, 1883) and *Les Poésies d'Arnaut Daniel, Réédition critique d'après Canello* (Toulouse, 1910).

**DANIEL, GABRIEL** (1649-1728), French Jesuit historian, was born at Rouen on Feb. 8, 1649. He entered the Jesuit order at the age of 18, and became superior at Paris. He is best known by his *Histoire de France depuis l'établissement de la monarchie française* (first complete edition, 1713). Daniel published an abridgment in 1724 (Eng. trans., 1726), and another abridgment was published by Dorival in 1751. Daniel also wrote a *Histoire de la milice française*, etc. (1721) and a reply to Pascal's *Provincial Letters*, entitled *Entretiens de Cléanthe et d'Eudoxe sur les lettres provinciales* (1694); two treatises on the Cartesian theory as to the intelligence of lower animals, and other works.

See Sommervogel, *Bibliothèque de la Compagnie de Jésus*, t. v.  
**DANIEL, SAMUEL** (1562-1619), English poet and historian, was born near Taunton in 1562, and died at Beckington, near Devizes, on Oct. 14, 1619. His brother, John Daniel, was a musician and the author of *Songs for the Lute, Viol and Voice* (1606). In 1579 Samuel was admitted a commoner of Magdalen hall, Oxford, where he remained for about three years. He was first encouraged and, he says, taught in verse, by Sir Philip Sidney's sister, Mary, countess of Pembroke, whose household he had entered as tutor to her son, William Herbert. His first known volume of verse is dated 1592, it contains the cycle of sonnets to *Delia* and the romance called *The Complaint of Rosamond*. Twenty-seven of the sonnets had already been printed at the end of Sir Philip Sidney's *Astrophel and Stella* without the author's consent. Several editions of *Delia* appeared in 1592, and they were very frequently reprinted during Daniel's lifetime. The *First Four Books of the Civil Wars*, an historical poem in *ottava rima*, appeared in 1595. *Poetical Essays*, apparently first printed in 1599, contained, besides the "Civil Wars," "Musophilus," and "A letter from Octavia to Marcus Antonius" poems in Daniel's finest and most mature style. About this time he became tutor to Anne Clifford, daughter of the countess of Cumberland. On the death of Spenser in the same year Daniel received the title

favour at court and wrote a *Panegyric* on a later offered to the King at *Bath* *Harriot's Rattledie* in *ottava rima*. In 1603 his poem was published and in many cases copies contained in addition his *Poetical Epistles* to his patrons and a prose essay called *A Defence of Rime* (originally printed in 1602) in answer to Thomas Campion's *Observations on the Art of English Poesie*, in which it was contended that rhyme was unsuited to the genius of the English language. Daniel's essay and Campion's were published together, *Body's Head Quartos*, No. 14 (New York, 1925). In 1603 Daniel was appointed master of the queen's revels. In this capacity he brought out a series of masques and pastoral tragi-comedies, of which were printed *A Vision of the Twelve Goddesses*, in 1604, *The Queen's Arcadia*, an adaptation of Guarini's *Pastor Fido*, in 1606, *Tethys Festival or the Queen's Wake*, written on the occasion of Prince Henry's becoming a knight of the bath, in 1610, and *Hymen's Triumph*, in honour of Lord Roxburgh's marriage in 1615. Meanwhile had appeared, in 1605, *Certain Small Poems*, with the tragedy of *Philotas*, with whom he expressed some sympathy, was taken to represent Essex. In 1607, under the title of *Certain small Workes heretofore divulged by Samuel Daniel*, the poet issued a revised version of all his works except *Delia* and the *Civil Wars*. In 1609 the *Civil Wars* had been completed in eight books. In 1612 Daniel published a prose *History of England*, from the earliest times down to the end of the reign of Edward III.

Daniel was made a gentleman-extraordinary and groom of the chamber to Queen Anne, and was now acknowledged as one of the first writers of the time. Later in life he threw up his titular posts at court and retired to a farm called 'The Ridge,' which he rented at Beckington, near Devizes, in Wiltshire, where he died.

Of Daniel's works, the sonnets are now, perhaps, most read. They depart from the Italian sonnet form in closing with a couplet, as is the case with most of the sonnets of Surrey and Wyatt, but they have a grace and tenderness all their own. Of a higher order is *The Complaint of Rosamond*, a soliloquy in which the ghost of the murdered woman appears and bewails her fate in stanzas of exquisite pathos. Among the *Epistles to Distinguished Persons* will be found some of Daniel's best work. The epistle to Lucy, countess of Bedford, is remarkable among those as being composed in genuine *terza rima*, till then not used in English. *Hymen's Triumph* is perhaps the best of all his dramatic writing. An extract from this masque is given in *Lamb's Dramatic Poets*, and it was highly praised by Coleridge. In elegiac verse he always excelled but most of all in his touching address *To the Angel Spirit of the Most Excellent Sir Philip Sidney*. *Musophilus* is one of the most characteristic writings of Daniel. It is a dialogue between a courtier and a man of letters, and is a general defence of learning, and in particular of poetic learning as an instrument in the education of the perfect courtier or man of action. It is addressed to Fulke Greville, and written in a sort of *terza rima*, or, more properly, *ottava rima* with the couplet omitted. Daniel is wanting in fire and passion, but he is pre-eminent in scholarly grace and tender, mournful reverie.

Daniel's works were edited by A. B. Grosart in 1885-96; *Selected Verse* (Pembroke Booklets, No. 6, 1905).

**DANIELL, JOHN FREDERIC** (1790-1845), English chemist and physicist, was born in London on March 12, 1790, and in 1831 became the first professor of chemistry at the newly founded King's College, London. His name is best known for his invention of the Daniell cell (*Phil. Trans.*, 1836; see BATTERY), still extensively used for telegraphic and other purposes. He also invented the dew-point hygrometer known by his name (*Quar. Journ. Sci.*, 1820), and a register pyrometer (*Phil. Trans.*, 1830); and in 1830 he erected in the hall of the Royal Society a water-bath, with which he carried out a large number of observations (*Phil. Trans.*, 1832). A process devised by him for the manufacture of illuminating gas from turpentine and resin was in use in New York for a time. His publications include *Meteorological Essays* (1823), an *Essay on Artificial Climate considered in its Applications to Horticulture* (1824), which showed the necessity of a humid atmosphere in hothouses devoted to tropical

plants and an *Introduction to the Study of Chemical Philosophy* (1829). He died suddenly on March 13, 1845, in London, while attending a meeting of the council of the Royal Society of which he became a fellow in 1813 and foreign secretary in 1839.

**DANIELL, THOMAS** (1749-1840), British painter, born at the Chertsey inn Surrey, in 1749, and died at Kensington, London, March 19, 1840. Up to 1784 he painted topographical subjects and flower pieces. By this time his two nephews (see below) had come under his influence, the younger, Samuel, being apprenticed to Medland, the landscape engraver, and the elder, William, being under his own care. In this year (1784) he embarked for India accompanied by William, and remained there ten years; on returning to London he published his largest work, *Oriental Scenery*, completed in 1803.

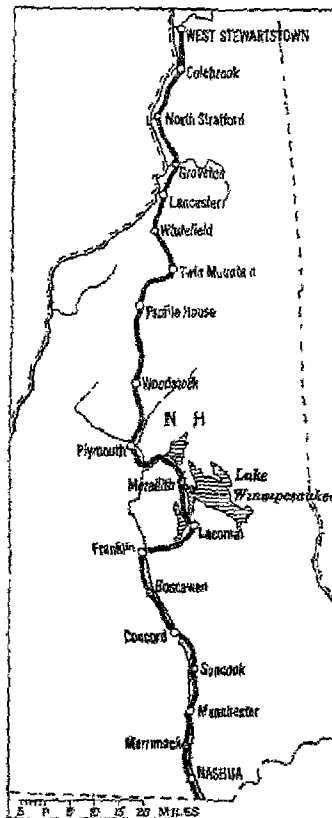
WILLIAM DANIELL (1769-1837), his nephew, was 14 when he accompanied his uncle to India. He executed engravings in aquatint and was elected R.A. in 1822.

SAMUEL DANIELL (1775-1811), was brought up as an engraver, and first appeared as an exhibitor in 1792. He travelled into the interior of Africa, with his sketching materials in his haversack, and published *African Scenery*. He left for Ceylon in 1806, where he spent the remaining years of his life publishing *The Scenery, Animals and Natives of Ceylon*.

**DANIELS, JOSEPHUS** (1862- ), American editor and politician, was born at Washington, N.C., on May 18, 1862. He studied at the Wilson (N.C.) institute and also the University of North Carolina, and at 18 became editor of *The Wilson Advance*. He was admitted to the bar in 1885, but preferred newspaper work, becoming in that year editor of the *Raleigh State Chronicle*. He was printer for the State of North Carolina from 1887 to 1893; and then, for two years, was chief clerk of the Department of the Interior. From 1904 he was editor of the *Raleigh News and Observer*, with which his former paper was consolidated.

He was on two occasions a delegate to the national Democratic convention, and from 1896 to 1916 was a member of the Democratic national executive committee. In 1913 he was appointed secretary of the Navy by President Wilson. His personal interest in the enlisted men was shown by his provision of opportunities for training in various trades. On retiring from this office in 1921 he resumed the editorship of his newspaper. He was the author of *The Navy and the Nation* (1919); *Our Navy at War* (1922); *Life of Worth Bagley* (1924) and *Life of Woodrow Wilson* (1924).

**DANIEL WEBSTER HIGHWAY**, American thoroughfare extending from the Massachusetts-New Hampshire State boundary line to the Connecticut river at Canaan, Vermont. This highway was established by the New Hampshire legislature in 1921 to commemorate the great statesman whose name it bears;



at Franklin it passes near his birthplace. It traverses the White Mountains and the heart of the State, and is hard surfaced or paved throughout its length of 200 miles. Lake Winnepesaukee, Mt. Washington, Old Man of the Mountains, the Indian Head and Franconia Notch are among the scenic attractions along its route.

**DANISH LANGUAGE AND LITERATURE.** The territory of Old Danish included the present Denmark, the southern Swedish provinces Halland, Skåne and Blekinge, the whole of Schleswig, and for a short period also a great part of

Britain, and parts of Normandy. The oldest monuments of the language are runic inscriptions, altogether about 225 in number. The oldest of them go as far back as to the beginning of the 9th century. No Danish literature arose before the 13th century. The oldest manuscript dates from the end of that century, written in runes and containing the law of Skåne. From about the year 1320 we possess a manuscript written in Latin characters and containing the so-called Valdemar's and Erik's laws of Zealand, the Helsingborg manuscript of the law of Jutland, and a manuscript of the municipal laws of Flensborg. These three manuscripts represent three different dialects—that, namely, of Skåne, Halland and Blekinge, that of Zealand and the other islands, and that of Jutland and Schleswig. There existed no uniform literary language in the Old Danish period.

The form of the language hardly differs at all during the period between A.D. 800 and 1200 from Old Swedish. In the oldest literature the differences are not important, and are generally attributable to the fact that Danish underwent a little earlier the same changes that afterwards took place in Swedish. Internally, they show considerable differences; the law of Skåne most nearly corresponds with the Swedish laws, those of Zealand keep the middle place, while the law of Jutland exhibits the most distinctive individuality. The vocabulary, which in earlier times only borrowed a few, and those mostly ecclesiastical, words, became chiefly owing to the predominant influence of the Hanse towns— inundated by German words.

The earliest traces of literary production in Denmark may be found as far back as the Germanic migration. The mythical events of that period provided inspiration for a Danish epic, which has been lost. Its outline and its ideas can be found in the free version in Latin made by Saxo about 1200 (see Axel Olrik, *Danmark's Heltedigtning*). During the first centuries after the arrival of Christianity in the country the Danish mind was almost exclusively engaged in a slow process of assimilation. This was completed by the year 1200, when Denmark came into touch with the Latin civilization common to Europe, partly through translations and partly through adaptations. To this time belong many legends (the earliest about Knud the saint by the English monk Aelnoth), the *Hexæmeron*, a poem about the creation, by Archbishop Andreas Suneson, annals of monasteries and chronicles, the most important being the *Compendiosa Historia Regum Daniae* by Sven Aggesen, and the *Gesta Danorum* or Saxo Grammaticus. In the Danish language we find, during the 13th century, collections of legal customs which before that time only existed in the form of oral tradition; e.g., the "Scanian Law" and the "Seeland Law." The "Jutland Law" was somewhat under the influence of Roman and canonical law. The medical treatises of Henrik Harpestreng were written at the same time. From the 15th century dates a version of *Lucidarius*, the collection of old proverbs by Peter Laake, and a history of Denmark in verse (*Rimkrøniken*). This was the first book in Danish to be printed (1494). The most significant section of mediæval Danish literature consists of folk-songs. In 1591 Anders Sørensen Vedel published 100 songs. Svend Grundtvig began a complete and scholarly edition in 1885. It was continued after his death by Axel Olrik.

**Effect of the Reformation.**—The 16th century was influenced by Humanism but the struggle of the Reformation engaged the energies of all that was most significant in the nation. The humanist, Poul Helgesen, who had been trained by Erasmus, was a passionate Catholic polemist, while Hans Tausen (d. 1561 as bishop of Ribe) was a Protestant agitator. A useful mediator between the old and the new tendencies was Christian Pedersen (d. 1554). In 1554 he adapted the French poems about Holger Danske—a book which remained popular for three centuries. Finally he was the principal author of the first complete Danish translation of the Bible (1550). Peder Palladius (d. as bishop of Seeland in 1560) transports us into the very midst of the fight for the Lutherization of the national life in his *Visttærbog*, consisting of notes made for his visits of inspection as a bishop.

The Danish hymn originated during the 16th period. The earlier hymns (1550-1600) can be found in the *Den danske Kirkes Sangbog* by P. P. Thomsen in 1569. A

little later Hans Christensen Sthen wrote hymns in the style and in the tender tone of folk-songs.

The main part of the non-religious literature of the 16th century has been lost. The most important is the translation from the low German or *Reynard the Fox* by Herman Weigere (1555). The earliest trace of dramatic poetry in Denmark can also be found in that century—miracle- and morality-plays and farces in naive style, enacted by the pupils of the schools. The oldest-known work is a miracle-play *Ludus de Sancto Canuto* (c. 1530). The most talented dramatic author of the period was Hieronymus Justesen Ranch (d. 1607), rector in Viborg.

Apart from *belles-lettres* we have to mention the *Skiby-chronicle* by Poul Helgesen, the excellent translation of Saxo in 1575 by Anders Sørensen Vedel, the translation of Snorre's *Heimskringla* by the Norwegian, Peder Clausøn Fris, as well as the *Danmarks Riges Krønike* (Chronicle of the Danish State) by the chancellor Arild Huitfeldt. Fantastical historiography is represented by Claus Lyschander, who carries the origin of the Danish royal house back to Adam.

**Coming of the Renaissance.**—During the Thirty Years' War Denmark was drawn into the European literary renaissance. The first representative of the new tendency was Anders Arrebo (1587-1637) for some time bishop in Trondhjem. He translated the Psalms into verse, and wrote an adaptation of the *Hexæmeron* by Du Bartas. Anders Bording (d. 1677) wrote lively topical poems and poems in the sentimental and gallant pastoral manner. He also wrote *Den Danske Mercurius*, a court-journal written in alexandrine verse (1666), which was the first Danish weekly newspaper. By far the greatest poet is the writer of hymns, Thomas Kingo (1634-1703), the son of an emigrated Scottish weaver. After some smaller collections of hymns (including admirable morning- and evening-hymns) he published at the invitation of the king his sketch of a new hymn-book. A large part of this work was incorporated in the authorized hymn-book, the so-called hymn-book of Kingo of 1699.

The prose of this period contained a large amount of creative work. Ole Worm (1588-1654) is the originator of research into national antiquities, with the *Monumenta Danica* (1643), which described and interpreted all runic inscriptions known in his time. The Teutonic renaissance, which a century later was to come over from England as a reaction against the one-sided worship of French classicism, was already making itself felt in works such as the edition and translation of some of the older songs of the *Edda* by Peder Resen (1665), and in the essay *De Causis contemptus Mortis a Danis* (1689) by Thomas Bartholin the Younger. For the first time the living language was the object of serious study, in Latin by Bishop Erik Pontoppidan (1668) and in Danish in the *Danske Sprogkunst*, and in the *Considerations about the Cymbric Language* by the priest Peder Syv (1631-1712). At the end of the century two scholarly ladies appear, Brigitte Thott, who translated Seneca in 1658 and the daughter of Christian IV., Leonora Christina Ulfeldt, who in the unique human document *Jammersmindet*, first discovered and published in 1869, has described in a moving manner the history of her 20 years' imprisonment. Famous anatomists were Thomas Bartholin (d. 1680), Nicolaus Steno (d. 1686), who also founded geognosy, and Ole Rømer (d. 1710), who discovered the velocity of light.

**The 18th Century.**—In the first half of the 18th century Ludvig Holberg (qv., 1684-1754), puts all other names in the shade. He is called the father of Danish literature and contributed to nearly every branch of it. He wrote satires, 34 comedies, novels and epigrams. Unprejudiced and humorous, a *raisonneur* in the English and particularly in the French manner, he poured forth popular philosophical letters and moral considerations, and for the first time in Denmark, catered for the general cultured public.

Frederik Kuschow, popular philosopher, who died at the age of 25 in 1750, was a pupil of Holberg, as was Jens Schelderup Suedorff (d. 1764), editor of a review in the manner of Addison, called *The Patriotic Spectator*. Historians of the period include Hans Gram (1685-1748), a critical student of sources and a scholarly annotator, founder of the *Venskabernes Selskab* (Scientific Association 1742), and Jakob Langebek (1710-78) who was

first and foremost an editor. He began the great edition of *Sjette og syvte Aars Beretning* (1764) wrote *Danske Kæmpehistorier* and the topographical work *Danske Atlas*. Apart from Holberg, poetry in the first half of the 18th century has little importance.

After Holberg's death English and French influences became increasingly marked. Pope's didactic poetry and the nature poems of Thomson found an imitator in Christian Brauner Tulin (1720-65). An association for improving the people's taste had been founded in accordance with the rules established by French aesthetics. These rules were strictly applied in the first original Danish tragedy *Zarve* (1772) by the Norwegian, Nordahl Brun. After 1770, other tendencies appeared. It was through Klopstock, who spent a great part of his life in Denmark, that the German Renaissance, which had its starting point in Young, Macpherson and Percy, was imported into Denmark. Its most talented representative is Johannes Ewald (q.v., 1743-81), perhaps the most important lyrical poet in the pathetic manner of the 18th century. Ewald began as an adherent of French classicism but was afterwards influenced by Shakespeare and Ossian. He wrote the first national tragedies, choosing his subjects from Saxo and the *Edda* (*Rolf Krage* and *Balder's Death*). In the musical play *The Fishermen* we find expressed for the first time the love of the sea and admiration for the common seaman. In his autobiography *Levned og Meninger* his delicate mind found its best medium of expression. Here we find humour and sensitiveness like Sterne's and the self-analysis of Rousseau.

The Norwegian, Johan Herman Wessel (1742-85), was a lover of clearness, wit and elegance. He caricatured insincere pathos and servile imitation in his tragic parody *Kærlighed uden Strømper* (Love without Stockings, 1772). He was the wittiest of the clever literary people who gathered in the "Norske Selskab" (Norwegian Association). Jens Baggesen (q.v., 1764-1826) was a man of restless nature but charming mind and real facility. His best work was done in his rhymed epistles and in *Labyrinten*, a description of travel in the manner of Sterne (1792).

The poets of the last decade of the 18th century are not of great importance, but, in a tentative way, they tried new tunes. Thomas Thaarup described the peasants in dramatic idylls with a patriotic tendency, e.g., *Høstgildet* (Harvest Festival, 1791). Ole Samsøe (d. 1796) chose a subject from the national past for his tragedy *Dyveke* (the mistress of Christian II). O. C. Olafsen (1764-1827) wrote the best comedy since Holberg, *Guddaaens*. Political and social satire predominate in the work of Peter Andreas Heiberg (1758-1841), who wrote plays (*De Værner og de Værmede*), articles for periodicals and club-songs. Having been punished several times for his audacious criticism, he was banished in 1800 and settled in Paris. The same fate befell Malte Conrad Bruun (1775-1826) because of the *Aristokraternes Katekismus*.

The growing interest taken in political and public affairs manifested itself in the formation of clubs where social life was inspired by the punch-bowl and by songs. The most fertile and amiable song-writer of the period was Knud Lyhne Rabbek (1760-1830). He also contributed to the periodicals *Minerva* and *The Danish Spectator*. As an editor and a historian of literature he collaborated with the scholarly philologist Rasmus Nyerup (1759-1829) and with Werner Abrahamson (1744-1812), aesthete and critic. During this period Danish prose acquired increasing flexibility, clearness and irony. The doctor Johan Clemens Tode (d. 1806) wrote witty essays, Ove Malling aimed at arousing the patriotic sense of the Danes with anecdotes from the national history, *Store og gode Handlinger* (Great and Good Deeds, 1777), and Peter Frederik Suhm (1728-98) wrote a book about Odin and a history of Denmark, rich in material. Niels Treschow (1751-1833) was a philosopher with a style of Gallic delicacy.

**The Golden Age.**—The period between the battle of the roadstead of Copenhagen (1801) and the battle of Düppel (1864) was the golden age of Danish poetry. The Danish romantic movement shows an unusually harmonious blend of nationalism, of Christianity and of humanity. The first representative of the movement was Adolph Wilhelm Schack von Staffeldt (1769-1826), who was born in Germany and whose lyricism is profound

and thoughtful though rather heavy and lacking in polish. In the appreciation of the public he was entirely put in the shade by Adam Oehlenschläeger (1779-1850), the most richly endowed poetical genius of Denmark. It was the Norwegian Henrik Steffens, whose conversations and lectures (1802) introduced Oehlenschläeger to the world of romantic thought. The following years were the creative period, when Oehlenschläeger wrote his romances, tragedies, poetic stories of adventure and sagas, works which are still the culminating point of Danish poetry. The power and beauty of his style and its picturesqueness influenced the poetry of the whole century that followed, the world of the Northern gods and heroes became as visible and tangible in Oehlenschläeger's poetry, as that of the Greek Olympus in Homer. In *Aladdin* and in the figures of his tragedies the nation found an idealized picture of its own character, open, naive, innocent, pious and true. Nicolaj Frederik Severin Grundtvig (q.v., 1783-1872) was a clergyman, poet and historian. He developed through hard inner conflicts into a mighty advocate of religious and national awakening which particularly through the Grundtvigian folk high schools, has been of enormous importance to the Danish people. He wrote historical and popular poems and a great number of hymns, some of which by their mixture of prophetic inspiration, simplicity and depth rank among the foremost in the world's literature. He was also a learned mythological and historical writer and gave, during three visits to England about 1820 an impetus to Anglo-Saxon studies. The importance of Bernhard Severin Ingemann (q.v., 1789-1862) also lay in his awakening and strengthening the national self-confidence. This he effected by his historical novels of the middle ages, written somewhat in the manner of Scott, and by his cycle of romances *Hofjer Danske*. Carsten Hauch (q.v., 1790-1872) was a pupil of Oehlenschläeger and was romantic in the manner of Tieck and Novalis. His profound and noble personality expressed itself in historical dramas and novels and especially in his lyrical poems.

**The New Realism.**—It is in the '20s of the 19th century that the first traces of an interest in reality can be detected in the choice of poetical subjects. Poul Martin Møller (1794-1838), a strong and vital personality, portrayed, particularly in his novel *En dansk Students Eventyr* (The Adventures of a Danish Student, 1824), the types of his own time. Jute Steen Steensen Blicher (1782-1848) was even less romantically inclined. His starting point was the 18th century. He began in 1807 with a prose translation of Ossian. Later he translated Pope's *Abelard* and *The Rape of the Lock*, Goldsmith's *Vicar of Wakefield* and several of the Percy folk-songs. Sterne also strongly influenced him. He was the first to describe in his poems *fjelland*, its heaths and its inhabitants. After 1824 he also did this in his short stories. Particularly original is *E Budsstovne*, a collection of poems and stories written in Jutish dialect. Blicher was a clergyman and, completely in the tradition of the 18th century, he aimed at the enlightenment and practical reform of his flock. The divorced wife of P. A. Heiberg, Thomasine Gyldenbourg-Ehrensvård (q.v., 1773-1856), was much admired in her own time on account of her short stories, *Hverdags-historier* (Stories of Everyday Existence). She described the troubles of the heart, drawing upon her own experience, with an unprejudiced and delicate human understanding. Her nephew Carl Bernhard (pseudonym, Andreas Saint-Aubain) revealed similar qualities in his novels, while Carl Baggers's (d. 1846) short story (*The Life of My Brother*), which is full of audacious realism and Byronic pride, shocked the few readers it found.

About 1830 the other naive romanticism gave way to a poetical realism, more contemplative and conscious, more artistic than national, more interested in form than in matter. The leader of this movement is Johan Ludvig Heiberg (q.v., 1791-1860). His vaudevilles heralded the newer Danish comedy and his romantic dramas *Elverhøj* (The Hill of the Fairies) and *Syvsøverdag* ousted the serious tragedies of Oehlenschläeger from public favour. Heiberg was the first Danish critic who founded himself upon clearly defined principles. The upper classes allowed him to dictate their taste, until they accepted the doctrines of Georg Brandes. Henrik Hertz (q.v., 1797-1870) was another author of

comedies also a champion of good taste. He was a creature of delicate moods and style of an artistic mind rather than forceful personality. Christian Winther (q.v., 1796-1876) was the fertile singer of the natural beauties of Seeland and the first great lyrical love poet in Danish. Ludvig Adolf Bodtcher (1793-1874) and Emil Aarstrup (1800-56) are excellent lyrical writers in the small manner.

**Hans Andersen.**—Unique, and one of the greatest figures was Hans Christian Andersen (q.v., 1805-75). He experimented in several genres without much success until in his *Fairy-tales*, which came out in small instalments from 1835 onwards, he succeeded at last in expressing his real self, his sublime simplicity, his all-inspiring fancy, his deep sentiment and his quaint humour which always plays between smiles and tears. The fairy tales were told for a childish audience in a very lively and unpressurized style, but their ideas are for adults—a mixture of simple idealism and bitterness caused by personal experiences.

In the '40s political liberalism was acquiring an increasingly powerful hold, and a growing sense of actuality and of realism began to undermine the old aesthetic humanism. Heiberg, with his superior sarcasm condemned what he called the spiritless outlook of this time in his satirical work *En Sjæl efter Døden* (A Soul after Death, 1841). Pouludan Müller's (1809-76) point of view however was ethical. His chief work was the epic poem *Adam Homo* (1841-28), in Byronic stanzas, full of reminiscences of *Don Juan*. He was one of the masters of Ibsen. So was Søren Aaby Kierkegaard (q.v., 1813-55), the most original genius of the '40s. He was a fascinating and at the same time a profound writer, a captivating stylist, a subtle philosophic and religious author. He set forth his conception of life, his views on aesthetic, ethical and religious problems, in *Enten-Eller* (Either-Or) and *Stadier paa Livets Vej* (Stages on the Road of Life).

The Jew Meir Aaron Goldschmidt (1819-87) was a figure of transition, a Danish Disraeli. He edited the first satirical weekly, *Corsaren* (The Corsair). He was the first writer who gave a sympathetic description of Jews. In his novel *En Jude, a Jew* (1845), and in his delicate short stories, he displayed a psychological penetration and depth of mood, which pointed towards a newer poetry. In the '40s a certain liveliness was displayed by the students who carried the banner of aesthetic liberalism and of the pan-Scandinavian idea. Carl Ploug (1812-94) and Jens Christian Hostrup (1818-92) were their leaders. They wrote songs and students' comedies. Many of the lyrical poets of the middle of the century are delicate in expression even if they are somewhat colourless and vague—Christian Richardt (d. 1892); Hans Vilhelm Kaalund (c. 1837); Christian Molbech (d. 1838), who also translated Dante; Edvard Lemboke (d. 1897), the translator of Byron and Shakespeare. Eric Bøgh (1822-99) was a skilled writer of songs and of vaudevilles in the popular humorous taste.

Prose-writers also followed in the traces of the older generation. Herman Frederik Ewald (1821-1903) and J. C. C. Brosbøll (pseudonym, Carl Etar, d. 1900) wrote entertaining historical novels in the manner of Blicher and Ingemann. A series of schoolmasters took the same line (Thyregod, Anton Nielsen, Zacharias Nielsen). They widened the circle of readers and in their works probed deeper into popular life than any writer before them. Vilhelm Bergsøe was a capable maker of novels which suited the easily satisfied taste of the upper-classes (*Piazza del Popolo*, 1866). The most original was Hans Egede Schack. His novel *Phantasme* (The Phantasms, 1857) reveals considerable psychological gifts.

The period which ends about 1870 is rich in important names. The poet of the '50s, C. J. Thomsen (d. 1865) and J. J. Thomsen (d. 1870) were the first to place on a firm foundation the study of Northern literature. Niels Matthias Brønne (1812-70) wrote the *History of Denmark* (1840-50) and the *History of the Seelandish Sea*. Christian Høyer (1812-70) was a historical and geographical dictionary. Other historical writers were E. A. Holten (d. 1870) and Christian Andersen (d. 1884) and

Hans Brochner (d. 1875), the master of Georg Brandes.

**The Work of Brandes.**—Georg Brandes (q.v., 1843-1927) is undoubtedly the leading Danish representative of the new outlook on life which manifested itself during the second half of the 19th century. The brilliance and ingenuity of his manner are shown as much in his lectures about *The Principal Tendencies of 19th Century Literature* as in his literary essays and critical portraits (Holberg, Kierkegaard, Shakespeare, Goethe, Voltaire). He shattered the national self-confidence and linked the general thought of Denmark with the mind of Europe, especially in the direction of positivism and individualism. His historical and psychological criticism formed in the school of Taine and Sainte-Beuve, indicated the direction in which all subsequent Danish literary history was to move. Finally he pointed the way to the poets of his time in the direction of a truer psychology, a more characteristic style, and in particular towards a more daring and more modern choice of subject matter. His critical attitude towards tradition shocked many people. But most of the talented among the younger generation were delighted and enthusiastic. Until 1900 literature had essentially been a debate between old and new, national and foreign, a choice between tradition and freedom. For deeper natures it had meant a debate between the rights of dreams and those of the outer world, between the romanticism of the heart and the realism of the intellect. That is how Holger Drachmann (q.v., 1846-1908) the greatest lyrical poet of the period, saw the conflict. He was a great writer of love poems and of vivid poems about the sea and seamen, but his inner life oscillated restlessly between the old and the new.

Jens Peter Jacobsen (q.v., 1847-85), in his stories and novels, went much deeper into the same problems of dream and reality, especially in *Niels Lyhne*. In *Marte Grubbe* he introduced the naturalism of Flaubert. In this genre he showed himself capable of closer observation and of deeper psychological interpretation than any of his predecessors.

Sophus Schandorff (1838-1901) painted racy and robust pictures of peasant and lower middle-class life (*Little Folk*, 1880). He caricatured priests and noblemen in the true manner of an agitator. His successor was Gustav Wied (1858-1914) whose pictures of provincial towns were witty distortions of reality, and exposed the hypocrisies of social life (*Sloagten, Satyrspil*). Erik Skram (1847-1923) became, with *Gertrude Colbjørnsen* (1879) a member of the corporation of iconoclasts. Kari Gjellerup (1857-1919) began with a contentious and anti-theological novel, *The Disciple of Teutons*, in homage to Georg Brandes. But soon his religious and humanitarian sentiments made him turn his back on naturalism. In drama (*Brynhild, Wuthorn*) and novels (*Minnig, Møllen* (The Mill)), he dealt with eternal problems in the ethical manner of Schiller.

Representatives of the modernist doctrines of Brandes are Edvard Brandes (b. 1847) in his modern tendentious drama, the mocking Peter Nansen (1861-1918) in his stories in the style of Maupassant, and Carl Ewald (1856-1908) in his natural-history tales with a Darwinian tendency. In his comedies (e.g., *En Skandale*), Otto Benzon (1856-1927) battles against the hypocrisy of society, and Gustav Esmann (1860-1904) pokes fun at the older generation, e.g., in *Den kaere Familie* (The Dear Family). Less of an agitator and more bound by tradition is Einar Christiansen (b. 1861). Sven Lange (b. 1868) is a poet and an individualist unburdened with doctrines, as he showed in his drama *Samson and Delila*, in his novel *Hjertets Gerninger* which describes the early '90s, and in *The First Conflicts*, in which the young Georg Brandes is the principal figure. A typical Copenhagen poet and a pure artist is Karl Larsen (b. 1860), with an acute perception and a perfect capacity for expression. He describes the types of the big town, from the lowest classes upward (*Udenfor Rangklasserne* (Outside the Upper Classes)). In *Den gamle Historie* (The Old Story), which is really an autobiography, he has given us a picture of the evaluation of the '70s.

Outside the Brandes movement were the subtle exponent of feminine psychology Wilhelm Topsøe (1840-80) and the more modern Herman Bang (1857-1912). Bang's outlook on life was decadent and pessimistic. He is fascinating because of the



... the uneventful existence of those poor women, old or young, who have a hidden tragedy in their lives that are made up out of nothing at all (*Ved Vejen: Away from the Trodden Path, Ludvigsbakke*. Ludvigshøj: Irene Holm) Henrik Pontoppidan (b. 1857) is another important author, although in a somewhat older style. In 1917 he shared the Nobel prize with Karl Gjellerup. In a series of great novels (*Det forjaettede Land*. The Promised Land, *Lykkøper*; *De Dødes Rige*. The Kingdom of the Dead) he has exposed in a forceful and mordantly ironical way the weaknesses of his time.

**The '90s in Denmark.**—About 1890, a reaction against uninspired naturalism set in, with a deeper impulse towards beauty, a consciousness of duty towards the universe. This applies especially to a number of lyrical poets in the '90s. The most important was Johannes Jørgensen (b. 1866). He was first attracted by Modernism but became converted to Catholicism. In his youth he was a refined stylist; afterwards in his collections of poems *Fra det Dybe* (From the Depths), *Blomster og Frugter* (Flowers and Fruit); and in his prose works *St. Francis of Assisi* (*The Goethe Book*, he revealed the depth of his feeling and his gentle simplicity. His friend Vagn Stuckenberg (1863-1906) was a poet who sang of every-day existence and fidelity. Sophus Clausen (b. 1864) was a capricious, but always an elegant, poet (*Dansk Sommer*. Danish Summer, *Djæveleriet*. Devilries, *Heroica*) and translator, e.g., of Shelley.

Ludvig Holsten (b. 1864) was a successor of Christian Winther, as Valdemar Rørdom (b. 1872) was the successor of Holger Drachmann. Rørdom is also the translator of Kjöping Thor Lange (b. 1851), Ernst v. d. Recke (b. 1848) and Niels Møller (b. 1859) have also to be mentioned, as well as Sophus Michaëlis another refined prose writer.

A special group is formed by the Jutland authors who are inspired by love of their land, its natural beauty and its inhabitants, and its daily life in field, farmyard and home. Jeppe Aakjær (b. 1866) is a great lyrical poet of popular inspiration, a pupil of Blicher and of Burns. Johan Skjoldborg (b. 1861) is the poet of the Jutland smallholders (*En Stridsmand*, *Krageluset*). Marie Bregendahl (b. 1867) is important for her descriptions of local life which are astonishingly true to life and full of faith in the deeper forces of the world. Jakob Knudsen (1858-1917) stands entirely by himself. He was a writer of strong personality, who broke away from modernism, individualism and intellectualism (*Gæring-Ajklaring*: The Fermentation Subsidies; *Angst og Mod*. Fear and Courage, a book about Luther; *Den Gamle Praest*. The Old Priest; *Sund*). Johannes V. Jensen (b. 1871), the most genuine of the Jutland authors, expanded the Jutish movement into an Anglo-Saxon movement. In *The Gothic Renaissance* (1900) he attacked the sickness and tiredness of the end of the 19th century. At the same time he is the greatest language reformer since Oehlenschläger. His chief works are, *Stories from Himmerland*, *Myths and Hunts*, *Exotic Stories*, which are based on his travels, and a series of novels; e.g., *The Long Journey*. He also wrote a *History of the Northern Races from the Ice-age to the Vikings* (translated into English in 1924).

Other modern Danish prose writers of merit are Martin Andersen Nexø (b. 1869), author of the monumental epic of proletarian life *Pelle the Conqueror* and *Disse Gør Alive*, Harald Kidde (1878-1918) who lacks Nexø's social interests but deals in a subtle manner with complex psychological difficulties (*Aage and Elsa*, *The Hero*); Thorkild Gravlund (b. 1879) who specializes in Danish national psychology. Knud Hjørtø (b. 1869) who has painted pictures of provincial town-life. Johannes Buchholtz (b. 1832) describes provincial life in a baroque and farcical manner (*Egholm's God*; *The Miracles of Clara v. Haag*). Hans Poulsen (*Julie Pandum*, 1927) is subtle and penetrating, and studies the same milieu. Otto Rung (b. 1874) depicts in his novels (*The Bird of Paradise*) and in his dramas (*The Bridge*) the dregs of the urban population as well as the "high-brows". Poul Levhøj (b. 1869) takes his amiable and pleasant subjects from the life of the upper middle class. Poul Hennrich (b. 1892), in his *Country of the Living* (1911) has given a picture of the value of the

eligious struggle among the population of West-Jutland. Lighter food is provided in the witty literary portraits and pastiches by Svend Leopold (b. 1874), and in Svend Fleuron's (b. 1874) widely-read animal stories.

**After the World War**—The ferment of the period after the War has been noticeable in Denmark. Anker Larsen (b. 1874) deals with general conceptions of life in his novels, especially in *The Philosopher's Stone*, which obtained the Gyldendal prize for literature in 1923. Among the younger writers the most original are Tom Kristensen (*The Arabesque of Life*) and Jakob Paludan (*Buds round the Fire* and *The Field is Kiperung*). In lyrical poetry besides the older writers we find again Tom Kristensen, Emil Børnelycke, the poet of town life, the epicurean Hans Hartvig Seedorff (*Vine and Ivy*) and the pithy satirical painter of the provinces, Harald Bergstedt (b. 1877). A wider horizon opened up in the lyrical and dramatic works of Helge Rode (b. 1870) which deal more and more with religious and national questions, and in the Jute Thøger Larsen (d. 1928). Finally we may mention Olaf Hansen, L. C. Nielsen and Kai Hornmann, lyrical poets of great deucacy.

There are a few dramatists besides those already mentioned: Svend Lange, Helge Rode and the fertile Carl Gandrup (b. 1880). The Jew Henri Nathansen deals with the troubles of his race. He has written the dramas *Daniel Hertz* and *Within the Walls*, and a novel *The Life of Hugo David*.

There are many women writers and several of them are important. Ingeborg Marie Sick and Karin Michaëlis, whose novel *The Dangerous Age* (1910) has been translated into most European languages. The clever novelist and dramatist Agnes Henningsen depicts the love-life of modern women. Thit Jensen has discussed various problems of feminine life. Gyrithe Lembcke has given a good description of the life of several generations of a merchant family during the course of a century (*Edwardsøge*). The novels of Astrid Ehrencrone Kidde about Varmland are delicate and full of atmosphere. Inga Nalbandian has described the terror in Armenia, in works that breathe fiery hatred. (For the contribution of Icelandic authors to Danish literature see ICELANDIC LITERATURE.)

Amongst historical writers since 1870 we may mention Troels Lund (1840-1921) who wrote *Daily Life in Northern Europe during the 10th Century*; the South Jute A. D. Jørgensen; the historian of the Normans and Vikings Johannes Steenstrup; the critic of sources of mediæval history Kristian Erslev (b. 1852), and Eric Arup, who has begun a Danish history written from a social and economic point of view. Eminent folklorists were Svend Grundtvig, H. F. Feilberg (author of a Jutish dictionary) and Axel Olrik. In 1879 Trap finished the first edition of his great statistical and topographical work *Denmark*, and in 1905 appeared Bricka's biographical dictionary. Julius Lange (1838-96) is the author of the monumental work *The Human Figure in the History of Art*. Karl Madsen (b. 1855) dealt with national art and with the Netherlands. Frederik Poulsen (b. 1878) with the art of the ancients; Wilhelm Wanscher (b. 1875) especially with the Renaissance. A fascinating writer on the history of national literature is Vilhelm Andersen (b. 1864) whose chief work is *Times and Types in the History of the Danish Mind*. Valdemar Vedel (b. 1865) has given scholarly pictures of historical types from the middle-ages to the 17th century (*Loves of Heroes, Town and Burgher, Monastic Life, Baroque*, etc.). Amongst the younger writers, Paul V. Rubow is notable for his outlook, method and critical sagacity. Harald Nielsen (b. 1879) was the most independent judge of the literature of his day but he became increasingly interested in the observation of the social and moral aspects of his own time, and a modern reactionary like Chesterton. In philosophy Harald Høffding (b. 1843) is the greatest name.

Finally we may mention the annual publications and the scholarly editions of the Danish Association for National Language and Literature (*Sprog og Litteraturselskab*) founded in 1911, which also edits the great Danish dictionary.

An extensive bibliography may be found in Krarup and Ertchen *Danish Historical Bibliography* (1917) part II, and in the Danish *Hand* (ended in 1926) (G. C. C.)

**DANKL VIKTOR, FREIHERR VON** (1854 )  
 A Bohemian general was born on 20 Sep 1854  
 in the War of 1866 he commanded the 1st Army and  
 defeated the Russians in the battle of Krasnik (Aug 23-25, 1914)  
 After the Italian declaration of war he became in May 1915 com-  
 mander of the defence forces in Tyrol. As an army commander in  
 the following years he took a successful part in the offensive  
 against Austria-Hungary but shortly afterwards retired from his post  
 on account of ill-health.

**DANNAT, WILLIAM T.** (1853-1929) American artist.  
 was born in New York city in 1853. He was a pupil of the Royal  
 Academy of Munich and of Munkacsy and became an accom-  
 plished draughtsman and a distinguished figure and portrait paint-  
 er. His early attraction with sketches and pictures made  
 in Spain and a large composition "The Quartette" now in the  
 Metropolitan Museum of Art, New York, was one of the suc-  
 cesses of the Paris Salon of 1884. Dannat settled in Paris,  
 he is represented in the Luxembourg, was president of the Paris  
 Society of American Painters, and a member of the National In-  
 stitute of Arts and Letters. He died in France on March 12, 1929.

**DANNECKER, JOHANN HEINRICH VON** (1758-  
 1811), German sculptor, was born at Stuttgart, on Oct. 15, 1758,  
 and died there on Dec 5 1811. His father was employed in the  
 stables of the duke of Württemberg. The boy was entered in the  
 military school at the age of 13, but after two years he was  
 allowed to follow his taste for art. The duke made him sculptor to  
 the palace (1780), and employed him on child angels and carya-  
 tids for the decoration of the reception rooms. In 1783 he left  
 for Paris with Scheffauer and placed himself under Pajou; in 1785  
 he went to Rome, where he worked for five years. Goethe and  
 Riederer were then in Rome, and became his friends, as well as  
 Canova who was the hero of the day, and who had undoubtedly  
 a great and powerful influence on his style. The marble statues  
 of Ceres and Bacchus (in the Schloss at Stuttgart) were done at  
 this time. On his return to Stuttgart, which he never afterwards  
 quitted, except for short trips to Paris, Vienna and Zurich, the  
 double influence of his admiration for Canova and his study of  
 the antique is apparent in his works. The Ariadne (1806), in the  
 Bethmann museum, Frankfurt, is the most popular of his works.  
 Many of the illustrious persons of the time were modelled by him,  
 among others, Lavater, Metternich, Countess Stephanie of Baden  
 and General Benckendorff. Of the three portrait busts of Schiller  
 the first in date (1797) is life-size, and is at Weimar; the second,  
 modelled in colossal size, is in the Stuttgart museum; the third  
 was made for the then Crown Prince Louis of Bavaria. Dannecker  
 was director of the Gallery of Stuttgart, and received many aca-  
 demic and other distinctions.

**DANNEWERK or DANEWERK** (Dan., *Dannevirke* or  
*Danevirke*, "Danes' rampart"), the ancient frontier rampart of the  
 Danes against the Germans, extending 10½ m. from just south of  
 the town of Schleswig to the marshes of the river Trene near the  
 village of Hollingstedt. The rampart was begun by Godefrid  
 (*Godefridus*), king of Vestfold, early in the 9th century. In 934  
 it was passed by the German king Henry I., after which it was  
 extended by King Harold Bluetooth (940-986), but was again  
 stormed by the emperor Otto II. in 974. The chronicler Saxo  
 Grammaticus mentions in his *Gesta Danorum* the "rampart of  
 Jutland" (*Jutiae moenia*) as having been once more extended  
 by Valdemar the Great (1157-82), which has been cited among  
 the proofs that Schleswig (*Sonderjylland*) forms an integral part  
 of Jutland (*Manual hist. de la question de Slesvig*, 1906). After  
 the union of Schleswig and Holstein under the Danish crown, the  
 Dannevirke fell into decay, but in 1848 it was hastily strength-  
 ened by the Danes, who were, however, unable to hold it in face of  
 the superiority of the Prussian artillery, and on April 23 it was  
 stormed. From 1850 onwards it was again repaired and strength-  
 ened at great cost, and was considered impregnable, but in the  
 war of 1864 the Prussians turned it by crossing the Schlei, and it  
 was abandoned by the Danes on Feb. 6 without a blow. It was  
 thereupon destroyed by the Prussians; in spite of which, however,  
 a long line of imposing ruins still remains. The systematic excava-  
 tion of these, begun in 1900, has yielded some notable finds,

especially of valuable runic inscriptions (F. de Jessen *La Quest on  
 de Slesvig* pp 25, 45 etc.).

See Lorenzen, *Dannevirke og Omegn* (2nd ed., Copenhagen, 1864),  
 H. Handelman, *Das Dannewerk* (Kiel, 1885); Philippsen and Sunk-  
 sen, *Führer durch das Dannewerk* (Hamburg, 1903).

**DANNREUTHER, EDWARD** (1844-1905), German  
 pianist, teacher and writer on music, was born at Strasbourg on  
 Nov. 2, 1844, and was brought up in the United States. He stud-  
 ied music (1859-63) at Leipzig under Moscheles, Hauptmann  
 and Richter, and settled in London in 1863. There he rendered  
 great service to the English musical world in a variety of ways—  
 by his own interpretations of the great German classics, by his  
 musical writings in general, and by his propagandist labours on  
 behalf of Richard Wagner in particular. He was professor of the  
 pianoforte at the Royal College of Music from 1895. Dann-  
 reuther's principal works are: *Musical Ornamentation* (1893-95),  
 the standard English work on the subject, and vol. vi. ("The  
 Romantic Period") of the *Oxford History of Music*.

**DANSVILLE**, a village of Livingston county, New York,  
 U.S.A., 49 m. S. of Rochester, adjoining the Stony Brook Glen  
 State park. It has an airport and is served by the Dansville and  
 Mount Morris and the Lackawanna railways. The population was  
 4,569 in 1925. Nurseries, especially for growing fruit and orna-  
 mental trees constitute the principal industry, there are also sev-  
 eral manufacturing plants. A magazine for teachers, with a na-  
 tional circulation of 166,000 is published there. There is a large  
 sanatorium in the village. Dansville was settled about 1800 and  
 incorporated in 1845.

**DANTAN, JEAN PIERRE** (1800-1869), French sculptor  
 born in Paris on Dec 28, 1800. His father was a carver in wood,  
 and Jean in company with his brother Antoine Laurent were  
 trained in his studio. The two brothers then studied under Bosio  
 and in 1828 went to Rome. On his return to Paris Jean Pierre be-  
 came known for his caricature statuettes. He portrayed many  
 famous men (Talleyrand, Wellington, Rothschild, William IV,  
 Brougham, Liszt, Victor Hugo and many others). He died in  
 Baden-Baden on Sept. 6, 1869.

ANTOINE LAURENT DANTAN (1798-1878), brother of Jean  
 Pierre made many monuments for churches, public buildings and  
 squares (St Raphael in the Madeleine, Paris, St Duquesne in  
 Dieppe; La Place in Caen).

JOSEPH EDUARD DANTAN (1848-1897), French historic painter,  
 son of Jean Pierre, studied under Pils. He exhibited regularly in  
 the Salon des Artistes Français; and he also illustrated Zola and  
 Victor Hugo.

**DANTE (or DURANTE), ALIGHIERI** (1265-1321),  
 the greatest of Italian poets, was born at Florence about the  
 middle of May 1265. He was descended from an ancient family,  
 but from one which at any rate for several generations had  
 belonged to the burgher and not to the knightly class. Dante  
 himself does not, with the exception of a few obscure and  
 scattered allusions, carry his ancestry beyond the warrior Cac-  
 ciaguida, whom he met in the sphere of Mars (*Par xv 87 seq*).  
 Of Cacciaguida's family nothing is known. The name, as he told  
 Dante (*Par xv 130, 135*), was given him at his baptism. He  
 further tells his descendant that he was born in the year 1091  
 and that he married a lady from the valley of the Po, from  
 whom the name Alighieri or Alighieri passed to his descendants.  
 He also mentions two brothers, Morante and Eliseo, and that  
 he accompanied the emperor Conrad III upon his crusade into  
 the Holy Land, where he died (1147) among the infidels. From  
 Alighiero, son of Cacciaguida, were descended the Alighieri  
 Bellincione, son of Alighiero, was the grandfather of Dante.  
 His father was a second Alighiero of whom little is known. Dante  
 appears to have been the son of Alighiero's first wife, Bella,  
 whose family name is doubtful. By his second wife, Lapa di  
 Chiarissimo Cialuffi, Alighiero had a son Francesco and a  
 daughter Tana (Gaetana); another daughter, who married Leone  
 Poggi and whose name is not known, was perhaps the poet's  
 sister. Thus the family of Dante held a most respectable position  
 among the citizens of his beloved city but had it been in  
 the very first rank they could not have

after the defeat of the Guephs at Montapert in 1260. It is clear however that Dante's mother at least did so remain for Dante was born in Florence in 1265. The heads of the Guelph party did not return till 1267.

Apart from his love for Beatrice, we know very little of Dante's boyhood and early life. His early biographers, Boccaccio and Leonardo Bruni, represent him as an assiduous student. From

the age of 18 he, like most cultivated young men of that age, wrote poetry assiduously, in the philosophical amatory style of which his friend, older by some years than himself, Guido Cavalcanti, was a great exponent, and of which Dante regarded Guido Guicciardini of Bologna as the master (*Purg.* xxvi 97, 8). He doubtless owed much to the paternal influence of Brunetto Latini (d. 1294), the philosopher and rhetorician, who figured largely in the councils of the Florentine commune. Of Brunetto Latini Dante himself speaks with the most loving gratitude and affection, though he does not hesitate to brand his vice with infamy. He had some knowledge of drawing; at any rate he tells us that on the anniversary of the death of Beatrice he drew an angel on a tablet, he is said to have been an intimate friend of Giotto, who has immortalized his youthful lineaments in the chapel of the Bargello. Nor was he less sensible to the delights of music. Milton had not a keener ear for the loud uplifted angel trumpets and the immortal harps of golden wires of the cherubim and seraphim, and the English poet was proud to compare his own friendship with Henry Lawes with that between Dante and Casella "met in the milder shades of purgatory." There is some evidence that Dante was at Bologna not later than 1287, but it is doubtful whether, as Boccaccio states, he studied at the university. It is clear that, from his youth onwards, he began to make himself master of all the sciences of his time, while playing his part in society and in touch with every aspect of Florentine life.

**Political Life.**—We must now consider the political circumstances in which lay the activity of Dante's manhood. From 1115, the year of the death of Matilda, countess of Tuscany, Florence developed as a self-governing commune attached to the cause of the Church. According to tradition, the Guelph and Ghibelline factions were introduced into the city in 1215. Buondelmonte de' Buondelmonti, a noble youth of Florence, being engaged to marry a lady of the house of Amidei, allied himself instead to a Donati, and was attacked and killed by the Amidei and Uberti at the foot of the Ponte Vecchio, close by the pilaster which bore the image of Mars (*Par.* xvi 136-147). Although a number of noble families, headed by the Uberti, now ranged themselves with the Ghibellines, the commune remained Guelph; but, in 1248, with the aid of German horsemen sent by Frederick II, the Uberti and the Ghibellines gained the upper hand and expelled the Guelph nobles. In 1250, when the emperor was dying, there was a revolution by which the Primo Popolo, the first democratic constitution of the republic, was established, with a captain of the people to counterbalance the podestà, and the Guelphs were recalled. The Uberti and other Ghibellines—in understanding with Manfred who had succeeded his father Frederick as king of Sicily—attempted to rebel in 1258, were expelled from the city and their houses and towers destroyed. The reception of the exiles in Siena brought on the war which resulted in the great battle of Montaperti, Sept. 4, 1260, "which dyed the Arbia red," in which the Florentine Guelphs and their allies were completely defeated by the Sienese and the German troops of Manfred. At a congress at Empoli, in which the Ghibelline cities of Tuscany were represented, it was proposed to destroy Florence—a proposal defeated by the bold patriotism of Farinata degli Uberti (*Inf.* x 91-93).



PORTRAIT OF DANTE, FROM A WOOD-CUT OF 1521

The Ghibellines now held sway in Florence as elsewhere in Tuscany until Charles of Anjou—to whom the pope had offered the crown of Apulia and Sicily—came to Italy, and on Feb. 26, 1266, defeated and killed Manfred at Benevento. In 1267 the Guelphs were recalled, and the Ghibellines were driven out. Florence was for a while under the suzerainty of Charles of Anjou, but in 1282, after the "Sicilian Vespers," the *Secondo Popolo*—the second democratic constitution of Florence—was established. By this the government was placed in the hands of the Priors of the Arts, who associated with the Captain of the People, became the chief magistrates of the republic. The Arts or Gilds—seven *maggiori* and 14 *minori*—were organized to be the backbone of the State. The Priors, elected from the Arts were six in number and held office for two months. Siena had become Guelph, but Pisa and Arezzo remained Ghibelline, and Florence led a Guelph Tuscan league against them in a war which culminated on June 15, 1289, at Campaldino near Poppi, in the Casentino, where the Ghibellines were utterly defeated. They never again recovered any hold in Tuscany but the violence of faction survived under other forms. Several allusions in the *Commedia* (*Inf.* xxi 1, xxi 95; *Purg.* v 92) indicate that Dante saw military service in this war, and a passage in a letter of his, no longer extant but quoted by Leonardo Bruni, states that he fought in the front rank at Campaldino.

**Meeting with Beatrice.**—As he tells us in the *Vita Nuova*, Dante had first met the girl whom he calls Beatrice, the love for whom was to be the guiding-star and inspiration of his life, in 1274, when she was at about the beginning of her ninth year, and he at about the end of his ninth year. If she has been rightly identified with Bice Portinari, she married Simone de' Bardi. Beatrice died on June 8, 1290 (the date June 9 is due to a mystification in the *Vita Nuova*). The last chapter of the *Vita Nuova* relates how, after the lapse of some undefined time, "it was given me to behold a wonderful vision, wherein I saw things which determined me to say nothing further of this blessed one until such time as I could discourse more worthily concerning her. And to this end I labour all I can, as she in truth knoweth. Therefore if it be His pleasure through Whom is the life of all things that my life continue with me a few years, it is my hope that I shall yet write concerning her what hath not before been written of any woman. After the which may it seem good unto Him who is the lord of courtesy that my spirit should go hence to behold the glory of its lady, to wit, of that blessed Beatrice who now gloriously gazes on the countenance of Him *qui est per omnia saecula benedictus*." In the *Convivio* he resumes the story of his life. "When I had lost the first delight of my soul (that is, Beatrice) I remained so pierced with sadness that no comforts availed me anything, yet after some time my mind, desirous of health, sought to return to the method by which other disconsolate ones had found consolation, and I set myself to read that little-known book of Boetius in which he consoled himself when a prisoner and an exile. And hearing that Tully had written another work, in which, treating of friendship, he had given words of consolation to Laelius, I set myself to read that also." At some unascertained date, perhaps about 1292, he married Gemma, daughter of Manetto Donati, a connection of the celebrated Corso Donati, afterwards the leader of the party opposed to Dante's own. By this wife he had two sons, Jacopo and Pietro, and either one or two daughters (Antonia being perhaps the same as the daughter who became a nun, Suora Beatrice, at Ravenna). Although he never mentions his wife in the *Divina Commedia*, and although she did not accompany him into exile, there is no clear evidence for the belief that the union was otherwise than happy. Certain it is that he spares the memory of Corso in his great poem, and speaks with affection of his kinsmen Piccarda and Forese, the latter of whom was one of his own intimate friends.

In 1293 Giano della Bella, a man of old family who had thrown in his lot with the people, induced the commonwealth to adopt the so-called "Ordinances of Justice," a severely democratic addition to the constitution, by which among other things it was enacted that no man of noble family, even though engaged in trade, could

modern era of the republic of the  
 3  
 a group of judges was banished, but  
 the ordinances remained in force though their severity was  
 modified.

**Banishment.**—Dante now began to take an active part in  
 politics. He was inscribed in the *arts* of the *Medici* and *Speziali*,  
 which made him eligible for the priorate. Documents still exist-  
 ing in the archives of Florence show that he took part in the  
 deliberations of the several councils of the city from the latter  
 part of 1297 onwards and there is record of an important speech  
 of his in the Council of the Hundred on June 5, 1296. In May  
 1300 he served on a special embassy to the commune of San  
 Gimignano. From June 17 to Aug. 14, 1300, he sat in the  
 Signoria as one of the six Priors, which, he says, was the cause  
 and origin of all his misfortunes. The spirit of faction had again  
 broken out in Florence. The two rival families were the Cerchi  
 and the Donati—the first of great wealth but recent origin, the  
 last of ancient ancestry but poor. A quarrel had arisen in Pistoia  
 between the two branches of the Cancellieri—the *Blanchi* and  
*Neri*, the Whites and the Blacks. The quarrel spread to Florence,  
 the Donati took the side of the Blacks the Cerchi of the Whites.  
 Pope Boniface was asked to mediate, and sent Cardinal Matteo  
 d'Acquasparta to maintain peace. He arrived just as Dante  
 entered upon his office as prior. The cardinal effected nothing,  
 but Dante and his colleagues banished the heads of the rival  
 parties in different directions to a distance from the capital.  
 The Blacks including Corso Donati, were sent to Città della  
 Pieve in the Tuscan mountains; the Whites, among whom was  
 Dante's dearest friend Guido Cavalcanti, to Sarzana in the  
 unhealthy Maremma. After the expiration of Dante's office the  
 banished Whites were allowed to return. Guido Cavalcanti so ill  
 with fever that he shortly afterwards died. In the following year,  
 1301, in consequence of a treasonable meeting in the church of  
 S. Trinità, a number of the Blacks were banished, and a fresh  
 sentence passed against Corso Donati. The Whites now con-  
 trolled the politics of Florence, and expelled the Blacks from  
 Pistoia.

In this same year, 1301, we have several records of Dante's  
 political activity. One of these is noteworthy. The pope had  
 demanded the service of 100 Florentine horsemen, and on June  
 19, in the council of the Hundred, Dante urged "*Quod de servitio  
 faciendo domino Papae nihil fat.*" thus showing himself a firm  
 opponent to papal interferences in Florentine politics. Pope  
 Boniface had already sent for Charles of Valois brother of the  
 French king, Philip the Fair, to act as "peacemaker." The priors  
 sent at the beginning of October, three ambassadors to the pope,  
 one of whom, according to the chronicler Dino Compagni, was  
 Dante. Charles entered Florence on All Saints' day, 1301, and  
 was followed by Corso Donati and his allies. The Blacks, restored  
 to power, appointed Cante de' Gabrielli of Gubbio as podestà,  
 a man devoted to their interest. More than 600 Whites were  
 condemned to exile and cast as beggars upon the world. On Jan.  
 27, 1302, Dante, with four others of the White party, was charged  
 before the podestà with *baratteria*, or corrupt practices in and  
 out of office and with offences against the Guelph party, and,  
 not appearing, was condemned to pay a fine of 5,000 lire of  
 small denarii. If the money was not paid within three days their  
 property was to be destroyed, if they did pay the fine they were  
 to be exiled for two years from Tuscany and never again to  
 hold office in the republic. Dante's innocence of "baratry" is  
 unquestionable; his real offence was his opposition to the policy  
 of Boniface and his Florentine supporters. On March 10, Dante  
 and 14 others were condemned to be burned alive if they should  
 come into the power of the republic.

**Dante's Wanderings in Exile.**—It is probable that Dante  
 had not returned from his embassy to the pope. Leonardo Bruni  
 states that he received the news of his banishment at Siena. He  
 went to Pisa, and then to Arezzo, and finally to Gargonza, a castle  
 between Siena and Arezzo and near Arezzo their headquarters.  
 He did not return to Florence by arms. On  
 Nov. 1, 1302, he returned to Lucca, a place in the

Florentine territory. Dante's presence at which is proved by  
 documentary evidence, and an alliance was there made with the  
 powerful Ghibelline clan of the Ubaldini. In Sept. 1303 the  
 fleur-de-lis had entered Anagni and Christ had a second time  
 been made prisoner in the person of his vicar (*Purg.* xx. 86-90).  
 Boniface did not survive the insult long but died in the following  
 month. He was succeeded by Benedict XI, and in March, 1304  
 the cardinal Niccolò da Prato came to Florence, sent by the  
 new pope to make peace. The people received him with enthu-  
 siasm; ambassadors came to him from the Whites, and he did  
 his best to reconcile the two parties. But the Blacks resisted all  
 his efforts. He shook the dust from off his feet, and departed  
 leaving the city under an interdict. In July, with aid from the  
 Ghibellines of Tuscany and other regions, the exiles made an  
 unsuccessful attempt to enter Florence from Lastra, the failure  
 of which further disorganized the party.

Dante had however, already separated from the "ill-con-  
 ditioned and foolish company" (*Par.* xvi. 61-69) of his fellow-  
 exiles who rejected his counsels of wisdom, and had learnt that  
 he must henceforth form a party by himself. He appears to have  
 been for a while at Forlì in Romagna, of which city Scarpetta  
 degli Ordelaffi was lord and, probably towards the end of 1303,  
 he went to Bartolommeo della Scala, lord of Verona, where the  
 courtesy of the great Lombard gave him his first refuge and his  
 first hospitable reception. Can Grande, to whom he afterwards  
 dedicated the *Paradiso*, was then a boy. Bartolommeo died in  
 1304, and it is possible that Dante may have remained in Verona  
 till his death. It is very difficult to determine with exactness the  
 order and the place of Dante's wanderings. He was probably at  
 Bologna in 1304 and 1305. A rather questionable document attests  
 his presence at Padua in Aug. 1306, the time when Giotto was  
 working upon the frescoes of the Madonna dell'Arena. In Oct.  
 1306 he was unquestionably the guest of the Marchesses of the  
 house of Malaspina in Lunigiana, where he acted as their ambas-  
 sador in making peace with the bishop of Luni. From this time  
 till the arrival of the emperor Henry VII in Italy, Oct. 1310, all  
 is uncertain. His old enemy Corso Donati had at last allied  
 himself with Ugucione della Faggiuola, the leader of the Ghibel-  
 lines, and in 1308 was declared a traitor, attacked in his house,  
 put to flight and killed.

It is not impossible that Dante about this time visited Paris,  
 but that he ever crossed the Channel or went to Oxford may  
 safely be disbelieved. The election in 1308 of Henry of Luxem-  
 burg as emperor stirred again his hopes of a deliverer. At the  
 end of 1310, in a letter to the princes and people of Italy he  
 proclaimed the coming of the saviour, at Milan he did personal  
 homage to his sovereign. The Florentines, in alliance with King  
 Robert of Naples, made every preparation to resist the emperor.  
 Dante wrote from the Casentino a letter dated March 31, 1311,  
 in which he rebuked them for their stubbornness and obstinacy,  
 and another on April 17, to the emperor himself, upbraiding his  
 delay and urging him on against Florence. A new sentence against  
 the poet was pronounced on Sept. 2. Henry passed from Genoa  
 to Pisa, and on June 29, 1312, was crowned by the pope's legates  
 in the church of St. John Lateran at Rome, the Vatican being  
 in the hands of his adversary King Robert of Naples. Then at  
 length he moved towards Tuscany and reached Florence on Sept.  
 19. He did not dare to attack it but returned in November to  
 Pisa. In the summer of the following year he prepared to invade  
 the kingdom of Naples; but in the neighbourhood of Siena he  
 caught a fever and died at the monastery of Buonconvento, on  
 Aug. 24, 1313. He lies in the Campo Santo of Pisa, and the hopes  
 of Dante and his party were buried in his grave.

After the death of the emperor Henry (Bruni tells us) Dante  
 passed the rest of his life as an exile, sojourning in various places  
 throughout Lombardy, Tuscany and the Romagna, under the  
 protection of various lords, until at length he retired to Ravenna,  
 where he ended his life. After the death of the French pope,  
 Clement V., he addressed a letter, in the spring or summer of  
 1314, to the cardinals in conclave, urging them to restore the  
 papacy to Rome. About this time he probably came to Lucca,  
 then lately conquered by Ugucione della Faggiuola. In May

1315 a general recall of exiles offered Dante an opportunity of returning to Florence. The conditions given to the exiles were that they should pay a fine and be subjected to the ceremony of oblation as penitents in the Baptistery. Dante refused to tolerate this shame, and the letter is still extant in which he declines to enter Florence except with honour, secure that the means of life will not fail him, and that in any corner of the world he will be able to gaze at the sun and the stars, and meditate on the sweetest truths of philosophy. In Aug. 1315, Uguccione won the great battle of Montecatini over the united armies of Florence and Naples but lost Pisa and Lucca at the beginning of the following year. A fresh sentence of death had been pronounced by Florence upon Dante in Nov. 1315, and he seems now to have taken refuge with his most illustrious protector Cim Grande della Scala of Verona, then a young man of 25, rich liberal and the favoured head of the Ghibelline party, whose name has been immortalized by an eloquent panegyric in the 17th canto of the *Paradiso*.

The last few years of the poet's life were spent at Ravenna, under the protection of Guido da Polenta. In his service Dante undertook an embassy to the Venetians, on his return from which he caught a fever and died in Ravenna on Sept. 14, 1321. His bones still repose there. His doom of exile has been reversed by the union of Italy which has made the city of his birth and the various cities of his wanderings component members of a common country. His son Piero, who wrote a commentary on the *Divina Commedia*, settled as a lawyer in Verona and died in 1364. His daughter Beatrice lived as a nun in Ravenna dying at some time between 1350 (when Boccaccio was commissioned to bring her a present of ten gold crowns from a Florentine guild) and 1371. His direct line became extinct in 1509.

**The Divina Commedia.**—Of Dante's works, that by which he is known to all the educated world, and in virtue of which he holds his place as one of the half-dozen greatest writers of all time is of course the *Commedia*. (The epithet *divina*, it may be noted, was not given to the poem by its author, nor does it appear on a title-page until the 16th century.) The poem is absolutely unique in literature, it may safely be said that at no other epoch of the world's history could such a work have been produced. Dante was steeped in all the learning, which in its way was considerable, of his time, he had read the *Summa Theologica* of Aquinas, the *Treſor* of his master Brunetto, and other encyclopaedic works available in that age, he was familiar with most of what was then known of the Latin classical and post-classical authors. Further, he was a deep and original political thinker, who had himself borne a prominent part in practical politics. The age was essentially one of great men, of free thought and free speech, of brilliant and daring action, whether for good or evil. It is easy to understand how Dante's bitterest scorn is reserved for those "sorry souls who lived without infamy and without renown, displeasing to God and to His enemies."

The time was thus propitious for the production of a great imaginative work, and the man was ready who should produce it. It called for a prophet, and the prophet said, "Here am I." "Dante," says an acute writer, "is not, as Homer is, the father of poetry springing in the freshness and simplicity of childhood out of the arms of mother earth, he is rather, like Noah, the father of a second poetical world, to whom he pours forth his prophetic song fraught with the wisdom and the experience of the old world." Thus the *Commedia*, though often classed for want of a better description among epic poems, is totally different in method and construction from all other poems of that kind. Its "hero" is the narrator himself, the incidents do not modify the course of the story, the place of episodes is taken by theological or metaphysical disquisitions; the world through which the poet takes his readers is peopled, not with characters of heroic story, but with men and women known personally or by repute to him and those for whom he wrote. Its aim is not to delight, but to reprove, to rebuke, to exhort; to form men's characters by teaching them what courses of life will meet with reward what with penalty hereafter; "to put into verse," as the poet says "things difficult to think." For such new matter a new vehicle

was needed. We have Benbow's authority for believing that the *terza rima*, surpassed, if at all, only by the ancient hexameter as a measure equally adaptable to sustained narrative, to debate to fierce invective, to clear-cut picture and to trenchant epigram was first employed by Dante.

The action of the *Commedia* opens in the early morning of the Friday before Easter, in the year 1300. The poet finds himself lost in a forest escaping from which to ascend the mountain of felicity, he has his way barred by a wolf, a lion and a leopard. This seems to indicate that at this period of his life about the age of 35, Dante went through some experience akin to what is now called "conversion." The strong vein of mysticism found in so many of the deepest thinkers of that age, and conspicuous in Dante's mind no doubt played its part. His efforts to free himself from the "forest" of worldly cares were impeded by the temptations of the world—cupidity (including ambition) the pride of life and the lusts of the flesh, symbolized by the three beasts. But a helper is at hand. Virgil appears and explains that he has a commission from three ladies on high to guide him. The ladies are the Blessed Virgin (representing the Divine Mercy), St. Lucy (symbol of illuminating grace) and Beatrice. In Virgil we are apparently intended to see the symbol of what Dante calls philosophy what we should rather call natural religion; Beatrice standing for theology, or rather revealed religion. Under Virgil's escort Dante is led through the two lower realms of the next world, Hell and Purgatory, meeting on the way with many persons illustrious or notorious in recent or remoter times as well as many well enough known then, but who, without the immortality, often unenviable, that the poet has conferred on them, would long ago have been forgotten. Popes, kings, emperors, poets and warriors, Florentine citizens of all degrees, are there found; some doomed to hopeless punishment, others expiating their offences in milder torments, and looking forward to deliverance in due time. It is remarkable to notice how rarely, if ever Dante allows political sympathy or antagonism to influence him in his distribution of judgment. Hell is conceived as a vast conical hollow, reaching to the centre of the earth. It has three great divisions, corresponding to Aristotle's three classes of vices, incontinence, brutishness (which Dante identifies with violence) and malice. The first is outside the walls of the city of Dis; the second is within. The sinners by malice, which includes all forms of fraud or treachery, lie at the bottom of a gigantic pit, called Malebolge, with vertical sides, and accessible only by supernatural means, a monster named Geryon bearing the poets down on his back. The torments here are of a more terrible, often of a loathsome character. Ignominy is added to pain and the nature of Dante's demeanour towards the sinners changes from pity to hatred.

At the very bottom of the pit is Lucifer, immovably fixed in ice; climbing down his limbs they reach the centre of the earth, whence a cranny conducts them back to the surface, at the foot of the purgatorial mountain, which they reach as Easter Day is dawning. Before the actual Purgatory is attained they have to climb for the latter half of the day and rest at night. The occupants of this outer region are those who have delayed repentance till death was upon them. They include many of the most famous men of the last 30 years. In the morning the gate is opened, and Purgatory proper is entered. This is divided into seven terraces corresponding to the seven deadly sins, which encircle the mountain and have to be reached by a series of steep climbs, compared by Dante in one instance to the path from Florence to Samminato. The purifying penalties are not degrading, but rather tests of patience or endurance, and borne voluntarily by the souls, in several cases Dante has to bear a share in them as he passes. On the summit is the Earthly Paradise. Here Beatrice appears in a mystical pageant; Virgil departs, leaving Dante in her charge. By her he is led through the various spheres of which, according to both the astronomy and the theology of the time, Heaven is composed to the supreme Heaven, or Empyrean, the seat of the Godhead. For one moment there is granted him the intuitive vision of the Deity and the comprehension of all which is the ultimate goal of

7. *Ecology*—his art is wholly blended with that of God and the poem ends. The date of composition of the *Commedia* is still uncertain, but the *Paradiso* was unquestionably written in the last years of Dante's life.

**Other Works.**—The *Vita Nuova* (*Young Life* or *New Life* for both significations seem to be intended) contains the history of Dante's love for Beatrice. He describes how he met Beatrice as a child, himself a child, how he resigned a false love to hide his true love, how he fell ill and saw in a dream the death and transfiguration of his beloved, how she died, and how the tender compassion of another lady nearly won his heart from its first attachment, how Beatrice appeared in his imagination and reclaimed his heart, and how at last he saw a vision which induced him to devote himself to study, that he might be more fit to glorify her who gazes on the face of God for ever. It is in the form of lyrics—canzoni, one ballata, and sonnets—set in a prose narrative with scholastic divisions and explanations, and was probably completed about 1293, though the reference to the vision may be later.

The *Convivio* or *Banquet* (less accurately *Convito*) is the work of Dante's manhood, as the *Vita Nuova* is the work of his youth. It consists in the form in which it has come down to us of an introduction and three treatises each forming an elaborate commentary on a long canzone. It was intended if completed, to have comprised commentaries on 11 more canzoni making 14 in all and in this shape would have formed a *tesoro* or handbook of universal knowledge such as Brunetto Latini and others have left to us. It is perhaps the least well known of Dante's Italian works, but contains many passages of great beauty and elevation, the magnificent apotheosis of Rome and her empire in the fourth treatise being the first expression of his ideal imperialism. Indeed a knowledge of it is quite indispensable to the full understanding of the *Divina Commedia* and the *Monarchia*. It was probably written between 1304 and 1308.

Besides the poems contained in the *Vita Nuova* and *Convivio*, Dante composed a considerable number of canzoni, ballate and sonnets which are collected under the general title of *Rime* or *Canzoniere*, and which secure him a place among lyrical poets scarcely if at all inferior to that of Petrarch. Some scholars—very questionably—would attribute to Dante a rendering of the *Roman de la Rose* in 230 sonnets entitled *Il Fiore* (*The Flower*).

The treatise *De vulgari eloquentia*, in Latin, is mentioned in the *Convivio*. It was probably written between 1304 and 1306. Its object was first to establish the Italian language as a literary tongue, and to distinguish the noble or "courtly" speech which might become the property of the whole nation, at once a bond of internal unity and a line of demarcation against external nations from the local dialects peculiar to different districts, and secondly to lay down rules for poetical composition in the language so established. The work was intended to be in four books, but only two are extant. The first of these deals with the language, the second with the style and with the composition of the canzone. It contains much acute criticism of poetry and poetic diction, and its treatment of the Italian dialects is of singular interest.

The Latin treatise *Monarchia*, in three books, contains the mature statement of Dante's political ideas. In it he propounds the theory that the universal temporal monarchy or empire is necessary for the well-being of the world, that the Roman people acquired this dignity by right, and that the authority of the emperor depends immediately upon God though he must reverence the pope as the first-born of the Father. Pope and emperor are the guides divinely appointed to lead the human race to eternal life and temporal felicity. Dante's ideal of the empire is a power above national conflicts to preserve universal peace and liberty, in order that the goal of civilization, the realization of all man's potentialities may be achieved. The work was probably composed at the time of the descent of Henry VII into Italy, between 1310 and 1313. The book was first printed by Oporianus at Basle in 1559, and placed on the Index of forbidden books.

In the last years of his life Dante wrote two eclogues in Latin in answer to Giovanni dei Virgilio who invited him to compose a

Latin poem on some contemporary event and come from Ravenna to Bologna to receive the laurel crown. The most interesting passage is that in the first poem (1310) where he expressed his hope that when he has finished the third part of the *Commedia* his grey hairs may be crowned with laurel on the banks of the Arno.

The *Questio de aqua et terra* purports to be a discourse which Dante delivered at Verona in Jan. 1300 as a solution of the question which was being at that time much discussed—whether in any place on the earth's surface water is higher than the earth. It was first published at Venice in 1505, by an ecclesiastic named Moncetti. Since Dr. Moore, from internal evidence, made out a very strong case for it, its authenticity has been generally accepted.

There are 13 Latin *Letters* ascribed to Dante. Those to the princes and peoples of Italy announcing the coming of Henry of Luxemburg, to the Florentines, to the emperor himself, to the Italian cardinals, and to a Florentine friend refusing the base conditions of return from exile, have been already mentioned. These are certainly authentic, as probably is also a long letter to Can Grande della Scala, containing directions for interpreting the *Divina Commedia*, with especial reference to the *Paradiso*. Of less importance are the letters to cardinal Niccolò da Prato, to the nephews of Count Alessandro da Romagna, to the marquis Moroello Malaspina, to Cino da Pistoia, and three written in the name of the Countess of Battifolle.

Dante's reputation has passed through many vicissitudes, and much trouble has been spent by critics in comparing him with other poets of established fame. Read and commented upon with more admiration than intelligence in the Italian universities in the generation immediately succeeding his death, his name became obscured as the sun of the Renaissance rose higher towards its meridian. His fame is now fully vindicated as one of the world's universal poets and the national poet of Italy.

(A. J. BU; E. G. G.)

**BIBLIOGRAPHY.**—We have now two authoritative editions of the text of the complete *Opere di Dante*, the *testo critico* of the Società Dante斯卡 Italiana, edited by M. Barbi and others on the occasion of the sixth centenary (Florence, 1921), reproducing the forms and orthography of the poet's own time; the *Oxford Dante* of Edward Moore revised and re-edited by Paget Toynbee (1923). Dr. Toynbee's *Concise Dictionary of Proper Names and Notable Matters in the Works of Dante* (1914) is invaluable. Concordances—based upon editions previous to the *testo critico*, but still highly useful—to the *Commedia* by E. A. Fay (Boston, 1888), to the minor Italian works by E. S. Sheldon and A. C. White (1905) and to the Latin works by E. K. Rand and E. H. Wilkins (1912), are due to American scholars.

*Editions of the Divina Commedia and Commentaries.* The first three editions of the *Commedia* were printed in 1472 at Foligno, Mantua and Jesi. They were reprinted, together with the Neapolitan edition of 1477, by Lord Vernon and A. Panzani in *Le Prime Quattro Edizioni della D. C. letteralmente ristampate* (1858). The first Venetian edition is of 1477, the first Milanese (*Nidobeatina*) of 1478, the first Florentine of 1481. In 1502 Aldus produced the first "pocket" edition in his new "italic" type. The *Commedia* began to be the subject of commentaries as soon as the author was in his grave; beginning, before 1330, with those of Dante's son, Jacopo Alighieri, and Graziolo de' Bambaghini of Bologna on the *Inferno* and of another Bolognese Jacopo della Lana, on the whole poem. Somewhat later, but still before 1350, come the *Ottimo Commento* attributed to the Florentine notary Andrea Lancia, and those of Dante's other son, Pietro, and the Carmelite Guido da Pisa. Boccaccio's commentary, the substance of lectures delivered at Florence in 1373, stops short at *Inf. xvii*, it is accessible, together with the two versions of his famous life of Dante, edited by D. Guerri, in the *Scrittori d'Italia series* (Bari, 1918). The great Latin commentary of Boccaccio's disciple, Benvenuto da Imola (1375-80), who lectured at Bologna, was published by William Warren Vernon with the aid of James Lacata in 1837. Another noteworthy early commentator is Francesco da Buti who lectured at Pisa towards the close of the same century. Extracts from the early commentators are given by G. Biagi in *La D. C. nella figurazione artistica e nel secolare commento* (Turin, 1921, etc.). The foundations for the establishment of an accurate text were laid by Carl Witte in his edition of 1862. The fullest 19th century commentary, that of G. A. Scartazzini, is now somewhat out of date. Among the best of more recent editions, with notes or commentaries, are those of F. Torraca, of T. Casini, revised and amplified by S. A. Barbi, and of Isidoro del Lungo. An excellent pocket edition of the text alone with a critical introduction, is that of Mario Casella (Bologna 1923). For English readers, the three small volumes in the Temple Classics, with text, translation and commentaries by E. Oelsner, T. Okey and P. H. Wicksteed, are very useful, as also the *Readings in the Inferno Purgatorio and Paradiso* of William Warren Vernon.

*Editions of the Minor Works.* The *Lettere a Noa* were first printed at Florence in 170 the *Convivio* at Florence in 1490. The *Divina Commedia* was first published in Tuscan Italian translation at Venezia in 1494 and in the original Latin, from a ms now preserved at Grenoble, at Paris in 1577, the *Monarchia* at Basle in 1599. There are critical editions of the *Vita Nuova* by M. Barbi (Florence, 1907), of the *De Vulgari Eloquentia* by Pio Rajna (1896), of the *Eclogues* by P. H. Wicksteed (*Dante and Giovanni del Virgilio*, 1902), and G. Albari (Florence, 1903), of the *Letters* with translation and commentary by Paget Toynbee (1920). The *Canzoniere*, or *Rime*, were first adequately edited, the genuine pieces separated from the doubtful and spurious, by Michele Barbi in the *testo critico* of the Società Dantesca Italiana (1921).

*English Translations.* The entire *Divina Commedia* appeared first in English in the version of Henry Boyd (1802), and was followed by the admirable blank verse rendering of H. F. Cary (1814, 2nd ed. 1819), which has remained the standard translation. Of the numerous later translations may be mentioned those of Longfellow, of J. A. Carlyle (*Inferno* only), C. E. Norton and H. F. Tover in prose; G. Musgrave of the *Inferno* in Spenserian stanzas, C. L. Shadwell, of the *Purgatorio* and *Paradiso* in the metre of Marvell's "Ode to Cromwell", Haselroft and M. B. Anderson in *terza rima*. D. G. Rossetti's translation of the *Vita Nuova* will always hold its place as a thing of beauty. Translations of the *Vita Nuova* by T. Olsey of the *Rime*, *Convivio*, *Monarchia*, *Letters*, *Eclogues*, *Quaestio de Aqua et Terra*, by P. H. Wicksteed and of the *De Vulgari Eloquentia* by A. G. F. Howell, are published in the Temple Classics, with full explanatory notes. See, in general, P. Toynbee, *Dante in English Literature from Chaucer to Cary* (1909), and *Britain's Tribute to Dante in Literature and Art 1280-1920* (1921).

*Aids and Studies.* It is only possible here to mention a few works useful to English readers. As general introduction, P. Toynbee *Dante Alighieri, his Life and Works* (4th ed., 1916), E. G. Gardner, *Dante* (1923); N. Zingarelli, *Vita di Dante in compendio* (Milan, 1905), and his larger *Dante* (1903). Among critical studies, or elucidations of particular aspects of Dante's work, E. Moore *Studies in Dante* (four series, 1896-1917), P. Toynbee, *Dante Studies and Researches* (1902), *Dante Studies* (1921), P. H. Wicksteed, *Dante and Aquinas* (1913), *From Vita Nuova to Paradiso* (1922), the volumes of Dante studies by F. D'Ondio, now reprinting in the collected edition of his works; F. Tournier, *Studi danteschi* (1922) and *Nuovi Studi danteschi* (1921), E. G. Parodi *Poesia e storia nella Divina Commedia* (1921), B. Croce, *La Poesia di Dante* (1921, Eng. trans. by D. Ainslie), C. Ricci, *L'ultimo rifugio di Dante* (new ed., 1921); F. Ercole, *Il pensiero politico di Dante* (Milan 1928). Copious bibliographical indications on disputed points are given in the latest edition of the *D. C.* with the commentary of Casini and S. A. Barbi (Florence, 1926). *The Giornale Dantesco* and the *Studi Danteschi* directed by M. Barbi are important periodical publications dealing with every aspect of the subject.

*Portraits of Dante.* It is now generally agreed that the repainted figure of Dante in a fresco of the podestà's chapel in the Bargello in Florence is authentic and by Giotto, probably painted (c. 1334) from a sketch taken in the poet's early life. The Torrigiani mask, now in the same chapel, long supposed to have been made from a death-mask, is probably a work of the 15th or 16th century. It is possible that the later representations of Dante may have been influenced by the portrait by Taddeo Gaddi in Santa Croce (destroyed in 1566). Noticeable among these are the miniature in codex 1040 of the Biblioteca Riccardiana (c. 1436); the fresco transferred to canvas of Andrea del Castagno in Sta. Apollonia (c. 1450); the symbolical picture by Domenico di Michelino (1465) in the duomo at Florence, the bronze bust at Naples (late 15th century), the recently discovered panel attributed to "Amico di Sandro" in the 16th century, we have the figure of Dante in Luca Signorelli's fresco at Orvieto, and in Raphael's "Parnassus" and "Disputa" in the Vatican. A famous signed sketch of Dante by Raphael is in the Albertina at Vienna. See H. T. Holbrook, *Portraits of Dante from Giotto to Raphael* (1911). Attempts have frequently been made to discover the portrait of Dante in various 14th century frescoes, and there have been recent "discoveries" of this kind at Assisi and elsewhere, the only one that is in the least plausible is that in Orcagna's "Paradise" in Santa Maria Novella at Florence.

(E. G. C.)

**DANTON, GEORGES JACQUES** (1759-1794), French revolutionary leader, was born at Arcis-sur-Aube on Oct. 26, 1759. He belonged to a respectable family of Champagne; his father, who died in 1762, was an attorney at the local tribunal, his maternal grandfather the roads and bridges contractor of the province. His mother neglected his upbringing, and the boy was allowed to run wild beside the Seine finding vent for his animal spirits in rustic games, in wood and field, in wrestling with the beasts on the farm and in defying his schoolmistress, who tried to tame him with the whip. At the age of 14, after a short term at the small seminary at Troyes, this wild young ruffian, with pock-marked face, was entered at the *Oratoriens* to finish his studies. He won the prize for mythology, *accessits* for rhetoric and Latin verse, and for French essay. His imagination was fired

by republican Rome and the appeal to the essential part of his nature, was strengthened from day to day by his assiduous study of the ancient historians and moralists.

Deciding to study law he went to Paris in 1780, where, thanks to his confidence in himself, he was admitted to the chambers of Maître Jean Nicolas Vinot. The manifold sources of interest provided by the courts could not, however, entirely absorb him, and his passion for physical exercise found outlet in swimming, fencing and tennis. Once, in an interval between two cases, we find this high-spirited clerk plunging into the Seine and hurling angry imprecations against the towers of the Bastille as the symbol of oppression. Back at his lodgings he greedily read the *Encyclopedie*, the writings of Montesquieu and Voltaire, of Rousseau and Buffon, and Beccaria's *Traité des délits et des peines*, which as early as 1764 heralded a revolution in European criminal law. As a probationer advocate in the *parlement*, Danton was engaged in pleading, in a case in which a shepherd was in dispute with his overlord, he asserted his love of equality, and obtained the approval of Linguet.

His marriage with Angélique Charpentier forced him to settle down—or to appear to do so. In 1787, therefore, he became advocate in the *conseils du roi*. This required him to take an oath to observe and keep strictly the laws and ordinances of the kingdom and also to deliver a speech in Latin on his admittance. He paid a high price for this post, but it gave him a thorough insight into public law and administration, civil and ecclesiastical affairs, commerce and finance, the whole machinery of monarchy, the intricacies of customary law, and the law of corporations and property. He was elected to the Masonic lodge of the *Neuf Soeurs*, to which Franklin and Voltaire had belonged and there met Bailly, Desmoulins, Condorcet, Chamfort and Sieyès. He continued his studies, and it should be noted that he read and spoke fluently Italian and English; he had read, in the original Pope, Shakespeare and Adam Smith's *Wealth of Nations*.

We may picture him at this time—a broad face with strong features, sharply curved mouth and brilliant eyes, blazing with inward fire and passion.

At the outbreak of the Revolution (1789) Danton belonged to Cordeliers district, his house was exactly where his statue stands to-day. He was as impetuous as he always had been from childhood in Champagne. As captain of the civic guard he attempted, on the night of July 15, to force the gates of the Bastille that he had before defied. He was already taking sides against both the supporters of the old regime and the moderates. He opposed Lafayette elected to the States General by the nobility of Auvergne, who, after July 14, became chief of the National Guard, but who on Oct. 5 and 6, defended the royal family. He went further than Bailly, the learned mayor of Paris. Danton's position is clear from the time of the events of October, when the king and the assembly, the only two lawful authorities, became prisoners of the people, when Louis XVI had to leave Versailles and return to the Tuileries, escorted by a hunger-maddened mob. It was Danton who had the tocsin rung; and Danton who was charged by the general assembly of the Cordeliers to thank the king for having graciously taken up his residence in *sa bonne ville*. Although on Aug. 13, 1793, he was to affirm before the Convention that "the republic had existed in all men's minds 20 years before its proclamation," he, at this time, professed himself a good Royalist. His record at the *Palais Royal*, and even more at the Cordeliers, shows him quick in conciliating and incapable of refusing popular favour. At each re-election to the presidency of the district, the assembly "accompanies its unanimous vote with an outburst of enthusiasm." Persuasion and force of character made him, the popular tribune, dominant. "Danton, the president of the Cordeliers," writes Taine, "could secure in his district the arrest of any one he pleased. His violence in speech and counsel made him in the absence of wider opportunities, the ruler of his quarter."

After the fall of the Bastille, the commune of Paris displaced the former council and took up its quarters at the hôtel de ville. This municipal organization was to play an important part in the Revolution. By the decree of May 21, 1790 it was divided into

18 sections with a mayor, 16 administrators, a municipal council of 32 members, and a general council of 96 notables, a *procureur* (lawyer) and two deputies. Originally with Bailly as mayor the committee maintained a monarchist and moderate tone. Danton was elected to represent his district in Jan. 1790. After May 21, when the districts were suppressed, he founded the Cordeliers club, the Society of the Rights of Man and the Citizen, which met in the convent of that name which stood on the site of the present school of medicine. He also joined in the debates of the Jacobin club, which met in the former library of the convent in the rue St. Honoré. His violent and extreme views led to his defeat in the communal elections, but on Jan. 31, 1791, he was appointed administrator of the department. In this year he found a wider scope for his powers. He took a prominent part in events before and after the king's flight. On July 16, mounted on the altar dedicated to *la patrie*, in the *Champ de Mars*, he read in his powerful voice the celebrated petition to the assembly to convene new constituent and executive bodies, and to bring the king to trial. After the Varennes affair, the Cordeliers were injured, by the smooth running of the government during Louis XVI's absence, to declare for the republic. The attitude of Lafayette and Bailly at the massacres of the *Champ de Mars*, the smothering down of the petitioners, and the fears of the moderates, caused the first grave split amongst the revolutionaries. Danton, whose arrest had been decreed, took refuge first with his father-in-law at Fontenay, then at Arcis and Troyes. Thinking it more prudent to quit France, he fled to London, accompanied by his brothers-in-law, who went there to purchase weaving machines. During this period the Cordeliers, long regarded as a party of the Constituent assembly, for the decree of May 21, 1790, was directed against them, became more extreme than the Jacobins. They were accused of demagoguery, and Danton was known to be the moving spirit. A split had at least begun to occur between the moderates and democrats. Danton, without hesitation, joined the latter.

His influence was in no way impaired by his exile, in his absence the *Théâtre Français* section appointed him their representative. At the electoral assembly on Dec. 6, 1791, he became assistant deputy to the *procureur* of the commune. Already, it may be noted, he had to meet murmurs against his wealth and accusations of taking tainted money. In his inaugural speech he laid down his principles, the reasons for his vehemence "how he risked being thought too violent so as never to be weak"; nor was he above self-praise: "I always act in accordance with the eternal laws of justice." He declared himself in favour of constitutional monarchy, but in the most threatening terms, and with assurances of devotion to the king that rang like a summons. Aug. 20, 1792, was destined to bring him into power at one bound making him indispensable in the provisional executive committee which the assembly appointed after decreeing the suspension of the king.

The summer of 1792 was also the summer of Danton's career. The war declared by the assembly against the king of Hungary and Bohemia had started disastrously. Louis XVI's dismissal of the Girardin ministry led to an insurrection on June 20 and an attack on the Tuileries. Danton opened his campaign, he worked up the feelings of the deputies sent to the festival of the federation, persuaded his section to proclaim universal suffrage, excited the mob against the duke of Brunswick's manifesto served out ball cartridges to the federalist Marseillais and brought them to the Cordeliers. His hurried return to Paris "to embrace his country" was followed by a speech in which he was determined to give the people a new constitution. On the night of July 11, 1792, he was arrested and taken to the Bastille. He was arrested Mandat on the 11th and the revolutionary committee of Aug. 19, 1792, was by the Convention of the Convention. Danton took upon himself the task of reorganizing the Convention. On Aug. 19, 1792, he presented to the Convention a list of *Speeches*, which were the basis of the Convention's proceedings each of which

was now completed. Danton asserts the discovery in the archives of the *château*, of a 'mass of proof of the most infamous perfidy and the blackest conspiracies, glorifies 'holy insurrection,' rejoices in the murder of Mandat and the king's suspension. He defines his programme: "The tribunaux will find me unchanged. My whole efforts are concentrated on political and individual freedom, the maintenance of the laws, public tranquillity, the unity of the 83 departments, the glory of the State, the prosperity of the French people and on the equality of rights and happiness, though not on the chimerical equality of worldly goods."

This vigorous and clear conception of political liberty and of the unity of the country was the keystone of Danton's policy, based on an often expressed confidence in the people. During the disasters of August the Prussian invasion of Lorraine, the fall of Longwy, the investment of Verdun, he kept his head against the stream of general panic. Michelet says that "at that sublime and sinister crisis he was the voice of the Revolution and of France." On the evening of Tuesday, Aug. 28, he made his strenuous appeal in the legislative assembly, for resistance, for the mass levy and a general requisition: "Everything belongs to the country when the country is in danger." It is true that a school of historians to-day denies this reading of the part he played. Albert Mathiez, in his *Danton et la paix*, will not be moved even by his famous declaration of Sept. 2: *Il nous faut de l'audace, encore de l'audace et toujours de l'audace, et la France est sauvée!*—"we must dare, and dare, and dare again—and France is saved!" He will not believe the sincerity of his opposition—spirited as it was—to the removal of the government from Paris. Mathiez would have us believe that while openly prophesying a certain victory, secretly he was negotiating with Great Britain and saved the Prussian army by ill-timed conferences. But surely there is no contradiction in the fervour of a popular leader keeping up the moral of the nation, and the prudence of a statesman desirous of ending the war as soon as possible. To proceed, on Sept. 21, 1792, Danton resigned the Ministry of Justice to devote himself to his work in the Convention. On Dec. 1 he was sent on a mission to Belgium, and for several months, by his counsels and example, instilled courage into the army. He advocated the annexation of the Belgian provinces which were clamouring for union. In his view, the Republic should be extended as far as possible, "its frontiers are marked out by nature and we shall attain them on all four corners of the horizon—the Rhine, the Atlantic, the Pyrenees, the Alps. These are the natural frontiers of France." Thus Danton showed himself a disciple of Richelieu, and it cannot be denied that his policies were already tinged with imperialism. His speech to the Convention on March 10, 1793, shows that, with Dumouriez, he even favoured the invasion of Holland and the declaration of war on England.

Meanwhile, Danton was continually attacked by his adversaries. They accused him of offering to save Louis XVI in exchange for some millions of francs, of having secretly protected the *émigrés*. The statement of Théodore Lameth, the conversations with the duke of Chartres, the letters of the agent Males, the assertions of Lord Acton carry no convincing proof. One may be shocked by his needlessly brutal words in casting his vote for death; one may consider that he stifled his real opinions in bidding for popular favour, without believing that Danton offered his influence for money. Many have accused him of prevarication; it seems certain that his financial affairs were in great disorder, and it cannot be denied that he increased his fortune during the Revolution. But venality has not been proved.

In April 1793, he was again called to a post of the gravest responsibility. The king's execution provoked the insurrection in the Vendée and the formidable coalition against France. Dumouriez was preparing his *coup d'état*. The Convention, thus defied, created the Committee of General Security, the Revolutionary Tribunal, and the Committee of Public Safety, of which Danton was the real head. Once again his rôle had increased thanks to that secret logic which, since the days of 1789, had constantly increased his influence and, so to speak, his force of expansion. There is no cause for surprise that Danton should



even to this day be subject to suspicion the very fervour of his opinions made enemies on every side. Far from hiding or exonerating himself he summoned his adversaries to come out into the open. In the convention on March 30, 1793 he declared: "To-day I invite all sorts of doubts and suspicions, all manner of accusations, for I am resolved to state everything. If any one of you entertains the slightest suspicion about my conduct as minister, if any one wishes for detailed accounts, let him rise and say so." On April 1 he again attacked his slanderers. If he really was corrupt, it must be admitted that his enemies were singularly wanting in clearness of vision or courage. He tried in vain to reconcile the two hostile sections of the assembly. The tribune, in his words had become "an arena of gladiators." When he rose to speak he was greeted with murmurs, altercations and threats, and at times, e.g., April 10, 1793, there was tumultuous disorder. The Montagnards and the Girondins attacked one another incessantly, the *commune* attempted to impose its wishes by force.

Amid these storms, Danton's sole concern was to organize the new régime which was to transform France. Never was his reasoning more lucid. He wanted complete religious liberty subject only to the ordinary law. He championed a programme of public education for the children "whose fathers have leapt to arms for the defence of the frontiers," for "our chief need is enlightenment in the country and sounder patriotism in the towns." He asked that the nation "should be endowed as soon as possible with a republican constitution with settled laws." He determined to exploit all the benefits of the Revolution, his lucid reasoning led him straight to the kernel of the problem, and he appealed for rapidity of execution and, above all, for national unity for the sake of which he urged all Frenchmen to sink their differences. He never lost the revolutionary sense; his aim was to discipline the spirit of liberty—in no way to weaken or restrict it. When the Girondin, Isnard, president of the convention, seemed to threaten Paris because the *commune* sent a deputation to plead for the liberation of Hébert, Danton, in a heated extempore speech, defended and exalted the capital against the accusations brought by the counter-revolutionaries. "Paris," he cried, "will always be a worthy setting for the national representative body." In these impassioned struggles an event occurred, clearly illustrating the clash of ideas. On the night of May 30–31, the tocsin roused Paris yet again, and the alarm cannon was heard. The *Gironde* had demanded the appointment of a "Committee of Twelve" to enquire into the acts of the *commune*. Danton demanded the suppression of this committee to which arbitrary powers had been given, arguing that the ordinary tribunals were competent and that Paris, the advance guard of the Revolution, should be exempt from accusation.

The insurrection of May 31, the appointment of Hanriot by the *commune*, to command the army of Paris, the rising of June 2, when the Convention was forced to expel 27 Girondins, constitute a definite set-back to Danton's policy. Robespierre's star was rising. On July 10 he superseded Danton on the Committee of Public Safety, who, only the previous day, had seemed to be its master. Yet Danton eulogized "the holy insurrection of May 31" which, he maintained, had saved the republic. His sang-froid, and his confidence in the Revolution were unimpaired. On Thursday evening, Aug. 1, though it was no longer to his personal advancement, he pressed for the strengthening of government authority, and the constitution of a powerful central body. The course of events was rousing all Danton's passion. The adoption of a constitution granting universal suffrage increased his fervour; he was anxious, it would seem, at seeing the legislative gain power at the expense of the executive, and apprehensive of the dangers threatening the country since, at several points, the frontiers had been violated. Danton reverted to his policy of the past year. He became more and more vehement, clamoured for a "war of lions," enunciated the necessary measures for the war in which the whole forces of the nations were now engaged, and urged the mobilization as we should say to-day, of men, grain and money. He maintained that in such times of crisis, the government had need of secret funds—proof of his c

be a direct out of his patriotic courage might be urged. At the most tragic moment of this crisis he was able to look ahead, and to resume his persistent advocacy of the cause of public education.

On July 25 the convention elected him president. Although he refused to serve again on the Committee of Public Safety, his influence, which dominated all the debates, remained formidable. When he spoke, it was to the applause of the assembly and the tribunes. His demands for vigorous action were carried out and even exceeded. The convention decreed that the provisional government of France should continue to be revolutionary until the peace, in spite of gaps in the constitution, an executive power was formed, more powerful than it had ever been. But the stage was already set for Danton's fall.

On Oct. 12 he went for a holiday to Arcis-sur-Aube to restore his health. This was an excellent opportunity for his enemies—for Billaud Varenne and Robespierre—to prepare his downfall. When he returned to Paris in November it was soon obvious that quitting his post had cost him his position. Henceforward the Committee of Public Safety was the dictator, and Robespierre dictator to the Committee. The Terror was established. In truth Danton's withdrawal seems hard to account for, and it has been said that he opened negotiations with insurgents in Normandy, be that as it may, he was accused once more of taking money.

Having decided to put an end to the Terror, could Danton lay the monster low? No. The movement he had helped to unchain was to pursue its course with pitiless logic. Robespierre and Danton hated each other. Danton was superseded. In Nivôse 23, his friend, Fabre d'Églantine, was arrested. In Ventôse the Hébertists were imprisoned. Robespierre, who was marching toward the dictatorship, attacked both the *Indulgents* and the *Enragés*. Danton maintained his courage. He again denounced "the false patriots in red bonnets," but his very successes only compromised him the more. Hébert's execution brought him but an apparent triumph. Robespierre meant to deal quickly with the formidable adversary who, at one moment, seemed beaten, only to leap up again, and who in the midst of all his perils seemed calm, even to the point of light-heartedness.

Danton neglected to attack in self-defence. On Germinal 10 Robespierre had him arrested, impeached him before the intimidated Convention and cowed the Assembly. The decree for his trial was voted without one dissentient voice. Danton succumbed less to the ferocity of his enemies than to the pusillanimity of his friends. We do not possess his defence before the Revolutionary Tribunal; there seem to have been only a few indignant outbursts, haughty remonstrances against the accusation of having betrayed the people. Danton did not plead, he defied. He well knew that the crimes of which he was accused before the judges were not those that were really driving him to his death. "I have lived," he declared, "entirely for my country." "I am Danton till my death; to-morrow I shall sleep in glory." On April 6 (Germinal 16) Danton was guillotined. His age was 34 years and six months. (E. H. E.)

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**DANUBE** (Ger. *Donau*, Hungarian *Duna*, Rumanian *Dunărea*, Lat. *Danubius* or *Danuvius*, and in the lower part of its course *Ister*), the most important river of southern Europe. Rising in the Black Forest mountains and emptying into the Black sea, it receives tributaries on the right bank from the eastern Alps, the Dinaric Alps and the Balkan mountains, and on the left bank from the Fränkischer Jura, Böhmer Wald, Böhmischo-Mährisch Höhe, the Carpathians and the Transylvanian Alps. It is 1,750 m long, drains an area of 320,000 sq m. and is the most important river of Europe as regards the volume of its outflow, but inferior to the Volga in length and drainage area. The river is first called the Danube at Donaueschingen in the Black Forest, where three streams, the Brigach, the Bregle and a smaller stream meet at an altitude of 2,187 feet. It is navigable for special river craft below Ulm (height 1,505 ft. above sea level) and it is fed by at least 300 tributaries many of which are themselves mighty

The river can be divided into three sections: the upper course by the Iron Gates, the middle course between Bratislava and the Iron Gates, and the lower course below the Iron Gates.

The direction of the river in its upper course is determined by the structure of the Alpine orogenic. Rising in the crystalline rocks of the Black Forest it flows eastward across a narrow belt of Jurassic rocks to Sigmaringen and from thence to Regensburg along the northern edge of the Swiss plateau (*see Alps*), its bed being in the soft Molasse (Upper Oligocene and Miocene rocks) and its direction following the so-called Danube Fault, which passes from Schaffhausen to Regensburg. Below the latter town the river is deflected south-eastward by the Bohemian massif and flows in part upon the crystalline rocks of the latter and in part upon the Molasse but at Krems it turns eastward across the Molasse and after passing Vienna it flows through the gap which separates the eastern Alps from the Carpathians. The valley of the Danube above Sigmaringen is narrow, the scenery being wild and beautiful, especially above Tutzingen, where castles crown every possible summit on the neighbouring hills. Below Immendingen much water escapes by subterranean fissures into the river Ache, a tributary of the Rhine. After it is joined on the right bank by the Ilter which tributary rises in the Algauer Alps the Danube attains a width of 73 yd and an average depth of 3 ft. 6 in and becomes navigable downstream for specially constructed craft of 100 tons. At Donaauwörth (height 1,330 ft) it receives the Lech, which tributary rises near the Ilter and flows in a direction parallel to it, whilst at Regensburg (height 949 ft) the Danube receives on the left bank the river Naab which rises in the Fichtel Gebirge. Below Regensburg, at Deggendorf, it is joined by the Isar, on the banks of which stands Munich. The upper course of the Danube lies in German territory, rising in Baden and flowing through Württemberg and Bavaria. At Passau (height 805 ft) it enters Austria and approximately 100 m of the north-western boundary of that country is formed by the Danube, its right bank tributary the Inn, and the Salzach which flows into the Inn on its right bank. The rivers Isar, Inn and Salzach drain a large portion of the eastern Alps and have many important towns on their banks. The Inn joins the Danube at Passau.

**GREIN WHIRLPOOL**

From Passau to Linz the Danube is hemmed in by mountains, but its valley becomes wider below the latter town where the river subdivides into several arms which unite again at the once famous whirlpool near Grein. Below Grein, the river flows through another narrow defile as far as Krems but once more subdivides as it passes toward Vienna. The district between Linz and Vienna is renowned for its beauty and for the numerous places of historical and archaeological interest along the river's banks. At Vienna the river is 316 yd wide, and 429 ft above sea level and below the town is the district of Marchfeld which is a low-lying country across which the Danube frequently subdivides forming numerous islands. An important left bank tributary, the March, which drains Moravia, joins the main stream here. Before reaching Bratislava (Pozsony, Pressburg), the Danube passes through the narrow gap between the lower spurs of the Alps and the Carpathians and enters upon the middle section of the river. At this gap the river also passes out of Austria and for a few miles is entirely in Czechoslovakia but it very soon becomes the boundary between that country and Hungary, until it reaches Esztergom (Gran), below which town it enters Hungary.

The Danube flows for the first 100 m. of its middle course upon alluvial and Quaternary deposits of the Little Hungarian Plain. This latter is separated from the Great Hungarian Plain by the Bakony Wald ridge, the innermost arc of the Carpathian mountain system, and the Danube breaks through this ridge at Esztergom. After leaving Bratislava, the river divides into three channels forming several islands, but these join together again at Komárom where the river is also joined on its left bank by the river Waag which rises in the Carpathians. Higher up the stream at Győr (Raab), the southern branch of the divided Danube is joined by the river Raab which rises in the Styrian Alps. Between Győr and Vác the valley becomes narrow until

at the latter town the river turns southward to flow in that direction for 30 m across the great Hungarian plain. In this long stretch, the Danube meanders about in a wide alluvium-filled valley, frequently dividing into two or more streams and passing Budapest Baja (where it leaves Hungary and enters Yugoslavia) and Mohács. At Almas, 14 m east of Osijek, the Danube is joined by the important right bank tributary, the Drave (height 81 ft), which rises in Tirol and drains a large portion of the Eastern Alps. The Danube is again diverted eastward at Borovo by the Fruška Gora, and it flows along the northern edge of this range passing Novi Sad (Újvidék) until it reaches Belgrade. Between these two towns the Danube receives the important left bank affluent, the Tisa (Theiss), which, rising in the Carpathians, drains the greater part of the western slopes of those mountains, as well as the great Hungarian plain. At Belgrade, the Danube is joined by the important right bank affluent, the Save, which, rising in the Julian Alps, flows eastward and drains the greater part of western Yugoslavia, whilst the eastern part of that country is drained by the Morava, which joins the Danube between Belgrade and Bazias, also on its right bank.

The whole character of the Danube valley changes suddenly at Bazias, and between that town and Turnu Severin, the river has worn out for itself a channel through the mountain ridge which joins the Carpathian arc with the Balkan mountains. A large part of the great Hungarian plain, which covers an area of about 30,000 sq m, is remarkably flat and low-lying, and the altitude rarely exceeds 300 ft. In consequence, natural drainage by the Tisa and the Danube is very poor, and where artificial drainage has not been carried out, the banks of the rivers are in many places lined by wide swamps and marshes, which in winter form large ice-fields. Until comparatively recent geological times, this plain formed an extensive inland sea, whose final effluent followed the present course of the Danube through the Kazan defile and the Iron Gates. By the lowering of its channel through the gap (the level of the Danube at Orsova is now 42 ft. above sea level) this epicontinental sea was drained, leaving the great Hungarian plain covered with a thick deposit of alluvial sands and gravels. Hemmed in by precipitous rocks, the river passes through the stupendous Kazan defile (162 yd. wide), then widens out to nearly a mile at Orsova, but becomes narrower again at the Iron Gates. The river has been cleared of numerous obstructions to make possible navigation along this stretch.

**THE LOWER COURSE**

The lower course of the Danube stretches from the Iron Gates to the Black Sea. From Bazias to the junction with the small right bank tributary, the Timok, the Danube forms the boundary between Yugoslavia and Rumania. From the Timok to a point 27 m east of Ruschuk, it forms the boundary between Rumania and Bulgaria, after which it flows entirely through Rumanian territory. Along its lower course, the Danube flows over Quaternary deposits covered by river sands and gravels. Its north bank is low, flat and marshy with numerous small lakes, but its south bank is crowned by low heights which make excellent town sites, e.g., Vidin, Lom-Palanka, Svishtov, Ruschuk and Silistra. At Ruschuk, the railway from Bucharest to Varna, crosses the Danube. The river receives many tributaries along this stretch, those on its left bank, of which the Oltul and Dambovita, on which stands Bucharest, are the most important, draining the Transylvanian Alps, and those on its right bank, draining the northern ridges of the Balkan mountains. At Cernavoda, where the river is crossed by the railway from Bucharest to Constantza, the Black sea port, the Danube is diverted northward by the hills of Dobruja, which form an isolated remnant of the Hercynian foreland of Europe. Along this stretch as far as Braila, the river subdivides into several channels, and spreads out over the surrounding country forming numerous lakes. The river changes its direction again at Galatz, the chief port on the delta of the Danube, and flows eastward toward its mouths. Sea-going vessels having a register up to 4,000 tons can ascend the river as far as Braila, but those up to 600 tons can sail as far as Turnu Severin. Two left bank affluents, the Seret and the Prut which drain the eastern side of the Carpathians

mountains enter the river near Galatz. For 50 m in an easterly direct on from Galatz the Danube flows as a single channel until it breaks up into the several branches of its delta. Along the northern shore of the river from Galatz to the sea there is a large number of shallow lakes which indicate the poor drainage of the region. The most important mouths of the river are, reading from north to south, the Kilia, Sulina and St. George and in 1905 the ratio of the discharge of these three branches was Sulina 9% St. George 24% and Kilia 67%. The mean annual outflow of all the mouths is estimated at 315,000 cu.ft. per sec., and the amount of silt brought down at 108 million tons per year. As the currents of the Black sea along this coast flow from north to south, the silt brought down by the Kilia branch tends to block up the mouths of the other channels.

The delta of the Danube, which is about 1000 sq m in area, is a mere wilderness of swamps and marshes covered by tall reeds and through which the silt laden distributaries of the river slowly meander. The monotony of this waste of country is relieved here and there by isolated elevations covered by oak, beech and willows, many of them marking ancient coast lines. The most important towns in the delta region are Ismail, Chilia and Vilkof on the Kilia branch, Sulina at the mouth of the Sulina branch and Tulcea and St. George on the St. George's branch. The Kilia branch itself breaks up into a wide delta which is continually advancing seaward, and it is estimated that its various mouths pour into the sea 3,000 cu.ft. of sediment per minute. The Sulina branch breaks off from the Tulcea (St. George's) branch, 7 m below the town of Tulcea, and the St. George's branch again subdivides before entering the sea.

Before engineering works were commenced to make the channels navigable, ships drawing only 8 ft. of water experienced great difficulty in entering, for the depth of water in few portions of the channels rarely exceeded this figure and the frequent occurrence of numerous sand banks and bars further added to the difficulty of shipping. To-day, ships drawing 22 ft. of water can reach Brăila.

**Traffic.**—The Danube may be divided for traffic purposes into the maritime Danube from the sea to above Brăila, and the fluvial Danube from this point up to Regensburg, where the river at present ceases to be navigable for large craft. Brăila and Galatz, situated respectively 171 and 150 kilometres from Sulina (at the mouth of the river), are the usual points for transshipment between seagoing vessels and barges. Besides transshipping goods on to barges, seagoing vessels also tranship on to railways at Brăila and Galatz. Traffic has never equalled that on the Rhine, where the countries are much more highly developed industrially.

**The European Commission.**—The administration of the Danube was formerly controlled by the single European commission of the Danube, an institution set up with a provisional character by the Treaty of Paris in 1856. Its headquarters were at Galatz, and it administered the Danubian delta only, eight interested nations being represented on it. The conservancy of the other Danubian reach of international importance—the Iron Gates—was entrusted to Austria-Hungary, and assigned by her to Hungary.

In the Treaty of Bucharest (May 1918) the Central Powers reduced the membership of the European commission to "states situated on the Danube or the European coasts of the Black sea." The Treaty of Versailles (June 1919) reinstated the commission in "the powers it possessed before the war." It went on that "as a provisional measure, only representatives of Great Britain, France, Italy and Rumania shall constitute this commission." The commission acquired definite character when the Danube statute was signed in Paris on July 23, 1921. In future, subject to the unanimous consent of the states represented on the commission any European state which is able to prove its possession of sufficient maritime commercial and European interests at the mouths of the Danube may be represented on it. Up to 1926, however, the representation had not been increased.

**The International Commission.**—The Treaty of Versailles, Art. 347, provided that "from the point where the competence

of the European commission ceases and from above Brăila the Danube system referred to in Art. 331, *et seq.*, as far as the highest navigable point at Ulm, shall be placed under the administration of an international commission composed as follows—

Two representatives of German riparian States

One representative of each other riparian State

One representative of each non-riparian State represented in the future as the European commission of the Danube." This commission was to carry on the administration provisionally until the conclusion of a definite statute concerning the Danube.

On July 23, 1921, this statute was signed. Many of its provisions simply followed the lines of the 'convention on the regime of navigable waterways of international concern' concluded at Barcelona on April 20, 1921. Article 1 declared navigation on the Danube system to be unrestricted and open to all flags on a footing of complete equality, from Ulm to the Black sea, and the internationalised portions of the Danube tributaries were defined. The provisional composition of the international commission was confirmed. It had to see that the declaration in Art. 1 was not infringed by any riparian State or States, to draw up a programme of public works for the improvement of the waterway on the basis of proposals submitted by the riparians, controlling and if necessary modifying the annual programmes of the riparian states for current works of maintenance. The cost of such works was borne by the riparian State concerned, assisted, if the commission so decided, by other States interested.

The cost of works of improvement (not maintenance) might be covered by navigation dues, to be imposed (with the commission's authorisation) by the riparian State which had executed the works, or by the commission itself, if it had executed them at its own charges. Dues were to be assessed on the ship's tonnage and not based on the goods transported, revenue from them was to be applied exclusively to the works for which they were imposed; there was to be no differential treatment of flags. Customs duties levied by a riparian on goods loaded or discharged at the Danubian ports in its territory were also to be levied without distinction of flag or hindrance to navigation, and were not to be higher than duties levied at other frontiers of the same state. The transport of goods and passengers, even between ports of the same riparian State, was to be unrestricted and open to all flags on a footing of perfect equality, with the exception of regular local services which may only be carried out by foreign craft subject to the observance of the national law of the local sovereign, and in agreement with the authorities of the riparian state concerned (Art. 22). Passage of goods and passengers in transit was to be free. Uniform police regulations were to be drawn up and applied by each riparian on its own territory. A special joint service of Rumania and Yugoslavia, organised with the approval of the commission, will have to take over the maintenance and improvement of the Iron Gates section, with headquarters at Orsova. The commission was to decide on special works to be undertaken (and dues to be levied for the purpose) and to have power to abolish the service when its work was done; it could inaugurate like services elsewhere if necessary.

The commission was to determine its own procedure and administer its own budget, the presidency being held for six months by each delegation in turn. Its seat was to be at Bratislava the first five years, and thereafter it might be established at other towns on the Danube, selected at its discretion, for five-year periods in rotation. Its property and members were to enjoy diplomatic privileges and it was to fly its own flag. It was to deal in the first instance with questions regarding the interpretation and application of the convention; but the special jurisdiction set up by the League of Nations would ultimately have to deal with complaints from a state that the commission was acting *ultra vires*, or from the commission against a state for neglecting to carry out its decisions. Every effort was made to insure uniformity between the workings of the International and the European commissions, and between different signatory states.

The convention came into force on June 30, 1922. One of the

most important questions that has been raised since that date was concerned with the interpretation of Art. 22 (above), as certain states in eastern Europe were anxious to reserve to their own flag the passenger and goods traffic between ports in their own territory. In the discussion on Art. 22, the Rumanian delegate stated that the carriage of goods on river craft between two ports in the same country did not constitute sabotage if the goods were subsequently transhipped to a seagoing vessel to export and that Art. 22 imposed no restriction on the traffic carried on up to that time by Greece. It would seem to be established by the decisions of the Powers conference that casual transport by foreign vessels between two ports in the same state is to be unrestricted even if it takes place repeatedly (See INLAND WATER TRANSPORT)

Ever since 1901 the old Ludwigskanal connecting the Danube and the river Main is being enlarged and will form the Rhine-Main-Danube Canal, thus making navigation between the Atlantic Ocean and the Black Sea through the European continent possible.

Many legends are woven around the course of the Danube. A district in Austria near Grem is still called the Nibelungen-gau in memory of one of the most famous sagas.

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**DANVERS**, a town of Essex county, Massachusetts, 19m N.E. of Boston, on the coast. It is served by the Boston and Maine railroad. The population was 11,798 in 1925. It is a residential suburb, has various manufacturing industries, with an output in 1927 valued at \$7,088,236, and is the seat of a State hospital for the insane. Danvers was separated from Salem as a district in 1752 and incorporated as a town in 1757, but the act of incorporation was disallowed by the privy council. In 1775 it was again incorporated. Within its present limits was Salem village, the centre of the witchcraft delusion of 1692. Danvers was the birthplace of Israel Putnam (q.v.)

See J. W. Hanson, *History of the Town of Danvers* (1848), and A. P. White, "History of Danvers" in *History of Essex Co* (1886).

**DANVILLE**, a city of eastern Illinois, U.S.A., 124m. S. of Chicago, on the bluffs of the Vermilion river; the county seat of Vermilion county. It is served by the Chicago and Eastern Illinois, the Illinois Traction (electric), the New York Central and the Wabash railways. The population was 33,776 in 1920 (87% native white) and was estimated by the census bureau at 38,200 in 1927. It is the commercial centre of a rich farming and coal-mining region, and has substantial manufacturing industries, including railroad locomotive and repair shops, flour and lumber mills, large brick plants, glass works and a zinc smelter. The output of the factories within the city in 1927 was valued at \$14,947,082. Bank clearings in 1926 were \$168,044,977. The assessed valuation of property in 1927 was \$15,535,681. There are large dairy and stock farms round about. The mines of the county produced over 3,000,000 tons of coal in 1926. At the western boundary of the city is Lake Vermilion, a reservoir 4m. long, with a capacity of 2,500,000,000 gal. completed in 1925. A branch of the National Home for Disabled Volunteer Soldiers was established here in 1898. Danville was the site of an Indian village, Pankeshaw, the centre of many trails. In 1824 Dan Beckwith, for whom the city was named, built his trading cabin here, and in 1826 the settlement became the county seat. It was incorporated as a city in 1869. A commission form of government was adopted in 1927, and a city plan (prepared in 1920) is in process of development. Danville was the home of Joseph Gurney

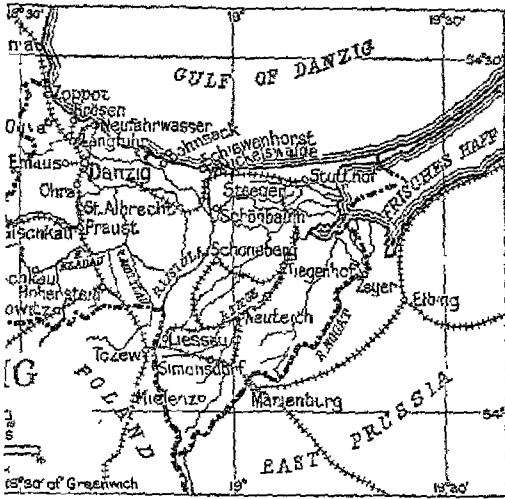
**DANVILLE**, a city in the "blue grass" region of Kentucky, U.S.A., 70m S.E. of Louisville: the county seat of Boyle county. It is served by the Southern railway system. The population was 5,099 in 1920 (27% negroes) and was estimated locally (including contiguous suburbs) at 7,500 in 1928. Danville is an important market for horses, cattle, hogs and sheep, hemp, tobacco; is the trading centre for a large area, and has large railroad shops. It is the seat of the Kentucky school for the deaf (founded 1823), the first State institution of the kind in America; Centre college for men (Presbyterian, chartered 1819), and Kentucky (formerly Caldwell) college for women (Presbyterian 1860). There are many fine old mansions in and near the city, and beautiful landscapes and river scenery in every direction. Herrington lake, created by the hydro-electric development on the Dix river, has 75m. of shore line. The battlefield of Perryville is 11m west. At Pleasant Hill, 13m north, are the massive stone buildings of an abandoned Shaker community. Danville was on the Wilderness road, and was one of the first settlements (1781) in Kentucky. It was the home of Dr. Ephraim McDowell (1777-1830), who in 1809 performed the first entirely successful operation for ovarian tumour; and was the birthplace of Justice John M. Harlan. From 1786 to 1790 an influential "political club" held long winter evening debates in the Gill Tavern, and here met the nine conventions which discussed the terms of separation from Virginia and framed the first State constitution.

**DANVILLE**, a borough of Montour county, Pa., U.S.A., on the high northern bank of the Susquehanna river, at the base of Montour ridge, 110m N.W. of Philadelphia, the county seat and an active manufacturing centre. It is on Federal highway 11, and is served by the Lackawanna, the Pennsylvania and the Reading railways. The population was 6,952 in 1920, and was estimated locally at 7,500 in 1928. Limestone shounds in the vicinity, and the borough has large iron and steel works, silk and stocking mills and other industries. It is the seat of a State hospital for the insane (established 1868). A settlement was made here about 1776, and in 1792 a town was laid out, called Dan's Town, after one of the founders. With the discovery of iron ore on Montour ridge, and the completion of the north branch of the Pennsylvania canal through the borough, it grew rapidly, and was incorporated in 1849. The iron deposits are now exhausted and ore is imported by the local mills. The first "T" rail in America was rolled here in 1845.

**DANVILLE**, a city of Virginia, U.S.A., on the high banks of the picturesque Dan river, near the southern boundary of the State, in Pittsylvania county but politically independent of it. It is on Federal highways 170 and 501, and is served by the Danville and Western and the Southern railways. The population was 21,539 in 1920 (26% negroes). The local estimate for 1928, including immediate suburbs, was 37,000. It is one of the largest markets in the country for bright-leaf tobacco handling 100,000,000 lb. annually, and has one of the largest and oldest cotton mills in the South, operating 13,462 looms and 467,000 spindles in 1928. There are hosiery and silk mills, and various other manufacturing industries. The aggregate output of the 37 factories in the city in 1927 was valued at \$11,503,231. Danville was settled about 1770, incorporated as a town in 1792, and as a city in 1883. After the evacuation of Richmond on April 2, 1865 the archives of the Confederacy were brought to Danville, and for a few days Jefferson Davis made it his capital. The building in which he met his cabinet is now a Confederate memorial and museum.

**DANZIG**, FREE CITY OF, a state under the protection of the League of Nations has an area of 791 sq.m.: the territory is divided into municipalities and rural districts. Population of the whole state (1924) 385,000 (96% of which were Germans), that of the Danzig municipality being 237,000. Besides the municipality of Danzig, there are the municipality of Zoppot (27,500 inhabitants), the two towns Tiesenhof (5,100) and Neuteich (2,900), and some greater ones, as Praust (3,400) and Ohra (12,500). Of the population are Evangelical and Roman Catholic but the Mennonites are

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BOUNDARIES OF THE FREE CITY OF DANZIG AS ESTABLISHED BY THE TREATY OF VERSAILLES 1919. THE CITY, WHICH HAS A POPULATION OF 147,000, IS UNDER THE PROTECTION OF THE LEAGUE OF NATIONS.

enades and gardens, the Steffens park, outside the city, 50 acres in extent, occupying the north-western

reserves its picturesque mediaeval aspect. The city during the Hanseatic days with lofty ornamented windows, are the delight of the visitor, but close to the entrance doors and abutting on the sea. The Hohe Tor modelled after a Roman triumphal arch, a remarkable monumental erection of the 16th century runs the Lange Gasse, the main street, to the sea. In this square stands the Artus- or Junker-hof, the ruins of the middle ages were in Germany styled *St. Mary's church*, begun in 1343 and 1353, one of the largest Protestant churches in the city. It contains a painting of the Last Judgment, formerly by van Eyck, but probably by Memling. Other buildings include the beautiful Gothic town hall, with a armoury (Zeughaus) and the Franciscan monastery, founded in 1371, and now housing the picture gallery and public utilities.

Danzig is mentioned in 997 as an important town. It was held by Pomerania, Poland, Brandenburg and Prussia. After 1308 it prospered under the Teutonic Order, one of the four chief towns of the Hanseatic League. When the Teutonic order had become thoroughly unpopular, it broke off its yoke and submitted to Poland, to which it was ceded, along with West Prussia, at the peace of Lublin in 1569. It was formally subject to Poland and represented in the Diet at the election of Polish kings, it enjoyed the status of a free city, and governed a considerable territory with its own laws. It suffered severely through various wars in the 18th century, and in 1734, having declared its independence, it was besieged and taken by the Russians. At the first partition of Poland, in 1772, it was ceded to Prussia, and in 1793 it came to be a part of Prussia. In 1807, during the war between France and Prussia, it was bombarded and captured by the French, and rewarded with the title of *Free City of Danzig*. In 1813, after the battle of Tilsit, Napoleon declared it a free town, under the protection of France, Prussia and Saxony, restoring it to Prussia. A French governor, however, was appointed in it,

and by compelling to submit to the Continental system almost all the trade of the city was given back to Prussia in 1814.

The city of Danzig which until the close of the World War had been the capital of West Prussia, was separated with a part of the surrounding country from the German empire by the Treaty of Versailles, and received the status of a free city. The decision registered in Articles 100-108 of the treaty represented a compromise between the Polish demand for the cession to the new Polish state of the most convenient outlet and inlet for Polish commerce, and the reluctance felt by the Peace Conference to place a city, 96% of whose population was German, under another sovereignty. The separation became effective Jan 10 1920, and the administration of the city and the territory was placed temporarily under Allied administration, until Nov 15 1920, when the formal proclamation of the free city of Danzig, as described in the Treaty of Versailles, was made by the representative of the League of Nations. The troops were withdrawn, and General Haking acted as high commissioner for the League until Feb 1923, when he was succeeded by Mr M S MacDonnell, who in turn was succeeded in Feb 1926 by Dr. van Hamel, a Dutch jurist. Internal administration before the separation from Germany was under the burgomaster, Herr Sahm, who, as soon as the constitution came into force, was elected president of the Senate.

**Constitution.**—The constitution, drafted by a Constituent Assembly elected in May 1920, was ratified, with some small amendments, by the League of Nations, and finally authorized by the high commissioner in May 1922. The international and public status of the free city as a state under the protection of the League of Nations, represented in Danzig by its own high commissioner, is based on Articles 100-108 of the Treaty of Versailles and the subsequent treaties between Danzig and Poland as provided for in the Treaty of Versailles. Of these, the most important are the Danzig-Polish Treaty drafted by the Conference of Ambassadors with the assistance of delegations from the Polish and the Danzig states, and signed in Paris on Nov 9, 1920, and the Warsaw Convention of Oct 24, 1921 (a supplement to the first-named treaty) dealing mainly with economic questions. The high commissioner of the League of Nations decides in the first instance all differences arising between Danzig and Poland. The two parties retain the right of appeal to the Council of the League of Nations. Poland's rights in Danzig are exclusively economic and ensure her free access to the sea. The harbour and waterways are administered by a commission made up of five nominees of Danzig and Poland under a president, who must be of Swiss nationality and appointed by the Council of the League of Nations if Danzig and Poland cannot agree on his appointment. The administration of the railways in the free city, with the exception of narrow gauge railways and street tramways, forms part of the Polish State railway system, Danzig's special interests being protected by a representative of the free city on the directorate of the Polish railways.

The conduct of the free city's foreign relations is committed to the Polish government, which is also entrusted with the protection of Danzig nationals abroad. The official language is German. The legislative body, the Volkstag, consists of 120 members. The Senate consists of a president and seven senators holding chief office (elected for a term of four years) and a vice-president and 13 senators in adjunct office (elected for an indefinite period, depending on the confidence of the Volkstag). In accordance with the provision of the Treaty of Versailles the free city is in customs union with Poland. Posts, telegraphs and telephones are under the postal and telegraphic administration of the free city, which is a member of the international postal union. Poland is entitled to have a postal service office in the harbour for the purpose of maintaining direct communication between Danzig and Poland, as well as between Poland and overseas countries. The area of the harbour has been defined to include a large part of the town of Danzig.

**Education.**—Besides numerous elementary technical and advanced and secondary schools, there is a technical university with an staff of 53 professors. In the year 1927

there were 1,200 students.

**Trade and Shipping.**—The situation of Danzig on the mouth of the river Vistula is most favourable. The Vistula connects Danzig with Poland and, by means of its tributaries and canals, with Germany, the Ukraine and Lithuania. The so-called Dead Vistula is navigable from the mouth at Neufahrwasser to a distance of four miles for ships drawing 30ft. and for a further two miles up the river Mottlau for vessels of about 14ft draught. Facilities are available for the repair and maintenance of ships. Up to 3,000 tons these can be accommodated in floating docks, of which there are several. There are four dockyards: F. Schichau, International Shipbuilding and Engineering Co. Ltd. (comprising the former Imperial dockyard and the railway workshops), Klawitter, and W. Jan. The International Shipbuilding and Engineering Co. Ltd. has an original capital of £10,000, English and French capital participating with 30% each and Danzig and Polish capital with 20% each. Schichau has built vessels of 35,000 tons. This dockyard was in 1928 especially occupied with the construction of bigger motor ships with an average tonnage of 10,000 tons each, and had at one period 63,000 tons of motorships on the stocks. The free basin has a wharfage of about 3,600ft. and vessels drawing up to 26ft. can lie alongside. Electric cranes and warehouse accommodation are provided and railway connection exists with the main system. An important adjunct to the port is the island of Holm which has a basin of great potential value as a commercial harbour. A new basin for the transhipment of heavy goods was to be ready by 1929.

The chief imports are foodstuffs, fertilizers, chemicals, ore scrap-iron, machines, hardware, building materials, raw cotton and textiles, the principal exports are coal, timber, sugar, grain, cement, naphtha, iron and steel. Large granaries and warehouses for sugar and grain stand near the wharves of the port, where are tanks which afford storage capacity for over 66,300 tons of naphtha. As for timber, 1,700,000 tons can be loaded during one year. Large timber ponds are on the Holm island and extend for several miles along the bank of the "Dead Vistula" between Danzig and Plehnerdorf. The port is practically ice-free, and has great commercial possibilities, the natural features of the waterways and surrounding country rendering expansion easy. Thanks largely to the protection afforded by the peninsula of Hela, it has special advantages of security. There is scarcely any current, the main river having received another outlet to the sea several miles further east, near to Schiewenhorst.

Danzig's mercantile fleet consists of 58 vessels with 127,000 gross registered tons. There are regular passenger-and-cargo sailings from the port of Danzig to nearly all the ports of the Baltic and the North sea, to New York, Philadelphia and the Atlantic ports of Canada, and to London and Hull. As to the railway traffic there are direct express passenger trains from Danzig to all the chief centres of Germany, Poland and the Baltic states. Danzig is an important junction of aeroplane communications. Aeroplanes leave Danzig regularly for Berlin, Königsberg, Warsaw and during the summer for Stettin, Elbing, Allenstein, Marienburg, Riga and Moscow. Further communications to Helsingfors and to Libau are contemplated.

**Banking and Finance.**—The free city has its own currency, based on the gulden (fixed at 1/25th of the sterling and divided into 100 pfennigs). This new currency was introduced by the Bank of Danzig, as an emission bank, in the beginning of the year 1924. The fully paid-up capital of the bank is 7,500,000 gulden. Besides the Bank of Danzig there are five big Danzig banks, as well as branches of most of the important German and Polish banks. There is also a produce and a stock exchange.

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**DAPHNAE** (Tahpanhes mod. *Defenneh*), an ancient fortress near the Syrian frontier of Egypt, on the Pelusian arm of the Nile. Here King Psammetichus established a garrison of foreign mer-

cenaries, mostly Carians and Ionian Greeks. After the destruction of Jerusalem by Nebuchadrezzar in 588 B.C., the Jewish fugitives of whom Jeremiah was one, came to Tahpanhes. When Naucratis was given by Amasis II the monopoly of Greek traffic the Greeks were all removed from Daphnae and the place never recovered its prosperity, in Herodotus's time the deserted remains of the docks and buildings were visible. The site was discovered by Sir Flinders Petrie in 1886, the name "Castle of the Jew's Daughter" seems to preserve the tradition of the Jewish refugees. There is a massive fort and enclosure; the chief discovery was a large number of fragments of pottery, which show the characteristics of Ionian art, but their shapes and other details testify to their local manufacture.

**DAPHNE** (Gr. laurel tree), in Greek mythology, was the daughter of the Arcadian river-god Ladon, or the Thessalian Peneus, or of the Lacomian Amyclae. She was beloved by Apollo, and when pursued by him was changed by her mother Ge into a laurel tree (Ovid, *Metam.*, i 452-567). In the Peloponnesian legends, another suitor of Daphne, Leucippus, son of Oenomaus of Pisa, disguised himself as a girl and joined her companions. His sex was discovered while bathing, and he was slain by the nymphs (Pausanias viii 20, Parthenius, *Erotica*, 15).

**DAPHNE**, in botany, a genus of shrubs, belonging to the family Thymelaeaceae, and containing about 40 species, natives of Europe and temperate Asia. *D. Laureola*, spurge laurel, a small evergreen shrub with green flowers in the leaf axils towards the ends of the branches and ovoid black very poisonous berries, is found in England in copses and on hedge-banks in stiff soils. *D. Mezereum*, mezereon, a rather larger shrub, 2 to 4ft high, has deciduous leaves and bears fragrant pink flowers in clusters in the axils of last season's leaves in early spring before the foliage. The bright red ovoid berries are catartic, the whole plant is acrid and poisonous, and the bark is used medicinally. It is a native of Europe and north Asia, and found apparently wild in copses and woods in Britain. It is a well-known garden plant, and several other species of the genus are cultivated in the open air and as greenhouse plants. *D. Cneorum* (garland-flower) is a hardy evergreen trailing shrub, with pink sweet-scented flowers. *D. pontica* (eastern Europe) is a hardy spreading evergreen with greenish-yellow fragrant flowers. *D. indica* (China) and *D. japonica* (Japan) are greenhouse evergreens with respectively red or white and pinkish-purple flowers.

**DAPHNEPHORIA**, a festival held every ninth year at Thebes in Boeotia in honour of Apollo Ismenius or Galaxius. It consisted of a procession in which the chief figure was a boy of good family and noble appearance, whose father and mother must be alive. Immediately in front of the boy, who was called *Daphnephoros* ("laurel bearer"), walked one of his nearest relations carrying an olive branch hung with laurel and flowers and having on the upper end a bronze ball from which hung several smaller balls. Another smaller ball was placed on the middle of the branch or pole which was then twined round with ribbons.

These balls were said to indicate the sun, stars and moon, while the ribbons referred to the days of the year, being 365 in number. Then followed a chorus of maidens carrying suppliant branches and singing a hymn to the god. The *Daphnephoros* dedicated a bronze tripod in the temple of Apollo. The festival is described by Proclus (in Photius *cod* 239).

See also A. Mommsen, *Feste der Stadt Athen* (1898), L. R. Farnell, *Cults of the Greek States*, iv 284-286.

**DAPHNIS**, the legendary hero of the shepherds of Sicily and reputed inventor of bucolic poetry. According to his countryman Diodorus (iv 84), and Aelian (*Vari. Hist.* x 18), Daphnis was the son of Hermes and a Sicilian nymph and was found by shepherds in a grove of laurels (whence his name). He won the affection of a nymph, who made him promise to love none but her, threatening that if he proved unfaithful he would lose his eyesight. He failed to keep his promise and was smitten with blindness. Daphnis, who endeavoured to console himself by playing the flute and singing shepherds' songs, soon afterwards died or was taken up to heaven by his father Hermes who caused a spring of water to gush out from the spot where he

son had been carried off Ever afterwards, the Sicilians offered sacrifices at this spring In Theocritus, *Id. I.*, Daphnis' apparently has offended Eros and Aphrodite, and in return has been smitten with unrequited love, he dies, although Aphrodite, moved by compassion endeavours, but too late, to save him.

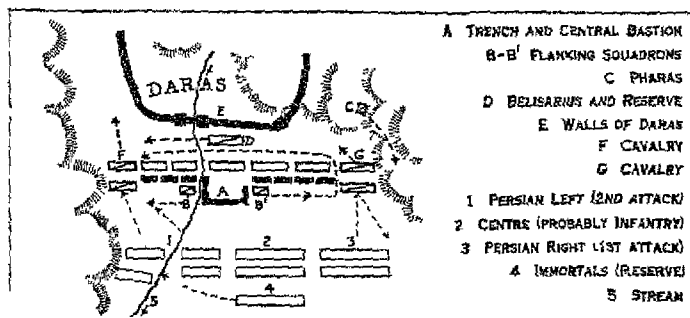
See H. W. Stoll in Roscher's *Lexikon*, and G. Knaack in Pauly-Wissowa's *Realencyklopaedie*.

**DARAB**, a town of Fars, in Persia, and headquarters of a district of the same name, situated in 28° 45' N, 54° 37' E, at an elevation of 4,000 ft., on the Shiraz, Fasa, Furg, Bandar Abbas caravan route, about 140 m from the first-named and 208 m from the last. It is a straggling place with an estimated population of 6,000. The district around produces oranges and lemons in abundance, and tobacco of good quality is cultivated extensively. In Iranian legend, the foundation of the town, known also as Darab-gird, is attributed to Darab, father of Dara (Darius III). About 4 m to the south-west, is a large circular earthwork known as Kalah-i-Darab, described in Sir W. Ouseley's *Travels* (1819), the history of which is unknown. Another monument in the vicinity is a gigantic bas-relief carved on the vertical face of a rock, representing the victory of the Sasanian Shapur I. over the Roman emperor Valerian, A.D. 260.

**D'ARANYI, JELLY** (1895- ), Hungarian violinist, grand-niece of Dr. Joachim and one of the most brilliant players of her day, was born at Budapest on May 3, 1895. She studied under Hubay and quickly attracted notice by her exceptional powers, eventually winning world-wide recognition. She resides in London. Her sister, Madame Adila Fachin, also a violinist, is likewise a player of the first rank.

**DARAS**, a fortified Roman city on the Mesopotamian frontier about 12 miles N.W. of Nisibis, founded A.D. 504 by Anastasius to replace Nisibis, ceded to the Persians A.D. 363. It was built near the head of, and almost completely blocking, a narrow valley running north-north-east and south-south-west. It flanked the road to Mardin.

Belisarius, aged 24, appointed General of the East by Justinian in 529, was stationed here in June, 530, when Pezozes arrived at Nisibis with a Persian army of 40,000 horse and foot, to invade the Roman empire. Reinforcements from Lebanon raised Belisarius' army to 25,000 undisciplined troops, discouraged by recent defeats. Daras was dominated on three sides by high ground. This, and the low spirits of the troops, made it unwise to stand a siege. Belisarius caused a ditch to be dug across the valley, the flanks protected by the high ground unsuited to cavalry. Openings allowed the Romans to counter-attack. In the centre a rectangular projection, like an entrenched camp, gave flanking fire across the front and protected the front and exposed flanks of



PLAN OF THE BATTLE OF DARAS, A.D. 530, IN WHICH BELISARIUS DEFEATED THE PERSIANS

two bodies of 600 Hunnish light cavalry, placed on either side of this bastion. Infantry manned the centre, and cavalry was posted on the flanks. In concealment, on the high ground beyond the Roman left (east) flank, was posted a squadron of 300 light horse, under Pharas. Belisarius kept a reserve under his own hand. The city walls gave the protection of overhead fire from the bows of the inhabitants of Daras and, probably, artillery engines.

Pezozes arrayed his host in two lines. He kept the "Immortals" in reserve. The first day the Persians looked over the situation.

It is erroneous to suppose that every shepherd called Daphnis in pastoral poetry and romance is this Daphnis.

and skirmished, but did not attack. Only a short time before, a Persian force had ridden to disaster into a similar ditch dug for them by the Ephthalite Huns. Pezozes did not like the unusual steadiness in the Roman ranks any more than he liked the ditch. Also a stream, whose bed was four feet deep, probably interfered with his power to manoeuvre. The next day reinforcements brought the Persian strength to a total said to be 50,000 men. The Persians advanced about noon. Pezozes relieved the front line with the second to keep up a continuous fire of archery, but the wind favoured the Roman bowmen. Both sides suffered heavy losses in this missile fight. The Persian horse charged the Roman left. The Roman cavalry gave way. Then the squadron of Pharas, moving along the high ground, fell on the Persian rear, and the 600 Hunnish cavalry from the left (east) angle of the central bastion, took the enemy in flank. The Persian horse was routed with heavy loss.

Belisarius noted a movement of the Persians, including the "Immortals," toward his right. He ordered the victorious Huns from the left flank to reinforce the similar detachment on the right, and added troops from his reserve. The Persian attack drove in the Roman cavalry on their front, but the Huns, charging from the west angle of the trench, penetrated between the two Persian lines and created disorder. The reinforcements sent by Belisarius charged also, and the defeated Roman cavalry rallied and counter-attacked. Surprised and almost surrounded, the Persians broke. The Roman lines now advanced across the ditch, and the victorious cavalry rolled up the Persian flank. Belisarius called an early halt to the pursuit lest his undisciplined troops might get out of hand and fall into an ambush.

This victory restored the prestige of Roman arms, raised morale and discipline, and established the reputation of Belisarius. The use of the ditch afforded security to the weakest part of the line. By its location, it protected the front, flanks and rear. It economized force by making use of the walls of Daras and the citizens to cover a possible retirement. It left the cavalry the greatest freedom of manoeuvre. Finally, it permitted a counter-attack.

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 (J. M. Sc.)

**DARBHANGA**, a town and district of British India, in the Tirhut division of Behar and Orissa. The town is on the left bank of the Little Bagmati river, and has a railway station. Pop. (1921) 53,700. The town is really a collection of villages round the residence of the Maharaja, a large modern building in extensive grounds. There are a hospital, with a medical college and a Lady Dufferin hospital attached, and a town hall and large tanks extending for over a mile. The district of Darbhanga extends from the Nepal frontier to the Ganges. Area 3,348 sq m. Pop. (1901) 2,913,529. The district consists entirely of an alluvial plain, in which the principal rivers are the Ganges, Burh Gandak, Bagmati and Little Bagmati, Balan and Little Balan, and Tiljuga. Rice is the staple crop, and the cultivator is especially dependent on the winter harvest. In 1897 a famine affected the whole district except the Samastipur subdivision, and another affected half the district in 1906-07. Indigo manufacture was formerly an important industry but has declined. Sugar cultivation and manufacture have to some extent taken its place. Tobacco is also a valuable crop. The district is traversed by the main line of the Bengal and North-Western railway. Pusa (q.v.) in the west of the district is the headquarters of the Imperial Agricultural Department.

The Darbhanga raj, which was founded in the 16th century, is a name applied to a large estate which includes parts of the districts of Darbhanga, Muzaffarpur, Monghyr, Purnea and Bhagal

... even of the romance of  
Raj Bahadur ... Da bhanga  
... in 1860, and on attain-  
ing his majority in 1862 was appointed to the Indian Statutory  
Civil Service which he resigned in 1885 in order to manage his  
estates. He was created Raja Bahadur in 1886, Maharaja Bahadur  
on his accession to the raj in 1893, and hereditary Maharaja-  
chakra in 1900. He was a member of the Executive Council of  
Bombay and Orissa from 1911 to 1917. He is the head of the  
Marathi Brahmins.

**D'ARBLAY, FRANCES (1752-1840).** English novelist and diarist better known as **FANNY BURNEY**, daughter of Dr Charles Burney (1731-1815), was born at King's Lynn, Norfolk, on June 17, 1752. Her mother was Esther Skeepe, granddaughter of a French refugee named Dubuis. Fanny was the fourth child in a family of six. Of her brothers James (1750-1827) became an admiral and sailed with Captain Cook on his second and third voyages and Charles Burney (1757-1817) was a well-known classical scholar. In 1760 the family removed to London, and Dr Burney who was now a fashionable music-master, took a house in Poland street. Mrs Burney died in 1761, when Fanny was only nine years old. Her sisters Esther (Hetty), afterwards Mrs Charles Rousseau Burney, and Susanna, afterwards Mrs Phillips, were sent to school in Paris, but Fanny was left to educate herself. Early in 1766 she paid her first visit to Dr Burney's friend Samuel Crisp at Chessington Hall near Epsom. Dr Burney had first made Samuel Crisp's acquaintance about 1745 at the house of Fulke Greville grandfather of the diarist and the two studied music while the rest of the guests hunted. Crisp wrote a play, *Virginia*, which was staged by David Garrick in 1754 at the request of the beautiful countess of Coventry (*née* Maria Gunning). The play had no great success and in 1764 Crisp established himself in retirement at Chessington Hall where he frequently entertained his sister Mrs Sophia Gast of Burford, Oxfordshire, and Dr Burney and his family to whom he was familiarly known as "daddy" Crisp. It was to her "daddy" Crisp and her sister Susan that Fanny Burney addressed large portions of her diary and many of her letters. After his wife's death in 1767, Dr Burney married Elizabeth Allen, widow of a King's Lynn wine-merchant.

From her 15th year Fanny lived in the midst of a brilliant social circle gathered round her father in Poland street and later in his new home in St Martin's street, Leicester Fields, London. Garrick was a frequent visitor and would arrive before eight o'clock in the morning. Of the various 'lions' they entertained she leaves a graphic account, notably of Ormai, the Otageitan native, and of Alexis Orlov, the favourite of Catherine II of Russia. Dr Johnson she first met at her father's home in March 1777. Her father's drawing-room, where she met many of the chief musicians, actors and authors of the day, was in fact Fanny's only school. Her reading, however, was by no means limited. Macaulay stated that in the whole of Dr Burney's library there was but one novel, Fielding's *Amelia*, but Austin Dobson points out that she was acquainted with the abbé Prévost's *Doyen de Kilérine*, and with Marivaux's *Le de Marienne*, besides *Clarissa Harlowe* and the books of Mrs. Elizabeth Griffith and Mrs. Frances Brooke. Her diary also contains the record of much more strenuous reading. Her stepmother, a woman of some cultivation, did not encourage habits of scribbling. Fanny therefore, made a bonfire of her MSS. among them a *History of Caroline Evelyn*, a story containing an account of Evelyn's mother. Luckily her journal did not meet with the same fate. The first entry in it was made on May 30, 1758, and it extended over 72 years. The earlier portions of it underwent wholesale editing in later days, and much of it was entirely obliterated. She planned out *Evelina*, or *A Young Lady's Entrance into the World*, long before it was written down. *Evelina* was published by Thomas Lowndes in the end of Jan. 1778, but it was not until June that Dr. Burney learned its authorship, when the book had been reviewed and praised everywhere. Fanny proudly told Mrs. Thrale the secret. Mrs.

Her letters to Mrs. Gast and another sister, Anne, were edited with the title of *Burney's Papers* (1906), by W. H. Hutten.

Thrale wrote to Dr Burney on July 1778. Mr John on returned home full of the Prayers of the Book I had lent him, and protesting that there were passages in it which might do honour to Richardson we talk of it for ever, and he feels ardent after the denouement, he could not get rid of the Rogue, he said. Miss Burney soon visited the Thrales at Streatham, "the most consequential day I have spent since my birth" she calls the occasion. It was the prelude to much longer visits there. Dr Johnson's best compliments were made for her benefit, and eagerly transcribed in her diary. His affectionate friendship for "little Burney" only ceased with his death.

*Evelina* was a continued success. Sir Joshua Reynolds sat up all night to read it as did Edmund Burke, who came next to Johnson in Miss Burney's esteem. She was introduced to Elizabeth Montagu and the other bluestocking ladies, to Richard Brinsley Sheridan and to the gay Mrs Mary Cholmondeley, the sister of Peg Woffington, whose manners, as described in the diary, explain much of *Evelina*. At the suggestion of Mrs Thrale, and with offers of help from Arthur Murphy and encouragement from Sheridan, Fanny began to write a comedy. Crisp, realizing the limitations of her powers, tried to dissuade her, and the piece, *The Wifings*, was suppressed in deference to what she called a "hissing, groaning, catcalling epistle" from her two "daddies." Meanwhile her intercourse with Mrs Thrale proved very exacting and left her little time for writing. She went with her to Bath in 1780, and was at Streatham again in 1781. Her next book was written partly at Chessington and after much discussion with Mr Crisp *Cecilia, or Memoirs of an Heiress*, by the author of *Evelina*, was published in 5 vols in 1782 by Messrs Payne and Cadell (who paid the author £250—not £2,000 as stated by Macaulay).

On April 24, 1783, Fanny Burney's "most judicious adviser and stimulating critic" "daddy" Crisp, died. He was her devoted friend as she was to him, 'the dearest thing on earth'. The next year she was to lose two more friends. Mrs Thrale married Piozza, and Johnson died. Fanny had met the celebrated Mrs. Delany in 1783, and she now attached herself to her. Mrs Delany, who was living (1785) in a house near Windsor castle presented to her by George III, was on the friendliest terms with both the king and queen, and Queen Charlotte soon after offered Miss Burney the post of second keeper of the robes, with a salary of £200 a year, which after some hesitation was accepted. Fanny's own misgivings as to her unfitness for court life were quite justified. From Queen Charlotte she received unvarying kindness, though she was not very clever with her waiting-maid's duties. She had to attend the queen's toilet, to take care of her lap-dog and her snuff-box, and to help her senior, Mrs Schwellenberg, in entertaining the king's equerries and visitors at tea. The constant association with Mrs Schwellenberg, who has been described as "a peevish old person of uncertain temper and impaired health, swaddled in the buckram of backstairs etiquette," proved to be the worst part of Fanny's duties. The strain told on her health, and after pressure both from Fanny and her numerous friends, Dr Burney prepared with her a joint memorial asking the queen's leave to resign. She left the royal service in July 1791 with a retiring pension of £100 a year, granted from the queen's private purse and returned to her father's house at Chelsea.

In 1792 she became acquainted with a group of French exiles, who had taken a house, Juniper Hall, near Mickleham, where Fanny's sister, Mrs. Phillips lived. On July 31, 1793, she married one of the exiles, Alexandre D'Arblay, an artillery officer, who had been adjutant-general to La Fayette. They took a cottage at Bookham on the strength, it appears, of Miss Burney's pension. In 1793 she produced her *Brief Reflections relative to the Emigrant French Clergy*. Her son Alexandre was born on Dec. 13, 1794. In the following spring Sheridan produced at Drury Lane her *Edwy and Elgiva*, a tragedy which was not saved even by the acting of the Kembles and Mrs Siddons. The play was never painted. Madame D'Arblay issued her next novel, *Camilla: or A Picture of Youth* (5 vols. 1796) by subscription, by which she made over £2,000. Jane Austen was among the subscribers. Unfortunately its literary success was not great.



second play, *Love and Fashion*, was actually put in rehearsal in 1799 but was withdrawn in the next year. In 1801 Madame D'Arbly accompanied her husband to Paris where he eventually obtained a place in the civil service. In 1812 she returned to England, bringing with her her son Alexandre to escape the conscription. In 1814 she published *The Wanderer; or Female Difficulties*. Possibly because readers expected to find a description of her impressions of revolutionary France it had a large sale, from which the author realized £7,000. Nobody, it has been said, ever read *The Wanderer*. At the end of that year she returned to France. During the Hundred Days of 1815 she was in Belgium, and the vivid account in her *Diary* of Brussels during Waterloo may have been used by Thackeray in *Vanity Fair*. General D'Arbly now received permission to settle in England. After his death at Bath on May 3, 1818, his wife lived in Bolton street, Piccadilly. There she was visited in 1826 by Sir Walter Scott, who describes her (*Journal*, Nov. 18, 1826) as an elderly lady with no remains of personal beauty, but with a gentle manner and a pleasing countenance. The later years of her life were occupied with the editing of the *Memoirs of Dr Burney*, arranged from his own Manuscripts, from family papers and from personal recollections (3 vols., 1832). Her style had, as time went on, altered for the worse, and this book is full of extraordinary affectations. Madame D'Arbly died in London on Jan. 6, 1840 and was buried at Walcot, Bath, near her son and husband.

Madame D'Arbly's best title to the affections of modern readers is the *Diary and Letters*. Dr Johnson lives in its pages almost as vividly as in those of Boswell, and King George and his wife in a friendlier light than in most of their contemporary portraits. Croker, in *The Quarterly Review*, April 1833 and June 1842, made two attacks on Madame D'Arbly. The first is an unfriendly but largely justifiable criticism on the *Memoirs of Dr Burney*. In the second, a review of the first three volumes of the *Diary and Letters*, Croker abused the writer's innocent vanity, and declared that, considering their bulk and pretensions, the *Diary and Letters* were "nearly the most worthless we have ever waded through." These pronouncements drew forth the eloquent defence by Lord Macaulay, first printed in *The Edinburgh Review*, Jan. 1843, which perhaps did more than anything else to maintain Madame D'Arbly's constant popularity.

**BIBLIOGRAPHY**—The *Diary and Letters of Madame D'Arbly* was edited by her niece, Charlotte Frances Barrett, in 7 vols. (1842-46). The text, covering the years 1778-1810, was edited with preface, notes and reproductions of contemporary portraits and other illustrations, by Mr. Austin Dobson in 6 vols. (1904-05). This *Diary*, which begins with the publication of *Evania*, was supplemented in 1889 by *The Early Diary of Frances Burney (1758-78)*, which in the first instance had been suppressed as being of purely private interest, edited by Mrs. Anne Raine Ellis, with an introduction giving many particulars of the Burney family. Mrs. Ellis also edited *Ecclina* for "Bohn's Novelist's Library" in 1881, and *Cecilia* in 1882. See also Austin Dobson, *Fanny Burney (Madame D'Arbly)* (1903), in the "English Men of Letters Series"; S. E. Burney, *The Early Diary of Frances Burney*, with a selection from the journals of her sisters Susan and Charlotte Burney (1907); F. F. Moore, *The Keeper of the Robes*, (1911); C. B. Tinker, *Dr Johnson and Fanny Burney* (1912); F. B. Macaulay, *Essay on Frances Burney* (1919); R. B. Johnson, *Fanny Burney and the Burneys* (1926).

**DARBOUX, JEAN GASTON** (1842-1917), French mathematician, was born at Nîmes on Aug. 13, 1842. His father died in 1849, and under the guidance of his mother, and with her encouragement, he was educated at the Ecole Normale, Paris. Pasteur became interested in Darboux, and created a teaching post for him at the Ecole Normale. After acting as assistant to Bertrand in the chair of mathematical physics at the Collège de France (1866-67) he became successively professor of mathematics at the lycée Louis le Grand (1867-72), Maître de conférences at the Ecole Normale (1872-73), assistant to the professor of rational mechanics at the Sorbonne (1873-80), professor of higher geometry at the Sorbonne (1880-89), dean of the faculty of science (1889-90) and perpetual secretary of the Academy of Science. Darboux, besides being an excellent teacher and a notable mathematician, was also a very capable organizer. His two posts he held gave him ample scope in this. He died in Paris on Feb. 25, 1917.

Practically all his mathematical work was on geometry, his early papers (1864 and 1866) were on orthogonal surfaces, these were followed by a memoir on partial differential equations of the second order (1870), which embodied a new method of integration. In his treatise *Sur une Classe remarquable des courbes* (1873) Darboux developed the theory of the class of surfaces called cycloïdes. *Leçons sur la Théorie générale des surfaces et les applications géométriques du calcul infinitésimal* (4 vols., 1887-96) is one of Darboux's most important works, dealing with infinitesimal geometry, it embodies most of his previous research work. In 1893 the publication of *Leçons sur les systèmes orthogonaux et les coordonnées curvilignes* was commenced. Darboux was the author of a number of papers and memoirs on the approximation to functions of very large numbers, on discontinuous functions and on other subjects.

Darboux held honorary degrees of many foreign universities, he was a foreign member of the Royal Society and in 1916 was awarded the Sylvester Medal.

**DARBOY, GEORGES** (1813-1871), archbishop of Paris, was born at Fayl-Billot in Haute Marne on Jan. 16, 1813. He was appointed bishop of Nancy in 1859, and in January 1863 was raised to the archbishopric of Paris. The archbishop was a strenuous upholder of episcopal independence in the Gallican sense, and sought to suppress the jurisdiction of the Jesuits and other religious orders within his diocese. At the Vatican council (1869) he strongly opposed the dogma of papal infallibility, against which he voted as inopportune. When the dogma had been finally adopted, however, he submitted. During the Franco-Prussian War he organized relief for the wounded and remained at his post during the siege of Paris and the brief triumph of the Commune. On April 4, 1871, he was arrested by the Communards as a hostage and confined in the prison at Mazas, from which he was transferred to La Roquette on the advance of the army of Versailles. On May 27 he was shot within the prison along with other hostages. He died in the attitude of blessing and uttering words of forgiveness. His body was recovered with difficulty and received a public funeral (June 7). Darboy was the third archbishop of Paris who perished by violence between 1848 and 1871. He wrote a *Vie de St. Thomas Becket* (1859) and translated the works of St. Denis the Areopagite and the *Imitation of Christ*.

See J. A. Foulon, *Histoire de la vie et des œuvres de Mgr. Darboy* (1889), and J. Guillermin, *Vie de Mgr. Darboy* (1888), biographies written from the clerical standpoint.

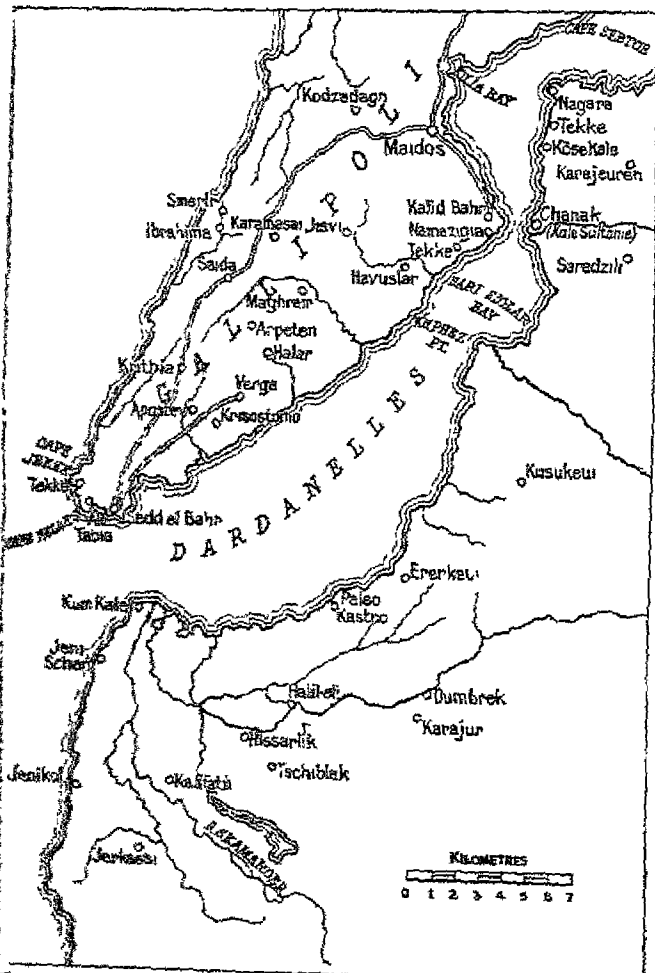
**DARBY**, a borough of Delaware county, Pa., U.S.A., on the south-west border of Philadelphia, near the Delaware river, served by the Baltimore and Ohio, and the Pennsylvania railways. It is a residential suburb and has factories making cotton and woollen goods, yarn, motor boats, pearl buttons and water filters. Its population was 7,922 in 1920, and was estimated locally at 10,000 in 1928. Darby was settled by eight Friends, in 1682, and has one of the oldest libraries in the country. It was incorporated in 1853, but most of its development has taken place since 1900.

**DARCY, THOMAS DARCY, BARON** (1467-1537), English soldier, was a son of Sir William Darcy (d. 1488). In 1505, having been created Baron Darcy, he was made warden of the east marches towards Scotland. In 1511 Darcy led some troops to Spain to help Ferdinand and Isabella against the Moors, but he returned almost at once to England, and was with Henry VIII. on his French campaign two years later. Darcy, who was one of the most powerful nobles on the border, was also a member of the royal council, dividing his time between state duties in London and a more active life in the north. He brought forward accusations against his former friend, Cardinal Wolsey, however, after the cardinal's fall his words and actions caused him to be suspected by Henry VIII. Disliking the separation from Rome, Darcy asserted that matrimonial cases were matters for the decision of the spiritual power, and he communicated with Eustace Chapuys, the ambassador of the emperor Charles V., about an invasion of England in the interests of the Roman Catholics. Detained in London by the king, he was not allowed to return to Yorkshire until late in 1535, and about a year after his arrival in the north the rising known as the Pilgrimage of Grace broke out. For a short time Darcy defended Pontefract Castle against

he rebels but soon he surrendered to them this stronghold, which he could certainly have held a little longer, and was with them in Dardanelles being regarded as one of their leaders. Darcy may have assisted to suppress the rising which was renewed under Sir Francis Bagenet early in 1537 but the king believed probably with good reason that he was guilty of fresh treasons and he was seized and hurried to London. Tried by his peers Darcy was found guilty of treason and was beheaded on June 20 1537.

**DARDANELLES** (Turk *Çanakkale*), the chief town of a Turkish vilayet which includes the peninsula of Gallipoli (qv) the ancient Troad and the adjoining islands. Pop. (1927) 18,740. It is situated at the mouth of the Rhodius and at the narrowest part of the strait of the Dardanelles, where its span is but a mile across. The pottery trade, from which the town derived its Turkish name (*Çanakkale* means 'pot in Ottoman') has declined in importance. Valonia and cereals are the chief products of this region.

**DARDANELLES** (Turk *Bahr-Sefed Boghazi*), the strait (anciently called the Hellespont) that unites the Sea of Marmora with the Aegean. The city of Dardanus in the Troad, where Mithradates and Sulla signed a treaty in 84 B.C. gave the strait its name. The shores are formed by the peninsula of Gallipoli on the north-west and by Asia Minor on the south-east; it extends for a distance of about 47 m with an average breadth of 3 or 4 miles. At the Aegean extremity stand the castles of Sedir Bahr and Kum Kaleh respectively in Europe and Asia; and near the Marmora extremity is the town of Gallipoli (Callipolis) on the northern shore and that of Lampsaki or Lapsaki (Lampsacus) on the southern. The two most famous castles of the Dardanelles



THE STRAIT OF THE DARDANELLES WHICH IN WAR TIME CAN BE MADE ALMOST IMPREGNABLE

are Chanak-Kalehsi, Sultanieh-Kalehsi, or the Old Castle of Anadolis, and Kilid-Bahr, or the Old Castle of Ramelia. The strait has long been a scene in history since the passage of the fleet of Xerxes in 480 B.C. It is the scene of the story

of Hercules and Leander, and of Byron's successful attempt to rival Leander. The strategic importance of the strait has always been very great, since it is the gateway to Constantinople and the Black Sea from the Mediterranean. Although easily capable of defence, the strait was forced by the English admiral, Sir J. T. Duckworth, in 1807; and during the World War a British submarine under the command of Lieutenant-commander Stoker penetrated through the Turkish minefields and sank a Turkish battleship off the Golden Horn. Its strategic importance has given to it an international political importance that has found expression in what is known as the Straits (Dardanelles and Bosphorus) Question (qv). (I F D M)

**DARDANELLES CAMPAIGN.** This campaign, brought about by a desire on the part of the Allies that communications should be opened up from the Mediterranean into the Black sea with a view to assisting Russia, was begun in Feb. 1915 as a purely naval undertaking (See WORLD WAR, Naval).

But it had been realized from the outset that, even should the warships succeed in attaining their object, land forces would sooner or later be required to aid in the campaign, if only to secure the communications of the fleet after it had passed into the Sea of Marmora. Before the failure of the naval attack of March 18, Allied troops had been set in motion for the Aegean. Some were already in Lemnos, and Sir Ian Hamilton, chosen as commander-in-chief of the military contingents had arrived in time to witness the fight of the 18th. In view of its result, the Allied Governments decided that from this time onwards the gathering army must assume the principal rôle in the effort to secure possession of the straits. Hamilton was unable to initiate land operations at once. The Turks were making preparations to repel landings on both sides of the straits, while the troops at his disposal were partly in Egypt, partly at Lemnos, and partly on the high seas, en route from their respective bases in England and France.

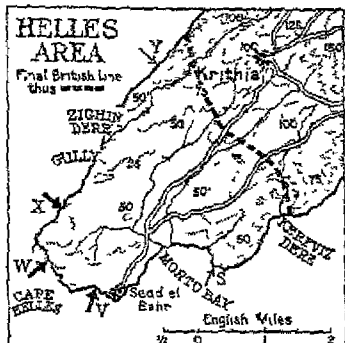
**Organization in Egypt.**—He decided therefore that his army must in the first place be concentrated in Egypt, to be organized for the hazardous undertaking to which it was about to be committed, and that it must then be disposed in transports in accordance with tactical requirements in anticipation of a landing in face of the enemy. A month was lost in consequence. During that month the Turkish army was formed (March 24) to guard the straits. Marshal Liman von Sanders, head of the German military mission in Turkey was appointed its commander-in-chief, and under his instructions the defence system, organized in consequence of the warning offered by the naval operations, was overhauled and developed.

The Allied force was composed of five divisions—two (the 29th and the Royal Naval) furnished by the United Kingdom, two formed of Australian and New Zealand troops, and one composed of French colonial troops. Against this force Liman von Sanders could pit six divisions, but these were perforce dispersed: two (3rd and 11th) were watching the coast on the Asiatic side, two (5th and 7th) were near Bulair to guard against a landing at the neck of the Gallipoli peninsula, while the remainder (9th and 13th) were disposed towards its southern end.

**I. THE FIRST LANDINGS**

The expeditionary force concentrated in Mudros bay, Lemnos, in the third week of April. Hamilton contemplated two distinct major operations to secure a footing on the Gallipoli peninsula. The 29th Div., supported by the Royal Naval Div., was to be put ashore at its extremity, an area which it is convenient to designate as Helles; the Australian and New Zealand Divs. under Sir W. Birdwood were to land just north of Gaba Tepe, where there are extensive beaches. But part of the one available French division was furthermore to effect a descent at Kum Kale, opposite Helles, as a subsidiary operation, subsequently being transferred to Helles. After a short delay, enforced by bad weather, the armada put to sea during the nights of April 23-24 and 24-25, so that the transports and the covering warships should arrive at their various rendezvous at or before dawn on the 25th, and the day broke calm after a placid night.

**Landing at Cape Helles.**—Five points had been selected in the Helles area for attack. Enumerating from right to left the beaches were "S" in Morio bay, "V" and "W" on either side of Cape Helles, and "X" and "Y" on the outer shore. The attacks at "S" and "V" were intended to be subsidiary, but great importance was attached to "W" and "Y," as those two beaches offered the most suitable landing places from the point of view of subsequent operations. Owing to its vicinity to "W," "X" was calculated to play a very prominent part in the affair as a whole. Covered by the fire of battleships and cruisers, the troops started in flotillas of boats soon after dawn for all points, and, as it turned out, the actual disembarkations at "S," "X" and "Y" were carried out without any great difficulty. But at "W" the troops gained a footing only after incurring heavy loss, while at "V," where a large part of the landing force was carried in the steamer "River Clyde" which was run ashore, the effort nearly failed altogether. After hard fighting all day the position at nightfall was that the troops landed at "W" and "X" beaches had joined hands and that a battalion was established at "S," while the situation at "V" was critical, as also at "Y"; but during the night more troops were got ashore at "V," and those at "Y" were safely withdrawn and re-embarked next morning. Losses had been severe.



MAP SHOWING THE LANDING BEACHES S, V, W, X, Y, AT GAL-LI POLI

**Landing at Kum Kale.**—In the meantime a French brigade had, after a tough struggle, effected a lodgement at Kum Kale (Qum Qale). The Turks were in strong force here, so that any advance by the French was out of the question, but their presence on the Asiatic side was being indirectly helpful to secure a footing on the further shore. Some little progress was made on the morrow in spite of determined resistance by the enemy, additional troops were landed, and during the night the French were withdrawn from Kum Kale and they were landed at "V" beach on the 27th. On that day the Allies' line was again advanced by a few hundreds of yards, but the Turks had received substantial reinforcements in this quarter, and but little ground was gained when Hamilton ordered a fresh attack on the 28th. The invaders had suffered very heavy losses during the initial landing and the subsequent strenuous encounters, and there were no reserves on the spot to fill the gaps that had been created in the ranks.

**Landing at Anzac.**—Birdwood's divisions had in the meantime effected a lodgement to the north of Gaba Tepe. The actual disembarkation had in this case been started before dawn on the 25th at a point about a mile and a half north of the Gaba Tepe promontory, and at a spot where the hills rose abruptly from the actual beach which came to be known as Anzac. A haphazard line on the heights immediately above the beach had been secured at once, the Turks being in weak force at the moment when the advanced parties of invaders reached the shore, but the defenders were able to hurry reinforcements to the point of danger and the actual area secured was of limited extent. Won practically at the first blow, it provided but a scanty water supply, it presented great inconveniences and its beach was much exposed in the event of bad weather setting in; it was but slightly extended during the following three months, for Liman von Sanders realized that owing to its proximity to the narrows of the Dardanelles, it represented a very serious danger to the Turks, and he took steps accordingly. Although the Ottoman troops delivered vigorous counter-attacks on the 26th, these were beaten off with loss to the assailants, and by the night of April 27-28 the position of which Birdwood had contrived to gain possession had come to be, tactically, fairly secure.

Hamilton thus gained a somewhat precarious footing at two points of the peninsula. But his two forces were some 15m.

apart, and what amounted to little more than a patch of ground had been won in either case. His intentions were now completely exposed to the enemy and the great advantage of surprise had passed away without his force having established itself in a dominating position capable of being turned to satisfactory account in subsequent operations. In both areas the Turks enjoyed the tactical command, they were at least equal in force to the Allies, their guns were able to bear with effect upon the beaches used as landing places and advanced bases, and, although at this time of the year the weather was generally calm, these beaches provided but inadequate facilities for the landing of ammunition, armament or stores.

**Reinforcements.**—Early in May the Allies' contingents planted in the Helles area were strengthened by the arrival of the British 42nd Div., an Indian brigade, and the French 2nd Division. Some ground was gained on May 6 and during the next day or two determined counter-attacks on the part of the enemy were effectually repulsed. The two French divisions were occupying the right of the line, next to the straits, and that arrangement held good up to the time when the Gallipoli peninsula was finally evacuated early in January in the following year. Both here and facing the Australasian troops at Anzac the Turks had dug themselves in, establishing elaborate defences, and trench warfare was becoming the order of the day.

During the month a state of stalemate set in, and although ground was gained by the Allies in attacks delivered in the Helles area on June 4, 21 and 28 and during the month of July the line was gradually pushed forward near Krithia, the situation was so unpromising that the British Government, decided to send five more divisions (10th, 12th, 13th, 53rd and 54th) to the Aegean. These arrived at the islands of Mytilene and Imbros during the closing days of July and the first days of August. Hamilton's artillery was at the same time strengthened, and his very inadequate ammunition supply somewhat improved. But Liman von Sanders was likewise receiving reinforcements, and, although the Ottoman maritime communications with the Gallipoli peninsula were from time to time imperilled by the submarines of the Allies, the relative strength of the two opposing armies facing each other in the theatre of war was not, as it turned out, greatly affected by the appearance of the fresh troops sent out from England to these waters. The Allies, in view of the coming of reinforcements, treated July as a month of preparation, although a general attack was delivered by them in the Helles area by which a little ground was gained. A few days later the first of the reinforcing divisions, the 13th, arrived and was landed at Helles as a temporary measure.

## II. SARI BAIK AND SUVLA BAY

How to employ the fresh divisions coming out from home had to be decided by Hamilton. The French had from the outset favoured operations on the further side of the straits, and there was something to be said for such a plan of campaign. But a descent in that quarter must involve a disembarkation in face of opposition, the peril of which had been made apparent on April 25, moreover, granting the landing to be successful, the forces would start work much farther from the narrows of the Dardanelles, the objective, than were either Helles or Anzac. There were also not wanting inducements for the Allies to attempt a landing at Bulair, seeing that their presence at that point would carry with it the severance of the Turkish land communications with the peninsula. But this would likewise mean a landing in face of opposition, and the distance of Bulair from the Island of Imbros, the nearest base of operations for the peninsula, provided a strong argument, from the point of view of ship transport, against such an undertaking. Moreover, a landing either on the Asiatic side or at Bulair meant a dispersion of the Allies' forces as a whole, unless Helles or Anzac, or both of them, were to be abandoned; and the fact that the Ottoman commander-in-chief had to be prepared for his opponent adopting one of these two plans, offered a strong argument against selecting either of them, apart from any other considerations as to their factual advantages or disadvantages.

# DARDANELLES CAMPAIGN

**British Plans.**—Hamilton decided that his great effort should be made at and immediately north of Anzac. The rugged bluffs on which Birdwood's men had taken root since April were spurs of a tangled mountain mass known as Sari Bair from the topmost ridges of which the narrows were visible four or five miles off. Anzac was moreover situated almost at the narrowest point of the peninsula. The plan was to reinforce Birdwood secretly by a division and a half (the 13th and part of the 10th) and that, thus strengthened, he should secure possession of Sari Bair by a night attack. A further force (the 11th Div and the rest of the 10th) was on that same night to effect a landing at an entirely new point—Suvla Bay—a few miles north of Anzac, where the Turks were known to be few. This force was to assist the troops attacking Sari Bair in due course and the possession of Suvla Bay would furnish troops ashore in and about this area with a much more sheltered landing place than the beaches about Anzac offered. The last divisions to arrive the 53rd and 54th, were to be employed wherever should seem best after the offensive had begun; to lead the whole of the reinforcements simultaneously would not have been practicable with the amount of water transport available.

The utmost secrecy was observed by the Allies' staff. Steps were taken to mislead the Ottoman authorities by means of feints and of reconnaissances executed at localities other than those selected for operations. False reports were circulated assiduously by the intelligence department. Liman von Sanders was well aware of the arrival of large bodies of British troops in the islands; but he remained in complete ignorance of his rival's real design until this was actually in course of execution. He had organized his forces as a southern group watching Anzac, while two divisions were retained near Bulair, where he was disposed to anticipate that the blow would fall. There were also large bodies of Turkish troops in reserve about Chanaq, and others about Kum Kale and Besika bay. Numerically the contending armies at this critical juncture were about equal, but the Turks were necessarily much dispersed, so that the result of the impending clash of arms really hinged upon the speed with which the attacking side should gain ground before the defenders had time to concentrate.

The Allies' offensive started on Aug. 6 with two preliminary enterprises. An onset was made upon part of the Turkish lines in the Helles area. Portions of Birdwood's force broke out of the southern end of the Anzac position and gained ground. But the real purpose of the two operations was to occupy the enemy's attention and to conceal a design of much greater moment.

**Attack on Sari Bair.**—So deviously had the assembling of the reinforcements in the Anzac area been effected that the Turks were entirely unaware that Birdwood's army had been nearly doubled. The plan for gaining possession of the Sari Bair mountain was that several columns were to move out from the northern end of the Anzac position at nightfall on Aug. 6 and, on reaching their appointed stations, were to wheel to the right and to work their way in the dark up certain steep but well-defined gullies that led up to the summit. But although the Turks were to some extent surprised and although the outlets of the gullies were in consequence in the assailants' hands by midnight, so stubborn a resistance was offered by the defenders that by day-break the columns were not much more than half way up, and all attempts to win the upper ridges failed on the 7th in the face of the Turkish reinforcements.

After a rearrangement of the troops during the night the offensive was resumed on Aug. 8; but except at one point very little progress was made. After a fresh reorganization during the dark hours another effort was made on this occasion. As fought out the Turkish troops were now opposed to the Allies' strenuous efforts for all the day. The Anzac direction

as a result of the operations. **Landing at Suvla Bay.**—Stirring events had in the meantime been taking place around Suvla Bay. The troops detailed for the landing in this quarter belonged to the British "New Army", they were not conversant with active service conditions, and they were being highly tried in being called upon to execute a landing in force at night in face of opposition. There was indeed no precedent for an undertaking of this kind under modern tactical conditions, but the Turks were known not to be in sufficient strength to offer serious resistance. As it was the whole of the 11th Div. was ashore before dawn, but the urgent need of pressing forward at once was not realized by the local commanders, and some confusion arose when the 10th Div arrived and began to disembark. No organized advance in force took place until late in the afternoon, and at nightfall the attacking force had only reached the foot of the hills lying to the east of the landing places and captured one advanced spur. The troops had suffered greatly from thirst, the arrangements with regard to water having practically broken down, mainly owing to the inexperience of the troops themselves.

**Attack in the Hills.**—When Liman von Sanders learned during the night of Aug. 6-7 that the Allies were landing in force at Suvla and were attacking Sari Bair from Anzac, he ordered the two divisions at Bulair to proceed to Suvla with all speed. But this meant a two days' march along indifferent roads. Consequently there was still on Aug. 8 a great opening left for the attacking side to complete the first part of its programme, *i.e.*, to gain possession of the heights to the east of Suvla which dominated the landing places and a considerable area of level ground around Suvla Bay. But no organized move took place. The opportunity was allowed to slip by, and that night Turkish reinforcements began to arrive from Bulair and to occupy the all-important high ground. Next morning the 10th and 11th Divs, supported in a measure by the 53rd Div, which had arrived during the night, advanced to the attack. But the effort failed, and when it was renewed on the following day the Turks had been so effectually reinforced that the offensive enjoyed little chance of achieving success. That day, Aug. 9, was the last on which there remained any hope either of the Sari Bair offensive achieving success or of the Suvla force establishing itself in a satisfactory position. This force, however, made a fresh attempt on the 10th to wrest the heights in front of it out of Osmanli keeping, but this failed completely, and further offensives in this quarter were abandoned for the time being.

Hamilton's carefully devised scheme of offensive operations had in fact come to nought in its most important features. The determined effort to secure possession of Sari Bair had miscarried. A footing had, it is true, been gained at Suvla, giving the Allies control of a fairly well sheltered inlet on the outer coast of the peninsula, but as the high ground within easy artillery range of the landing places, which overlooked the whole occupied area, remained in the hands of the Turks, much of the benefit hoped for from its acquisition was neutralized. Only a restricted patch of Ottoman territory had in fact been occupied, thanks to the new undertaking, and although the position at Anzac had been extended and improved it remained a very bad one. The Allies now occupied many miles of front in the peninsula, but there was scarcely a spot where the enemy did not enjoy the advantage in respect to ground, what the attacking forces needed from the outset was depth rather than breadth, and depth they had failed to secure. They had, moreover, incurred very heavy losses during the succession of combats lasting from Aug. 6 to 10, and, except for a mounted division coming from Egypt to fight on foot, no reinforcements were on the way; the 54th Div. had already been swallowed up at Suvla. The defending side had also, no doubt, suffered heavily in casualties, notably on Sari Bair; but Liman von Sanders could fairly claim that, even if some valuable ground had been lost by the Turks, he had held his own in a contest in which his adversary had enjoyed the initiative and had been in a position to effect a surprise.

An effort was made by the troops on the extreme left of the

Allies' position at Suvla to gain ground along the ridge north of the Suvla plain on Aug 15, but nothing came of it. Hamilton, however, did not despair of improving the situation in this area, so the mounted division from Egypt and another division from Helles were quietly concentrated there in support of the troops already on the spot, and on the 21st a determined attempt was made to capture some of the high ground which had baffled the

theatre. A temporary change of plan did occur a few days later owing to a French proposal to despatch four divisions to the scene to operate on the Asiatic side of the straits, whereupon the British Government became disposed also to send fresh divisions.

III. EVENTS IN THE BALKANS AND EVACUATION

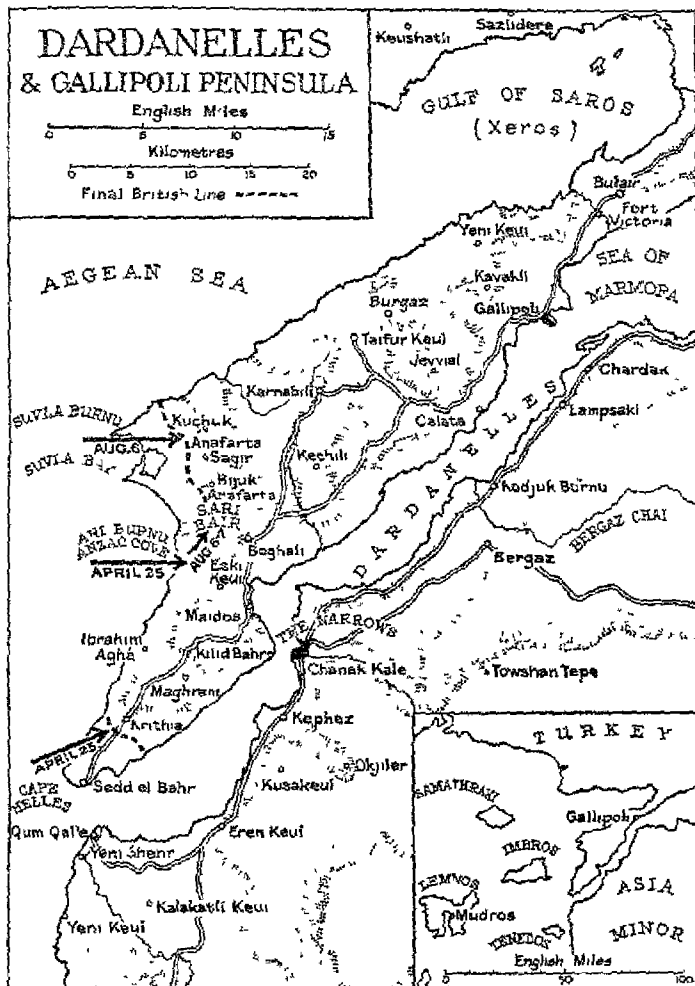
These projects were dropped early in September, owing very largely to the threatening aspect of affairs in the Balkans (See SALONIKA CAMPAIGNS SERBIAN CAMPAIGNS)

The campaign by which the Central Powers and Bulgaria overwhelmed the Serbians for the time being, and by which direct communications were opened through Bulgaria between Austria-Hungary and the Ottoman empire, profoundly influenced the situation in the Gallipoli peninsula to the disadvantage of the Allies. Not only was all idea of reinforcing the Allied army that was planted in this region abandoned, but some of Hamilton's troops had before long been transferred to Salonika. The linking up of Turkey with the Central Powers by railway, moreover, connoted that Liman von Sanders would speedily be furnished with ample munitions of all kinds, which would make the prospect of Anglo-French forces gaining possession of the straits remoter than ever.

**Withdrawal Discussed.**—By the middle of September the Paris Government had come to the conclusion that there was now no hope of victory in the Dardanelles theatre; but the British cabinet, influenced by anxiety as regards prestige in the East and by disinclination to abandon an enterprise in which great sacrifices had been incurred and from which much had at one time been expected, could not make up its mind to cut losses and to withdraw. On Hamilton being asked to give his views concerning the question of evacuation, he pronounced himself as emphatically opposed to such a step, so Sir C. Monro was sent out from England to take his place. The new commander-in-chief, impressed by the very unsatisfactory positions occupied by the Allied troops, by the impossibility of their making any progress at their existing strength, and by the risks that the army ran by clinging to such a shore without any safe harbour to depend upon for base in stormy weather, declared unhesitatingly in the closing days of October for a complete withdrawal after examining the situation on the spot and consulting with Birdwood, Byng and Davies.

The British cabinet would not accept the recommendation, and sent Lord Kitchener to investigate and report. He had viewed proposals to abandon the campaign with alarm; but after visiting the peninsula he realized that evacuation was the only justifiable course, and reported to that effect. All this time winter was drawing nearer and the need for a prompt decision was becoming more and more urgent, but the authorities in London lost another fortnight before, on Dec. 8, they at last sent instructions to Monro to withdraw from Suvla and Anzac, while retaining Helles.

**Evacuation of Suvla Bay and Anzac.**—Anticipating orders to this effect, Monro had already made certain preparations for evacuation, and, as he was also responsible for the British forces at Salonika, had placed Birdwood in command, Gen. Godley relieving Birdwood at Anzac. It was recognized that the withdrawal of the vast accumulation of stores about the beaches, and also of the bulk of the actual troops, must be carried out gradually on successive nights, and this process was at once set on foot both at Suvla and at Anzac. The decision came to as to the final stage of the operation was that the front trenches should be held up to the last on the night of definite evacuation, and that the troops manning them should hasten straight to the beaches, everything removable having already been embarked; at a given moment the trenches (which at many points were but a few yards from those occupied by the Turks) would be vacated by detachments which by that hour would have shrunk to mere handfuls of men. The final night was provisionally fixed as that of Dec. 18-19, and, thanks to favourable weather and to the efficiency of the arrangements, the evacuation of the peninsula was carried out with triumph. The evacuation had been laid down by programme ten days before, and on the night the landing places were scenes of



THE THREE THEATRES OF WAR ON THE GALLIPOLI PENINSULA CAPE HELLES, ANZAC BEACH, AND SUVLA BAY

attempts of the invaders on the 9th and 10th. Large forces were engaged on either side in this battle, and the attack was prepared by a heavy bombardment of the Ottoman trenches, in which warships moored in Suvla bay, where they were secure from submarines, participated. But after a sanguinary encounter the assailants met with a decisive rebuff, and from that date onwards no serious offensive operation was attempted by the Allies in the Dardanelles campaign. The conditions of stalemate which had prevailed before the arrival of the five new divisions from England set in afresh and continued to the end.

As a consequence of the failure at Suvla during the early days of its occupation certain changes in command were carried out, Gen. Byng, especially sent out from home for the purpose, taking over command in this area. Gen. Davies was in command at Helles, and, as the right of the Suvla force was in touch with the left of the Anzac force in the low ground near the shore, Byng and Birdwood now held a continuous front extending from a point on the coast about 3m N.E. of Suvla bay near to Gaba Tepe, overlooked for practically the whole of its length by high ground in occupation of the Turks. Owing to the losses that had been suffered during the August combat and even before the final reverse of Aug 21, Hamilton had cabled home asking for reinforcements and for the very large drafts needed to bring his depleted units up to their war establishment, amounting to a total of 95,000 men. He had however been informed that no large bodies of fresh troops could be sent to the Dardanelles

increasing activity as war material, food supplies, animals and finally large bodies of troops, were got away. During the day-time runners took place as usual, pretences were made of landing stores and animals, and the result was that the Turks remained in complete ignorance of what was passing close to their lines. On Dec 18 only a meagre force composed almost entirely of infantry and disposed almost entirely in the front trenches, was having a front to front, face to face with an enemy incomparably stronger in numbers.

At nightfall the very few guns not yet withdrawn were hurried off to the beaches, then the troops along the front were quietly withdrawn by successive detachments. Finally the parties still in the trenches slipped away, and when dawn broke the Turks discovered that the invaders were gone. Practically nothing worth mentioning had been left behind at Suvla and at Anzac, where conditions were more difficult, only a very few worn-out guns had to be abandoned and some valuable war material destroyed. The relaxing by the Allies of their iron hold upon a strip of the outer coast-line of the Gallipoli peninsula had been effected more successfully than the most sanguine amongst them had permitted themselves to hope.

Yet for a week subsequent to the good news reaching them, the British Government remained irresolute with regard to the policy to be pursued at Helles. Then however, Monro received the expected sanction for evacuating that area likewise, and Birdwood promptly grappled with this fresh problem, a problem rendered more difficult than the last owing to Liman von Sanders having full warning of what might be expected and, moreover, now enjoying an enormous preponderance in force. He had 22 divisions available, while there were only four left to oppose him.

**Evacuation of Cape Helles.**—The same principles as had been adopted by Byng and Godley at Suvla and Anzac were put in practice at Helles, the withdrawal of stores, war material, animals and personnel being carried out on successive nights. While the front trenches were to be held up to the last, the fighting force ashore was to be gradually reduced and the detachments holding the front trenches were at the given hour on the last night fixed provisionally for that of Jan 8-9, to vacate them and hurry straight off to the beaches. But the weather was none too favourable on several of the preliminary nights, and the enemy's guns gave a good deal of trouble on the beaches, causing many casualties. The Turks were aware that a withdrawal was gradually being carried out, but they could not tell which would be the final night, nor could they make sure how far the number of combatants within the British lines had been reduced. So, with the intention of ascertaining the strength of their opponents, on Jan 7 they delivered a half-hearted attack upon the left of the British position. This was beaten off, and they came to the mistaken conclusion that the final evacuation was not imminent.

Shortly after dark set in on the night of Jan 8-9 the wind rose ominously. Nevertheless the guns remaining to be embarked were got off, the infantry followed, and the last detachments quitted the front trenches at 11.45 P.M., without the Turks noting their departure. But when they reached the shore it was found, in the case of those detailed for Gully Beach, that embarkation there was impracticable, so these had to march to "W" Beach and they were not afloat till after 4 A.M., only being got off with great difficulty owing to the surf. Several worn-out guns had been intentionally left behind, besides much ordnance material and foodstuffs, but practically all of this was rendered unserviceable, for, just as the last boats were lowered off, the masses of stores were set on fire, and only then did the Turks discover that their opponents had evaded them a second time. The withdrawal from Helles had been a masterly military and naval achievement.

#### IV. CONCLUSIONS

Most authorities on war agree that the failure of the Allies in this memorable campaign was primarily due to the abortive naval effort to force the Dardanelles. This gave the Turk such warning of what was in store for him when Hamilton's army was ready to take the offensive, that he was in a position to bring it at once to a successful conclusion. Success after that lay in very sub-

stantial reinforcements reaching the scene promptly. But neither the British nor the French would divert the requisite military resources from the main theatre of war at the moment and when some additional troops were sent later, their numbers were insufficient and it was too late.

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**DARDANUS**, in Greek legend, son of Zeus and the Pleiad Electra, mythical founder of Dardanus on the Hellespont and ancestor of the Dardans of the Troad and, through Aeneas, of the Romans. His original home was supposed to have been Arcadia. Having slain his brother Iasus or Iasion (according to some legends, Iasus was struck by lightning), Dardanus fled across the sea. He first stopped at Samothrace, and, when the island was visited by a flood, crossed over to the Troad. Being hospitably received by Teucer, he married his daughter Batea and became the founder of the royal house of Troy.

See articles in Pauly-Wissowa's *Realencyklopädie* and Roscher's *Lexikon der Mythologie*.

**DARDIC LANGUAGES**, the name of a family of languages spoken immediately to the south of the Hindu Kush, and north of the frontier of British India, includes the group of Kafir languages spoken in Kafiristan, Khowar, spoken in the Chitral country, and the group of Shinā languages, which includes the Shinā of Gilgit, Kohistani, spoken in the Kohistan of the Indus and Swat rivers, and Kashmiri. Of all these Kashmiri is the only one which has received any literary cultivation. The Dardic languages are Aryan by origin, but are neither Iranian nor Indo-Aryan. They have developed phonetic peculiarities, and possess almost unaltered and in common use words which in India are seldom found except in Vedic Sanskrit. In each there is a small but unimportant element of Burushaski (q.v.).

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**DARDISTAN**, a conventional name for a tract of country on the north-west frontier of India. It comprises the whole of Chitral, Yasin, Panyal, the Gilgit valley, Hunza and Nagar, the Astor valley, the Indus valley from Bunji to Batera, the Kohistan-Malazai, i.e., the upper reaches of the Panjkora river, and the Kohistan of Swat. The so-called Dard races are referred to by Ptolemy and Strabo, and are supposed to be a people of Aryan origin who ascended the Indus valley from the plains of the Punjab, reaching as far north as Chitral, where they dispossessed the Khos. They have left their traces in the different dialects, Khowar, Burushki and Shma, spoken in the Gilgit agency.

**DARES PHRYGIUS**, according to Homer (*Iliad*, v. 9) a Trojan priest of Hephaestus. He was supposed to have been the author of an account of the destruction of Troy, and to have lived before Homer (*Aelian, Var. Hist.* xi. 2). A work in Latin purporting to be a translation of this and entitled *Dareti Phrygi de excidio Troiae historia*, was much read in the middle ages and was then ascribed to Cornelius Nepos; but the language is corrupt, and the work belongs to a period much later than the time of Nepos (probably the 5th century A.D.). It is doubtful whether the work as we have it is an abridgment of a Latin work or an adaptation of a Greek original. Together with the similar work of Dictys Cretensis (with which it is generally printed) the *De excidio Troiae historia* forms the chief source for the numerous middle age accounts of the Trojan legend. (See **DICTYS**, and O. S. von Fleschenberg, *Daresstudien*, 1908.)

**DAR-ES-SALAAM**, a city of East Africa, in 6° 50' S. 39° E. capital of Tanganyika Territory. Pop. (192 ) about

5,000 including some 600 Europeans and 1,000 Asians. The harbour is small but perfectly sheltered (hence its name). In entrance to it is through a narrow opening in the palm-covered shore. The depth of water at the entrance is from 20 to 34 ft according to the tides. Since 1927 a wharf 300 ft long has been made where ships can berth. A railway (built 1905-1914), starting from the harbour goes via Tabora to Kigoma-Ujiji on Lake Tanganyika, a distance of 772 miles.

In 1850 Sayyed Majid, sultan of Zanzibar, decided to build a town on the shores of the bay, and began the erection of a palace, which was never finished. In 1871 Majid died, and his scheme was abandoned. In 1876 the construction of a road from the harbour to Victoria Nyanza was begun. The project failed, but in 1928 the port came into railway connection with Victoria Nyanza by the completion of the Tabora-Mwanza line. In 1887 Carl Peters occupied the bay for the German East Africa Company and in 1891 Dar-es-Salaam was made the administrative centre for German East Africa. A town was laid out on an ambitious scale, and it has fine buildings and a good botanical garden, the native quarter is distinct from that of the Europeans. Dar-es-Salaam was occupied by the British forces in 1916, the wireless station was destroyed in 1914.

**DARESTE DE LA CHAVANNE, CLÉOPHAS** (1820-1832), French historian, was born in Paris. Educated at the École des Chartes, he became professor in the faculty of letters at Grenoble in 1844, and in 1849 at Lyons, where he remained nearly 30 years. His works comprise: *Histoire de l'administration en France depuis Philippe-Auguste* (2 vols., 1848), and a *Histoire de France* (3 vols., 1865-73) completed by a *Histoire de la Restauration* (2 vols., 1880), and by a *Histoire du Gouvernement de Juillet*, a dry enumeration of dates and facts. Before the publication of Lavisse's great work, Dareste's general history of France was the best of its kind.

**DARFUR**, a semi-independent kingdom of east central Africa, the westernmost province of the Anglo-Egyptian Sudan. It extends from about 10° N to 16° N and from 21° E to 27° 30' E, has an area of some 150,000 sq m, and an estimated population of 750,000. It is bounded north by the Libyan desert, west by Wadai (French Congo), south by the Bahr-el-Ghazal and east by Kordofan. The two last-named districts are *muduriyas* (provinces) of the Anglo-Egyptian Sudan. The greater part of the country is a plateau from 2,000 to 3,000 ft above sea-level. A range of mountains of volcanic origin, the Jebel Marra, runs north and south about the line of the 24° E, and forms the watershed between the basins of the Nile and Lake Chad. About 100 m long and 80 m thick, its highest points attain from 5,000 to 6,000 ft. Eastward the mountains fall gradually into sandy, bush-covered steppes. North-east of Jebel Marra lies the Jebel Medob (3,500 ft high), a range much distorted by volcanic action, and Bir-el-Melb, an extinct volcano with a crater 150 ft deep. South of Jebel Marra are the plains of Dar Dima and Dar Uma; south-west of the Marra the plain is 4,000 ft above the sea. The mountains are scored by numerous *khors*, whose lower courses across the tableland represent the beds of former rivers, now dry except when scoured by torrents in the rainy season. In the west and south water can always be obtained in the dry season by digging 5 or 6 ft. below the surface of the *khors*.

The climate, except in the south, where the rains are heavy and the soil is a damp clay, is healthy except after the rains. The rainy season lasts for three months, from the middle of June to the middle of September. In the neighbourhood of the *khors* the vegetation is fairly rich. The chief trees are the acacias whence gum is obtained, and baobab (*Adansonia digitata*), while the sycamore and, in the Marra mountains, the *Euphorbia candelebrum* are also found. In the southwest are densely forested regions. Cotton and tobacco are indigenous. The most fertile land is found on the slopes of the mountains, where wheat, durra, *dukhn* (a kind of millet and the staple food of the people) and other grains are grown. Other products are sesame, cotton, cucumbers, water-melons and onions.

Copper is obtained from Hofrat-el-Nahas in the south-east. Iron is wrought in the south-west; and there are deposits of rock-

salt in various places. Camels and cattle are both numerous and of excellent breeds. Horses are comparatively rare; they are small but sturdy bred. Sheep and goats are numerous. The ostrich, common in the eastern steppes, is bred by various Arab tribes, its feathers forming a valuable article of trade.

**Inhabitants.**—The population of Darfur consists of negroes and Arabs. The negro *For*, forming quite half the inhabitants, occupy the central highlands and part of the Dar Dima and Dar Uma districts, they speak a special language, and are subdivided into numerous tribes, of which the most influential are the Masabat, the Kunjara and the Kera. The *Mussalit* are a negro tribe which, breaking off from the *For* some centuries back, have now much Arab blood, and speak Arabic, while the *Tunjur* are an Arab tribe which have incorporated a large *For* element and no longer profess Mohammedanism. The *Dago* (*Tago*) formerly inhabited Jebel Marra but they have been driven to the south and west, where they maintain a certain independence in Dar Sula. Genuine Arab tribes, e.g., the *Baggara* and *Homr*, are numerous, and they are partly nomadic and partly settled. The Arabs have not, generally speaking, mixed with the negro tribes. They are great hunters, making expeditions into the desert for five or six days at a time in search of ostriches.

Slaves, ostrich feathers, gum and ivory used to be the chief articles of trade, a caravan going annually by the Arbain ("Forty Days") road to Assiut in Egypt and taking back cloth, fire-arms and other articles. The slave trade has ceased, but feathers, gum and ivory still constitute the chief exports of the country. The principal imports are cotton goods, sugar and tea. There is also an active trade in camels and cattle.

The internal administration of the country is in the hands of the sultan, who is officially recognized as the agent of the Sudan government.

The capital and residence of the sultan is El-Fasher (pop. about 10,000), on the western bank of the Wadi Tendely. There are a few fine buildings, but the town consists mainly of tukls and box-shaped straw sheds. It is 500 m. W.S.W. of Khartoum. Dara, a small market town, is 110 m. S. of El-Fasher. Shakka is in the S.E. of the country near the Bahr-el-Homr, and was formerly the headquarters of the slave dealers.

**History.**—The *Dago* or *Tago* negroes, inhabitants of Jebel Marra, appear to have been the dominant race in Darfur in the earliest period to which the history of the country goes back. How long they ruled is uncertain, little being known of them save a list of kings. According to tradition the *Tago* dynasty was displaced and Mohammedanism introduced, about the 14th century, by Tunjur Arabs, who reached Darfur by way of Bornu and Wadai. The first Tunjur king was Ahmed-el-Makur, who married the daughter of the last *Tago* monarch. His great-grandson, the sultan Dali, a celebrated figure in Darfur histories, was on his mother's side a *For*, and thus was effected a union between the negro and Arab races. Dali divided the country into provinces, and established a penal code which, under the title of *Kitab Dali* or *Dali's Book*, is still preserved, and shows principles essentially different from those of the Koran. His grandson Soleiman (usually distinguished by the Forian epithet *Solon*, the Arab or the Red) reigned from 1596 to 1637, and was a great warrior and a devoted Mohammedan. Soleiman's grandson, Ahmed Bahr (1682-1722), made Islam the religion of the State and increased the prosperity of the country by encouraging immigration from Bornu and Bagirmi. His rule extended east of the Nile as far as the banks of the Atbara. Under succeeding monarchs the country involved in wars with Sennar and Wadai, declined in importance.

In 1799 Abd-er-Rahman the then reigning sultan, wrote to congratulate General Bonaparte on his defeat of the Mamelukes in Egypt. To this Bonaparte replied by asking the sultan to send him by the next caravan 2,000 black slaves upwards of 16 years old, strong and vigorous. To Abd-er-Rahman likewise is due the present situation of the *Fasher*, or royal township. The capital had formerly been at a place called Kobbé. Mohammed-el-Fadhl, his son, whose reign lasted till 1839, devoted himself largely to the subjection of the semi-independent Arab tribes who lived in the country. In 1821 he lost the province of Kordofan to the

Egyptians. Of his 40 sons the third, Mohamed Hassan was appointed his successor. In the later part of his reign Hassan became involved in trouble with the Arab slave raiders who had seized the Bahr-el-Ghazal, looked upon by the Darfurians as their essential slave preserve. The negroes of Bahr-el-Ghazal paid tribute of ivory and slaves to Darfur and these were the chief objects of merchandise sold by the Darfurians to the Egyptian traders along the Arabian road to Assiut. Hassan died in 1873 blind and advanced in years, and the succession passed to his youngest son Ibrahim who soon found himself engaged in a conflict with Zaim al-Din, the chief of the Bahr-el-Ghazal slave traders and a (1) an Egyptian force from Khartoum. The war resulted in the destruction of the kingdom. Ibrahim was slain in battle in the autumn of 1874 and his uncle Hassab Alla, who sought to maintain the independence of his country, was captured in 1875 by the troops of the khedive, and removed to Cairo with his family. The Darfurians were restive under Egyptian rule. Various revolts were suppressed, and in 1881 Slatin Bey (Sir Rudolf von Slatin) was made governor of the province. Slatin defended the province against the forces of the Mahdi, but was obliged to surrender (Dec. 1883), and Darfur was incorporated in the Mahdi's dominions. Following the overthrow of the khalifa at Omdurman in 1898 the new (Anglo-Egyptian) Sudan government recognized (1899) Ali Dinar a grandson of Mohammed-el-Fadl as sultan of Darfur. A rising attempted by Ali Dinar in 1915 necessitated a punitive expedition in which he was killed (Nov. 1915) and Darfur then became in effect a Sudan province.

The first European traveller known to have visited Darfur was William George Browne (*q.v.*) who spent two years (1793-95) at Koubé. Gustav Nachtigal in 1873 spent some months in Darfur, and since that time the country has become well known through the journeys of Gordon, Slatin and others.

**BROWNE**—Browne's account of Darfur will be found in his *Travels in Africa, Egypt and Soudan* (1799). Nachtigal's *Sahara and Sudan* gives the results of that traveller's observations. The first ten chapters of Slatin Pasha's book *Fire and Sword in the Sudan* (English edition, 1866) should be consulted. See also *The Anglo-Egyptian Sudan* (1903), edited by Lord Edward Gleichen, and the bibl. under **SUDAN**.

**DARGAI** (1) Mountain ridge of the Samana range, on the Kohat border, famous for the stand made there by the Afridis and Orakzais in the Tirah Campaign 1897. (See **TIRAH CAMPAIGN**) (2) The terminus, on the Peshawar border, of the frontier railway running from Nowshera to the foot of the Malakand pass.

**Attack on Dargai (1897)**—During the British advance through Tirah in 1897 two attacks were made on the Dargai ridge, the first on Oct. 18 and the second on the 30th. The first failed; the second succeeded through British pluck in spite of its tactics being of the meanest order.

Dargai is a spur of the Samana range of hills which flanks the Kuram valley north of Thal, Shinawari and Hangu. It is clearly visible from near Fort Gulistan whence on the 30th, it was seen that the tribesmen were holding the ridge in strength, and were throwing up sangars (stone breastworks). Major-General Yeatman-Biggs decided to take the position by a frontal attack, and though he had 24 guns at his disposal no attempt was made to concentrate their fire on the tribesmen. The result was that the attack was brought to a standstill by a hail of bullets, and a second one had to be mounted. More wisdom was then displayed, the guns being ordered to bombard the position for three minutes prior to the assault. This bombardment demoralized the tribesmen, and the position was carried. The British losses were 37 officers and other ranks killed, and 156 wounded. The bulk of these losses could have been avoided had it at first been realised that frontal attacks must be prepared for *prop. five*

1897 The Campaign  
1897 The Campaign  
1897 The Campaign

**DARGOMIJSKY, ALEXANDER SERGEIVICH**

1839-1907. Russian composer, was born at Tula on Feb. 14, 1839.

opera *Esmeralda* was written in 1839, and his *Roussalka* was performed in 1856, but he had small success or recognition either at home or abroad, except in Belgium, till the '60s, when he became one of Balakirev's circle. His opera *The Stone Guest* then became famous among the progressive Russian school, though it was not performed till 1872. Dargomijsky died at St. Petersburg (Leningrad) on Jan. 17, 1869. His compositions include a number of songs and some orchestral pieces.

**DARGU**: see **NUBA**

**DARIAL**, a gorge in the Caucasus, on the east of Mt. Kasbek, pierced by the river Terek for 8 m. between vertical walls of rock (5,900 ft.). It is mentioned in the Georgian annals, by Strabo and by Ptolemy. Being the only available passage across the Caucasus, it has been fortified at least since 150 B.C. In Russian poetry it has been immortalized by Lermontov. The present Russian fort, Darial, which guards this section of the Georgian military road, is at the northern issue of the gorge, at an altitude of 4,746 feet.

**DARIEN**, a district covering the eastern part of the isthmus joining Central and South America. It is mainly within the republic of Panama and gives its name to a gulf of the Caribbean Sea. Darien is of great interest in the history of geographical discovery. It was reconnoitred in the first year of the 16th century by Rodrigo Bastidas of Seville, and the first settlement was Santa Maria la Antigua, situated on the small Darien river, north-west of the mouth of the Atrato. In 1513 Vasco Nuñez de Balboa stood "silent upon a peak in Darien" and saw the Pacific at his feet stretching inland in the Gulf of San Miguel, and for long this narrow neck of land seemed alternately to proffer and refuse a means of transit between the two oceans. The first serious attempt to turn the isthmus to permanent account as a trade route dates from the beginning of the 18th century, and forms an interesting chapter in Scottish history. In 1695 an act was passed by the Scottish parliament giving extensive powers to a company trading to Africa and the Indies, and this company, under the advice of one of the most remarkable economists of the period William Paterson (*q.v.*), determined to establish a colony on the isthmus of Darien midway between Porto Bello and Cartagena, two of Spain's strongholds, and to gain a free trade route to the Pacific "whereby to Britain would be secured the key to the universe, enabling their possessors to give laws to both oceans and to become the arbiters of a commercial world." On July 26, 1698 the pioneers set sail from Leith amid the cheers of an almost envious multitude; and on Nov. 4, with the loss of only 15 out of 1,000 men, they arrived at Darien, and took up their quarters in a well-defended spot, with a good harbour and excellent outlook. The country they named New Caledonia, and two sites selected for future cities were designated respectively New Edinburgh and New St. Andrews. At first all seemed to go well; but by and by lack of provisions, sickness and anarchy reduced the settlers to the most miserable plight, and in June 1699 they re-embarked in three vessels, a weak and hopeless company. Meanwhile a supplementary expedition had been prepared in Scotland; two vessels were despatched in May, and four others followed in August. But this venture proved even more unfortunate than the former. The last addition to the settlement was the company of Capt. Alexander Campbell of Fonab, who arrived only to learn that a Spanish force of 1,500 or 1,600 men lay encamped at Tubacanta on the river Santa Maria, waiting for the appearance of a Spanish squadron in order to make a combined attack on the fort. Campbell was at first successful in a surprise attack but after the arrival of the Spanish fleet the garrison was forced to capitulate, and Darien colony was no more. Of those who had taken part in the enterprise only a miserable handful ever reached their native land.

See J. S. Barbour, *A History of William Paterson and the Darien Company* (1907); A. H. Verrill, *Panama, Past and Present* (1907); E. Cullen, *Isthmus of Darien Ship Canal* etc. (2d. ed. 1833); J. H. Buxton *The Darien Papers* (1849) and G. P. Inch Papers *to the Ships and Voyages of the Company of Scotland Trading to Africa and the Indies* (1704).



his *Prosas p ofanas* (1899) he revealed himself a symbolist when throwing off every trammel ardent in the pursuit of all that was rare and new and beautiful he astonished the Spanish speaking world by his *Canto a la Argentina y otros Poemas* (1900), *Cantos de Vida y Esperanza* (1905), and *Canto errante* (1907). Heedless of rules and schools, Darío followed his own path, trying the boldest innovations, especially in metre. His experiments were not always successful, nor did he succeed in founding a school, but he has left his mark on Castilian verse, infusing into it new life and enlarging its traditional forms. He writes a nervous prose in such works as *Los Raros* (1893), *Tierras solares* (1904) and *Todo al Vuelo* (1912).

**DARIUS**, the name of three Persian kings (Pers. *Daraya-vaush*, Old Test *Daryavesh*)

**I DARIUS THE GREAT**, the son of Hystaspes (*q v*). The principal source for his history is his own inscriptions, especially the great inscription of Behistun (*q v*), in which he relates how he gained the crown and put down the rebellions. In modern times his veracity has often been doubted, but without any sufficient reason; the whole tenor of his words shows that we can rely upon his account. The accounts given by Herodotus and Ctesias of his accession are in many points evidently dependent on this official version with many legendary stories interwoven, e g, that Darius and his allies left the question as to which of them should become king to the decision of their horses, and that Darius won the crown by a trick of his groom.

Darius belonged to a younger branch of the royal family of the Achaemenidae. When, after the suicide of Cambyses (March 521), the usurper Gaumata ruled undisturbed over the whole empire under the name of Bardiya (Smerdis), son of Cyrus, and no one dared to gainsay him, Darius, "with the help of Ahuramazda," attempted to regain the kingdom for the royal race. His father Hystaspes was then alive but evidently had not the courage to urge his claims. Assisted by six noble Persians, whose names he proclaims at the end of the Behistun inscription, he surprised and killed the usurper in a Median fortress (Oct. 521; for the chronology of these times cf. E. Meyer, *Forschungen zur alten Geschichte*, II 472 ff), and gained the crown. But this sudden change was the signal for an attempt on the part of all the eastern provinces to regain their independence. In Susiana, Babylon, Media, Sagartia, Margiana, usurpers arose, pretending to be of the old royal race, and gathered large armies around them, in Persia itself Vahyazdata imitated the example of Gaumata and was acknowledged by the majority of the people as the true Bardiya. Darius, with only a small army of Persians and Medes and some trustworthy generals overcame all difficulties, and in 520 and 519 all the rebellions were put down (Babylon rebelled twice, Susiana even three times), and the authority of Darius was established throughout the empire.

Darius in his inscriptions appears as a fervent believer in the true religion of Zoroaster. But he was also a great statesman and organizer. The time of conquests had come to an end, the wars which Darius undertook, like those of Augustus, only served the purpose of gaining strong natural frontiers for the empire and keeping down the barbarous tribes on its borders. Thus Darius subjugated the wild nations of the Pontic and Armenian mountains and extended the Persian dominion to the Caucasus, for the same reasons he fought against the Sacae and other Turanian tribes. But by the organization which he gave to the empire he became the true successor of the great Cyrus. His organization of the provinces and the fixing of the tributes are described by Herodotus III 90 ff., evidently from good official sources. He fixed the coinage and introduced the gold coinage of the Daric (which is not named after him, as the Greeks believed, but derived from a Persian word meaning "gold"; in Middle Persian it is called *sarig*). He tried to develop the commerce of the empire and sent an expedition down the Kabul and the Indus, led by the Carian captain Scylax of Caryanda, who explored the Indian Ocean from the mouth of the Indus to Suez. He dug a canal from the Nile to Suez, and, as the fragments of a hieroglyphic inscription found there show, his ships sailed from the Nile through the Red Sea by Saba to Persia. He had connections with Carthage (i.e., the *Karka* of the Nakshi Rostam inscr.), and explored the shores of Sicily and Italy. At

the same time he attempted to gain the good will of the subject nations and for this purpose promoted the aims of the representatives. He allowed the Jews to build the Temple of Jerusalem. In Egypt his name appears on the temples which he built in Memphis, Edfu, and the Great Oasis. He called the high-priest of Sais Uzahor, to Susa (as we learn from his inscription in the Vatican), and gave him full powers to reorganize the "house of life," the great medical school of the temple of Sais. In the Egyptian traditions he is considered as one of the great benefactors and lawgivers of the country (Herod. II 110 Diod. I 95). He stood in similar relations to the Greek sanctuaries (cf. his rescript to "his slave" Godatas, the inspector of a royal park near Magnesia, on the Maeander in which he grants freedom of taxes and forced labour to the sacred territory of Apollo. See Cousin and Deschamps, *Bulletin de correspondance hellénique*, VIII (1889), 529 and Dittenberger, *Sylogae inscr. graec.*, 2), all the Greek oracles in Asia Minor therefore stood on the side of Persia in the Persian wars and admonished the Greeks to attempt no resistance. Even Delphi was not entirely free from the taint of Medism.

About 512 Darius undertook a war against the Scythians. A great army crossed the Bosphorus, subjugated eastern Thrace, and crossed the Danube. The purpose of this war can only have been to attack the nomadic Turanian tribes in the rear and thus to secure peace on the northern frontier of the empire. It was based upon a wrong geographical conception, even Alexander and his Macedonians believed that on the Hindu Kush (which they called Caucasus) and on the shores of the Jaxartes (which they called Tanais, i.e., Don) they were quite near to the Black Sea. Of course the expedition undertaken on these grounds could not but prove a failure; having advanced for some weeks into the Russian steppes, Darius was forced to return. The details given by Herodotus (according to him Darius had reached the Volga!) are quite fantastical; and the account which Darius himself had given on a tablet, which was added to his great inscription in Behistun, is destroyed with the exception of a few words (See R. W. Macan *Herodotus*, vol. II appendix 3, G. B. Grundy, *Great Persian War*, pp. 48-64, J. B. Bury in *Classical Review*, July 1897).

Although European Greece was intimately connected with the coasts of Asia Minor, and the opposing parties in the Greek towns were continually soliciting his intervention, Darius did not meddle with their affairs. The Persian wars were begun by the Greeks themselves. The support which Athens and Eretria gave to the rebellious Ionians and Carians made an attempt to punish them inevitable as soon as the rebellion had been put down. But the first expedition that of Mardonius, failed on the cliffs of Mt. Athos (492), and the army which was led into Attica by Darius in 490 was beaten at Marathon. Before Darius had finished his preparations for a third expedition an insurrection broke out in Egypt (486). In the next year Darius died, probably in Oct. 485, after a reign of 36 years. He was one of the greatest rulers the East has produced.

**2. DARIUS II, OCHUS** Artaxerxes I, who died in the beginning of 424, was followed by his son Xerxes II. But before two months had elapsed he was murdered by his brother Secydianus, or Sogdianus (the form of the name is uncertain). Against him rose a bastard brother, Ochus, satrap of Hyrcania, who after a short fight killed him and suppressed by treachery the attempt of his own brother Arsites to imitate his example (Ctesias *ap. Phot.* 44, Diod. XII 71, 108, Pausan. VI 5, 7). Ochus adopted the name Darius (in the chronicles called *Nothos*, the bastard). Neither Xerxes II. nor Secydianus occurs in the dates of the numerous Babylonian tablets from Nippur, here the dates of Darius II follow immediately on those of Artaxerxes I. Of Darius II's reign we know very little (a rebellion of the Medes in 409 is mentioned in Xenophon, *Hellen.* I 2 19), except that he was quite dependent on his wife Parysatis. In the excerpts from Ctesias some harem intrigues are recorded, in which he played a disreputable part. As long as the power of Athens remained intact he did not meddle in Greek affairs, even the support which the Athenians in 413 gave to the rebel Amorges in Caria would not have roused him (Andoc. III 29; Thuc. VIII 28, 54; Ctesias wrongly names his father Pissuthnes in his stead; an account of these wars is contained in

# DARJEELING—DARLING

the great Lycaon stele from Nauchus in the British Museum), had not the Athenian power broken down in the same year before Darius. He gave orders to his satraps in Asia Minor, Tissaphernes and Pharnabazus, to send by the overdue tribute of the Greek towns and to begin war with Athens; for this purpose they entered into an alliance with Sparta. In 408 he sent his son Cyrus to Asia Minor to carry on the war with greater energy. In 404 he died after a reign of 19 years and was followed by Artaxerxes II.

**3. DARIUS III. CODOMANNUS.** The eunuch Bagoas (*q.v.*) having murdered Artaxerxes III. in 338 and his son Arses in 336, turned to the throne a distant relation of the royal house whose name according to Justin 2. 3, was Codomannus, and who had excited in a war against the Cadusians (*cf. Diod. xvii. 5 ff.*, where his father is called Arsames son of Ostaras, a brother of Artaxerxes). The new king who adopted the name of Darius, feared the fate of his predecessors and saved himself from it by offering Bagoas to drink the contents of the cup himself. In 336 Philip II. of Macedon had sent an army into Asia Minor and in the spring of 334 the campaign of Alexander began. In the following year Darius himself took the field against the Macedonian king but was beaten at Issus and in 331 at Arbela. In his flight to the east he was deposed and killed by Bessus (July 330).

The name Darius was also borne by many later dynasts of Persian origin among them kings of Persia (*q.v.*), Darius of Media Atropatene who was defeated by Pompeius, and Darius, king of Pontus in the time of Antony. (Ed M.)

**DARJEELING**, a town and district of British India, in the Rajshahi division of Bengal. The town is a hill station and the hot weather headquarters of the Bengal Government. In 1921 it had a population of 22,258. It occupies a long ridge with two projecting spurs, on which are the town proper and the cantonments of Katapahar, Jakpanar and Lebong. The total area is nearly 5 sq. m., and the difference between its highest and lowest points is about 2,000 feet, Katapahar being 7,886 ft. and Lebong 5,970 ft. above sea level. It enjoys a temperate climate, the average maximum and minimum temperatures being only slightly above those of London, but it has a heavy rainfall, over 100 in. falling from June to October, in these months it is often hidden in mist. On the other hand, snow rarely falls in the winter. Darjeeling commands one of the most beautiful views in the world, for the eye goes up from the valleys to a succession of ranges culminating in Kinchinjunga (28,146 ft.), with snow-capped peaks on either side—a glittering white wall of perpetual snow which fills a great part of the horizon. There are several schools, botanic gardens and sanatoriums for both Europeans and Indians. The buildings and the roads suffered severely from landslips in 1899, protective works have been built to prevent the recurrence of such a disaster.

The district of Darjeeling has an area of 11,664 sq. m., and a population of 382,748. It consists of two well-defined tracts, viz., the lower Himalayas, and the *tarai*, or plains, at their base. The plains from which the hills take their rise are only 300 ft. above sea-level; the mountains ascend abruptly in spurs of 6,000 to 12,000 ft. in height. The scenery is picturesque, and in many parts magnificent. The two highest mountains in the world, Kinchinjunga in Sikkim (28,146 ft.), and Mt. Everest (29,002 ft.), are visible from Mt. Sandakphu (11,929 ft.) on the Singuila ridge. Other high points in the district are Phalut (11,811 ft.), Rishi-la (10,500), Tanglu (10,084) and (6 m. from Darjeeling) Sanchal (8,162) and Tiger hill (8,515 ft.). The chief rivers are the Tista, Great Ranjil, Mahananda and Balasan. Bears, leopards and deer are found on the higher hills, and elephants and



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**DARJEELING DEVIL DANCER**

of the hills are and the

Lepchas (9,669). In the *tarai* the Bengali Rajbansis (originally Koch) predominate. Over a third of the district is occupied by forests which cover the hills above 6,000 ft., and below 3,000 ft. these being roughly the limits of cultivation of food crops and of tea. The cultivation of tea is the main industry. There were 168 tea gardens, with an output of 14 million lb. in 1921. Cinchona cultivation was introduced by the Government in 1862, the factory at Mungpo is capable of manufacturing over 50,000 lb. of quinine annually. The Darjeeling Himalayan railway of 2 ft. gauge, connects the town of Darjeeling with the Eastern Bengal State railway at Siliguri, from which a branch line runs up the Tista valley to Kalimpong road.

The British connection with Darjeeling dates from 1816, when, at the close of the war with Nepal, the British made over to the Sikkim rajah the *tarai* tract, which had been wrested from him and annexed by Nepal. In 1835 the nucleus of the present district was created by a cession of a portion of the hills by the rajah of Sikkim to the British as a sanatorium. A military expedition against Sikkim, rendered necessary in 1850 by the imprisonment of Dr. A. Campbell, the superintendent of Darjeeling, and Sir Joseph Hooker, resulted in the annexation of the Sikkim *tarai* at the foot of the hills and of a portion of the hills beyond. The hill territory east of the Tista was acquired as the result of the Bhutan war of 1864, and now forms the Kalimpong sub-division.

**DARK AGES**, a term formerly used to cover the whole period between the end of classical civilization and the revival of learning in the 15th century. The use of the term implied an exclusive respect for classical standards in literature and art and a corresponding disparagement of all that was achieved between the decline of ancient culture and the work of Renaissance scholars, writers and artists. With the progress of mediaeval studies in the 19th century it became impossible for historians to dismiss one of the great constructive periods in human activity with an epithet implying contempt for its achievements, and the phrase has now become obsolete. It remains, nevertheless, the fact that the six centuries following the collapse of the Roman empire are in an especial sense dark through the insufficiency of historical evidence. Even so, it is necessary to remember that intellectual work of the highest quality was done by exceptional individuals in ages when life was insecure and its environment very discouraging to thought. The ages which form the prelude to mediaeval history are dark when compared with the time which followed them, but the foundations of mediaeval civilization were laid in these obscure and troubled centuries.

(F. M. S.)

**DARLEY, GEORGE** (1795-1846), Irish poet, was born in Dublin and educated at Trinity college. He settled in London in 1822, where he contributed to *The London Magazine*, and became dramatic and art critic to the *Athenaeum*. His best known works are a fairy opera, *Sylvia* (1827), and a poem "Nepenthe" (1839).

See the *Selections from the Poems of George Darley*, with an introduction by R. A. Streatfeild (1904), Claude Abbott, *Life and Letters of George Darley* (1928).

**DARLING, CHARLES JOHN**, 1ST BARON (1849- ), English judge, was born on Dec. 6, 1849. At the age of 24 he was called to the bar, in 1885 he became a Q. C., and soon afterwards entered Parliament as Conservative member for Deptford. He sat in the House of Commons from 1888 until 1897 when he was knighted. His appointment in 1897 to a judgeship was not received with universal approval, but he later justified the choice by proving himself to be a man of acute understanding, with an unusual insight into human nature. In 1923 he retired, and in 1924 was granted a peerage. Among his published works are *Scintillae Juris* (1877); *Meditations in the Tea Room* (1879), *Seria Ludo* (1903); *On the Oxford Circuit* (1909), *Musings on Murder, etc.* (1925). *A Penitentiary's Garden and other Verses* (1926).

See Evelyn Graham, *Lord Darling and his Famous Trials* (1929).

**DARLING, GRACE HORSLEY** (1815-1842), British heroine, was born at Bamborough, Northumberland, on Nov. 24, 1815. Her father Darling was the keeper of the Longstone (Farne Islands) lighthouse. On the morning of Sept. 7, 1838 the "Fo" bound from Hull to with 62

persons on board, struck on the Farne Islands 43 being drowned. The wreck was observed from the lighthouse, and Darling and his daughter determined to try to reach the survivors. By a combination of daring, strength and skill, the father and daughter reached the wreck in their coble and brought back four men and a woman to the lighthouse. Darling and two of the rescued men then returned to the wreck and brought off the four remaining survivors. Grace Darling and her father received the gold medal of the Humane Society, the Treasury made a grant, and a public subscription was organized. Grace Darling died of consumption on Oct. 20, 1842.

See *Grace Darling, her true story* (1880); *Grace Darling, The Maid of the Isles* (1839), E Hope *Grace Darling* (1875), T Arthur, *Grace Darling* (1885).

**DARLING:** see MURRAY-DARLING (river and basin)

**DARLINGTON**, market town, county and parliamentary borough, Durham England, 232 m N. by W of London on the L N E railway. Pop. (1921) 65,842. It lies on the river Skerne, a tributary of the Tees, not far from the main river. Its appearance is almost wholly modern, but there is a fine old parish church on the site of an earlier church, dedicated to St. Cuthbert. It is cruciform and in style mainly transitional Norman, and has a central tower surmounted by a spire of the 14th century. Educational establishments include an Elizabethan grammar school, a training college and a technical school. There is a park of forty-four acres. The industries include worsted-spinning, coal and ironstone mining, quarrying and brick-making, the manufacture of iron and steel into locomotives, bridge castings, ships' engines, gun castings and shells, etc. The parliamentary borough returns one member. The town was incorporated in 1867. Area, 4,614 acres.

Not long after the monks of Lindsfarne had settled at Durham in 995, Styr gave them the vill of Darlington (Dearthington, Darnington), which by 1083 had grown into importance. Bishop William of St. Carlisle in that year changed the church to a collegiate church. Bishop Hugh de Pusset rebuilt the church and built a manor house which was for many years the occasional residence of the bishops of Durham. Boidon Book, dated 1183, contains the first mention of Darlington as a borough, rated at £5, while half a mark was due from the dyers of cloth. The next account of the town is in Bishop Hatfield's Survey (c. 1380) which states that "Ingelram Gentill and his partners hold the borough of Derlyngton with the profits of the mills and dye houses and other profits pertaining to the borough rendering yearly four score and thirteen pounds and six shillings." Darlington possesses no early charter, but claimed its privileges as a borough by a prescriptive right. Until the 19th century it was governed by a bailiff appointed by the bishop. Before the 19th century Darlington was noted for the manufacture of linen, worsted and flax, but it owes its modern importance to the opening of the railway between Darlington and Stockton on the 27th of September 1825. "Locomotive No. 1," the first that ever ran on a public railway, stands in Bank Top station. Darlington sent no members to parliament until 1862, when it was allowed to return one member. The fairs and markets in Darlington were formerly held by the bishop and were in existence as early as the 11th century. The markets and fairs were finally in 1854 purchased by the local authority, and now belong to the corporation.

**DARLINGTON**, a town of north-eastern South Carolina, U.S.A., served by the Atlantic Coast Line and the Seaboard Air Line railways; the county seat of Darlington county. The population was 4,669 in 1920 (42% negro) and was estimated locally at 6,000 in 1928. It has a cotton factory with 51,000 spindles (1928), cotton-seed oil mills, tobacco warehouses and stemming plants, veneer and lumber mills and other manufacturing industries. The town was founded about 1785.

**DARLINGTONIA** (after William Darlington, an American botanist), a Californian pitcher-plant, belonging to the family Sarracenaceae. There is only one species, *D. californica*, which is found at 3,000 ft. to 6,000 ft. altitude in the mountains of northern California and south-western Oregon, growing in sphagnum-bogs along with sundews and rushes. The pitcher-like leaves form a

cluster, and are 1 to 2 ft. high, slender, erect and end in a rounded hooded top, from which hangs a blade shaped like a fish-tail which guards the entrance to the pitcher. Insects are attracted to the leaves by the bright coloring especially of the upper part, entering, they pass down the narrow funnel guided by downward pointing hairs which prevent their ascent. They die and decompose at the bottom of the pitcher. No digestive enzyme has been

observed in this pitcher (see *INSECTIVOROUS PLANTS*), but the products of putrefaction are presumably absorbed by the walls of the pitcher and act as an additional supply of food, particularly of nitrogen.

**DARLY, MATTHIAS** or **MATTHEW**, 18th century English caricaturist, designer and engraver. This extremely versatile artist produced social and political caricatures, designed architectural and mobiliary accessories, made many engravings for Thomas Chippendale, and sold his own productions at his print-shop in the Strand (and elsewhere) which was one of the first to stock prepared colours and materials for artists. His first known publication is a coloured caricature, "The Cricket Players of Europe" (1741). Darly was in partnership with one Edwards, with whom he published many political prints which were collected



**DARLINGTONIA, CALIFORNICA**, SHOWING TWO OF THE PITCHERS (LEAVES) WITH CURVED TOPS ENDING IN FISHTAIL FLAPS IN FRONT. A. Flower with floral leaves removed. B. Leaf cut across to show hollow interior.

annually into volumes under the title of *Political and Satirical History*. He published in 1754 *A New Book of Chinese Designs* and engraved many of the plates for the *Director* of Thomas Chippendale. In 1770-71 appeared Darly's most important work—*The Ornamental Architect or Young Artists' Instructor*, the title of which became in the 1773 edition *A Complete Body of Architecture, embellished with a great Variety of Ornament*. In 1767 he issued *Sixty Vases by English, French and Italian Masters*. His last caricature was published in October 1780, and as his shop, No. 39 Strand, was let to a new tenant in 1781, it is presumed that he had by then died or become incapable of further work.

See George Paston, *Social Caricature in the 18th Century* (1905).

**DARMESTETER, ARSÈNE** (1846-1888), elder brother of James Darmesteter (see below), was a distinguished philologist and man of letters. He studied under Gaston Paris at the École des Hautes Études, and became professor of Old French language and literature at the Sorbonne. He collaborated with Adolphe Hatfield in a *Dictionnaire général de la langue française* (2 vols., 1895-1900). Among his most important work was the elucidation of Old French by means of the many glosses in the mediaeval writings of Rashi and other French Jews. His scattered papers on romance and Jewish philology were collected by James Darmesteter as *Arsène Darmesteter, reliques scientifiques* (2 vols., 1890). His *Cours de grammaire historique de la langue française* was edited after his death by E. Muret and L. Sudre (1891-95, English edition, 1902).

**DARMESTETER, JAMES** (1849-1894), French author and antiquarian, was born of Jewish parents at Château Salins, Alsace. The family name had originated in their earlier home of Darmstadt. He studied in Paris under Michel Bréal and Abel Bergaigne. In 1875 he published a thesis on the mythology of the *Zend Avesta*, and in 1877 became teacher of Zend at the École des Hautes Études. He followed up his researches with his *Études iraniennes* (1883), and ten years later published a complete translation of the *Zend Avesta*, with historical and philological commentary (3 vols., 1892-93), in the *Annales du musée Guimet*. He

He edited the *Zehn Jahre für Max Müller's Sacred Books* etc. Darmstadt regarded the many texts as not more recent than was commonly supposed placing the earliest in the 1st century A.D. and the bulk in the 3rd century A.D. In 1883 he was appointed professor in the College de France and was sent to India in 1886 on a mission to collect the popular songs of the Afghans a translation of which with a valuable essay on the Afghan language and literature he published on his return. His representations of India in 1892 were conveyed in *Letters and Travels* (1892). He married A. Mary F. Robinson (née Darnley, Mary). He died on Dec. 15, 1892.

There is a note of James Darmstadter in the *Journ. asiatique* (1892) vol. 19, pp. 205-6, and a notice by Henri Cordier, with a list of his works in *The Revue de la Société's Journal* (Jan. 1905), pp. 106-107. *Obit. Paris* "James Darmstadter" in *Penseurs et Poètes* (1892) pp. 1-2.

**DARMSTADT**, a city of Germany, capital of the republic of Hesse-Darmstadt, on a plain gently sloping from the Odenwald to the Rhine 21 m. by rail S.E. from Mainz and 17 m. S. from Frankfurt-on-Main. Pop. (1925) 89,465.

Darmstadt is mentioned in the 12th century but in the 14th century it was still a village held by the counts of Katzenelnbogen. It came by marriage into the possession of the house of Hesse in 1429 the male line of the house of Katzenelnbogen having in that year become extinct. The imperial army took it in the Schmalkaldic War, and destroyed the old castle. In 1567 after the death of Philip the Magnanimous, his youngest son George received Darmstadt and chose it as his residence. He was the founder of the line of Hesse-Darmstadt. Its most brilliant days were those of the reign of Louis X. (1790-1830), the first grand-duke, under whom the new town was built.

Darmstadt consists of an old and a new town, the streets of the former being narrow. In the new town is the stately Lusenplatz, on which are the house of parliament, the old palace and the post office, and in the centre a statue of the grand-duke Louis I. the founder of the new town. The ducal palace is a complex of buildings of various centuries. Adjoining the palace gardens, are the theatre and armoury, and a little further west the museum, a library of 600,000 volumes and 4,000 mss., a museum of Egyptian and German antiquities, a picture gallery with masterpieces of old German and Dutch schools, a natural history collection and the State archives. To the south of the castle lies the old town, with market square, town hall and town church. The town possesses a technical high school, having (since 1900) power to confer the degree of doctor of engineering, and attended by about 2,000 students, two gymnasia, a school of agriculture, an artisans' school and a botanical garden. The chemist, Justus von Liebig, was born in Darmstadt in 1803. The industries are very varied.

To the east of the town lies the Mathildenhöhe, formerly a park and now converted into villa residences. Here are the Alice hospital and the Russian church, built (1898-99) by the emperor Nicholas II. of Russia in memory of the empress Maria, wife of Alexander II.

See Walther, *Darmstadt wie es war und wie es geworden* (Darms. 1866); and Zerin and Werner *Darmstadt und seine Umgegend* (Zürich, 1890).

**DARMSTÄDTER UND NATIONALBANK.** The Bank is a merger of the Bank für Handel und Industrie (generally known as the Darmstädter Bank) with the Nationalbank für Deutschland. The amalgamation took place in 1922.

The Bank für Handel und Industrie was founded in 1853 in Darmstadt. It was in intimate relationship with the most important firms and possessed a large number of branches.

The Nationalbank für Deutschland was founded in 1881. In 1920 after having absorbed the Deutsche Nationalbank in Bremen and later the Holsten Bank in Neumünster, it turned its attention to branch banking. The Nationalbank für Deutschland saw in its relationships with industrial enterprises the main support of its business, and by founding, or collaborating in the founding, of many important German enterprises it established a basis for financial and syndicate investment business.

The capital of the Darmstädter and Nationalbank in 1928 was Reichsmarks 1,000,000,000 and the

20,000,000 Reichsmarks when the gold balance sheet was drawn up in 1924; were increased by 10,000,000 in 1927 and by an additional 5,000,000 in 1928, the reserves amounting to 55,000,000 Reichsmarks.

The Darmstädter und Nationalbank is represented in the management of the most important industrial enterprises in Germany and is on the board of approximately 2,000 companies. The Bank also has a number of foreign investments in other parts abroad. It founded together with an international group the 'Internationale Bank te Amsterdam' with the object of carrying out international financial transactions.

In 1928 the Darmstädter und Nationalbank owned 143 bank buildings, had branches in approximately 120 towns. (A. S. N.)

**DARNLEY, HENRY STEWART** or **STUART**, LORD (1545-1567), earl of Ross and duke of Albany, second husband of Mary, queen of Scots, was the eldest son of Matthew Stewart, earl of Lennox (1516-1571), and through his mother Lady Margaret Douglas (1515-1578) was a great-grandson of the English king Henry VII. Born at Temple Newsam in Yorkshire on Dec. 7, 1545, he was educated in England. After the death of Francis II. in 1560 Darnley was sent to France by his mother, who hoped that he would become king of England on Elizabeth's death, and entertained the idea of his marriage with Mary, queen of Scots, the widow of Francis, as a means to this end. In 1561 both Lady Margaret and her son, who were English subjects, were imprisoned for a short time by Elizabeth and Darnley spent some time at the English court before going to Scotland in Feb. 1565. The marriage of Mary and Darnley was now definitely proposed, and the queen, having nursed her new suitor through an attack of measles, decided to marry him. Elizabeth had permitted Darnley's journey to Scotland, but she and her council declared their dislike of the proposed marriage and ordered Darnley and his father to repair to London, a command which was disobeyed. In March 1565 there were rumours that the marriage had already taken place, but the public marriage, at all events, was celebrated at Holyrood on July 29, 1565.

Although Mary had doubtless a short infatuation for Darnley, the union was mainly due to political motives, and trouble soon arose between them. Contrary to his expectations Darnley did not receive the crown matrimonial. He was on bad terms with the regent Murray and other powerful nobles, who disliked the marriage and were intriguing with Elizabeth. He was in addition soon estranged from his wife. He became jealous of David Rizzio, and was easily persuaded to assent to the murder of the Italian, a crime in which he took part. Immediately afterwards, however, flattered and cajoled by the queen, he betrayed his associates to her, and helped her to escape from Holyrood to Dunbar. Deserted and distrusted by his companions in the murder, he decided to leave Scotland, but a variety of causes prevented his departure, and meanwhile at Craigmillar a band of nobles undertook to free Mary from her husband, who refused to be present at the baptism of his son, James, at Stirling in Dec. 1566. The details of the conspiracy at Craigmillar are not clear, nor is it certain what part, if any, Mary took in these proceedings. The first intention may have been to obtain a divorce for the queen, but it was soon decided that Darnley must be killed. Rumours of the plot came to his ears, and he fled from Stirling to Glasgow, where he fell ill, possibly by poisoning, and where Mary came to visit him. Another reconciliation took place, and Darnley was persuaded to journey with Mary by easy stages to Edinburgh. They stayed for a few days at Kirk o' Field, a house just inside the city walls. On the evening of Feb. 9, 1567 Mary bade her husband farewell, and went to attend some gaities in Edinburgh. A few hours later, on the morning of the 10th, Kirk o' Field was blown up with gunpowder. Darnley's body was found at some distance from the house, and it is supposed that he was strangled whilst making his escape. The remains were afterwards buried in the chapel at Holyrood.

As the father of King James I., Darnley is the direct ancestor of all the sovereigns of England since 603.

For further

and also for a list of the works bearing

**DARRANG**, a district of British India, in the province of Assam. It lies between the Bhutan and Duffa hills and the Brahmaputra including many islands in the river. The administrative headquarters are at Tezpur (pop 7,341) on the right bank of the Brahmaputra. Its area is 3,197 sq m. Pop (1921) 477,935. This area was reduced in 1914 by the transfer of 500 sq m of almost uninhabited country to the Balpara Frontier Tract formed in that year. It is for the most part a level plain watered by many tributaries of the Brahmaputra. The district contains the two subdivisions of Tezpur and Mangaldai, tea being the principal cultivation in the valley of Tezpur, and rice in Mangaldai. In Tezpur the density has risen to 157 per sq m from 22 in 1890 owing to large areas of waste land being brought under cultivation. In Mangaldai 300 sq m are available for settlement. There were 58,000 acres under tea with an output of 27½ million lb in 1921, when the tea-garden population numbered 122,749. There are 568 sq m. of reserved forests, mostly at the foot of the hills along the northern boundary.

**DARROW, CLARENCE SEWARD** (1857— ), American lawyer, was born at Kinsman, O., April 15, 1857. He received a public school education and was called to the bar in 1875 afterward practising in Chicago. He appeared as counsel in a large number of important cases, many of which attracted wide attention, and he became recognized as one of the leading criminal lawyers in the United States. He was retained by the labour organizations in much of their litigation of recent years. Among the celebrated cases in which he appeared were the Debs strike case (1895), anthracite coal strike arbitration (1902), Steunenburg murder (1907), *The Los Angeles Times* dynamite case (1911) and the Loeb-Leopold case (1924). In July 1925 he defended J. T. Scopes at the Tennessee evolution trial. He has written *Crime, Its Cause and Treatment* (1922), *Farmington, A Persian Pearl and Other Essays, An Eye for an Eye, The Prohibition Mania*, and many other books and pamphlets on social, literary and economic questions. For many years he has been a well-known platform speaker and debater.

**DARTER**, the name often applied to the snake-bird (*g v*) or water-turkey (*Anhinga*).

**DARTFORD**, urban district and market town of Kent, England, 17 m. ESE of London, by the S.R. Pop (1921) 25,952. The town lies in the valley of the Darent about 3 m. from the Thames, and is flanked by two chalk hills. Its most noteworthy building is the parish church, restored in 1863, which contains an old fresco and several interesting brasses, and has a Norman tower. The grammar school dates from 1576.

Dartford was the scene in 1235, of the marriage, celebrated by proxy, between Isabella, sister of Henry III., and the Emperor Frederick II., and in 1331 a famous tournament was held in the place by Edward III. The same monarch established an Augustinian nunnery on West Hill in 1355, of which however, little remains. After the Dissolution it was used as a private residence by Henry VIII., Anne of Cleves and Elizabeth. The chantry of St. Edmund the Martyr on the opposite side of the town was a part of Edward III.'s endowment to the priory, and became famous as a place of pilgrimage on the way to Canterbury. The part of Watling Street which crossed there towards London was sometimes called "St. Edmund's Way." Wat Tyler's insurrection began at Dartford in 1377. On Dartford Heath is the mental home maintained by the London County Council. Greenhithe, on the banks of the Thames, has large chalk quarries in its neighbourhood, from which lime and cement are manufactured. One of the first attempts at the manufacture of paper in England was made here by Sir John Spielman (d. 1607) jeweller to Queen Elizabeth. Paper making is still important here as well as chemical, metal and leather working.

**DARTMOOR**, high plateau in south-west Devonshire, England. It is 23 m. from north to south, 20 m. from east to west, 200 sq m. in area with a mean altitude of 1,500 feet. It is the highest and eastermost in a broken chain of granitic elevations which extends to the Scilly isles. The higher parts are open, bleak and wild. Sloping heights rise from the main tableland, crested with broken masses of granite locally named *torr*. The

highest of these are Yes Tor and High Willhays (2,028 and 2,039 feet). Large parts of the moor are covered with morasses, and head-waters of all the principal streams of Devonshire (*g v*) are found here. Only two good roads cross the moor, one between Exeter and Plymouth, and the other between Ashburton and Tavistock, intersecting at Two Bridges. The central part of Dartmoor was a royal forest from a date unknown, probably before the Conquest. Its woods were formerly more extensive than now, but a few small tracts of dwarf oaks remain in the lower parts. Previous to 1337 the forest had been granted to Richard, earl of Cornwall, by Henry III., and from then has belonged to the Duchy of Cornwall. The districts immediately surrounding the moor are called the Venville or Fenfield districts. The holders of land by Venville tenure have rights of pasture, fishing, etc., in the forest. (For antiquarian remains see *DEVON*.)

Princeton prison was built in 1809 to house French prisoners and was adapted for use as a convict station in 1850. A tract of moorland adjacent to the prison has been brought under cultivation by the inmates.

**DARTMOUTH, EARL OF**, an English title borne by the family of Legge from 1710 to the present day.

**WILLIAM LEGGE** (c. 1609–1670), the eldest son of Edward Legge (d. 1616), vice-president of Munster, assisted Charles I. in his war against the Scots in 1638. He was also very useful to the king during the months which preceded the outbreak of the Civil War, although his attempt to seize Hull in Jan. 1642 failed. During the war Legge distinguished himself at Chalgrove and at the first battle of Newbury, and in 1645 he became governor of Oxford. Legge helped Charles to escape from Hampton Court in 1647, and was arrested in May 1648. He was released, but was again captured in 1649, and remained in prison until 1653. He then spent some years abroad, but in 1659 was in England inciting the royalists to rise. The old royalist died on Oct. 13, 1670.

Legge's eldest son **GEORGE, BARON DARTMOUTH** (1647–1691), served as a volunteer in the navy during the Dutch war of 1665–1667. He was a member of the household of the duke of York afterwards James II., was governor of Portsmouth and master-general of the army. In 1678 he commanded as colonel the troop at Nieupoit, and in 1682 he was created Baron Dartmouth. In 1683 as "admiral of a fleet" he sailed to Tangiers, dismantled the fortifications and brought back the English troops. Under James II. Dartmouth was master of the horse and governor of the Tower of London; and in 1688 when William of Orange was expected, James II. made him commander-in-chief of his fleet. Although himself loyal to James, the same cannot be said of many of his officers, and an engagement with the Dutch fleet was purposely avoided. Dartmouth, however, refused to assist in getting James Edward, prince of Wales, out of the country, and even reproved the king for attempting this proceeding. He then left the fleet and took the oath of allegiance to William and Mary, but in July 1691 he was arrested for treason, and was charged with offering to hand over Portsmouth to France and to command a French fleet. Dartmouth protested his innocence. He died in the Tower of London on Oct. 25, 1691, before the question was investigated. (See *Dartmouth Papers* [Hist. Mss. Comm. 2nd Report ix and spp. pp. 9–12, 1870–72].)

Lord Dartmouth's only son, **WILLIAM, 1ST EARL OF DARTMOUTH** (1672–1750), succeeded to his father's barony in 1691. He became secretary of state for the southern department and joint keeper of the signet for Scotland in 1710. In 1711 he was created viscount Lewisham and earl of Dartmouth, in 1713 he exchanged his offices for that of keeper of the privy seal, which he held until the end of 1714. After a long period of retirement from public life he died on Dec. 15, 1750.

**WILLIAM, 2ND EARL OF DARTMOUTH** (1731–1801), grandson of the 1st earl, was lord privy seal at the beginning of the dispute with the American colonies. He advised them in 1777 to accept the conciliatory proposals put forward by Lord North, but in 1776 he opposed similar proposals and advocated the employment of force. In March 1782 he resigned his office and in 1783 became lord steward of the household. He died on July 15, 1801. Dartmouth's piety and his intimacy with the early Methodists won for

After the opening of the *F. 1. 1. 1. 1.* Dartmouth College was moved to the site of the present buildings at Fitch Hill. The original papers preserved at Fitch Hill are the original letters from America relating to the struggle for independence printed in *Dartmouth's Papers* (Hist. Mus. Soc. of New Eng. pp. 10-23 and pp. 1-100, 1887).

**DARTMOUTH**, a seaport and town of Devonshire, England on the E. of Plymouth (1921) 2019. It is situated near the mouth of the river Dart which here forms an almost land-locked estuary and is connected by ferry steamers with Kingswear on the opposite shore. The houses rise in tiers from the water beneath a fringe of hills. The parish church of St. Saviour is of the 14th and 15th centuries and rests on oak roof-structure. It contains some objects and carvings. The churches of St. Peter and St. Columba which are both Early English, represent respectively the ancient parishes of Upton and Hardness which with Dartmouth form the borough its official name of Clifton-Dartmouth-Hardness. Dartmouth Castle in part of Tudor date, commands the river. The wooded castle estate was purchased by the corporation in 1901. Portions of the cottage of Thomas Newcomen, one of the inventions of the steam-engine, are preserved. The Royal Naval Cadet college was opened in 1905 to take the place of the Britannia training-ship. It occupies the site of a former seat called Mount Boone. Dartmouth is a favourite yachting centre and yacht, boat and shipbuilding, brewing, engineering and paint-making are carried on. Coal is imported, and resold. River steamers ply to Totnes, 20 m. up the Dart.

Probably owing its origin to Saxon invaders, Dartmouth was a seaport of importance when Earl Beorn was burned in its church in 1049. From its sheltered harbour William II embarked in 1099 for the relief of Mars and Richard I's squadron set sail for the crusades in 1190, while John landed here in 1214. The borough first claimed as such in the reign of Henry I. It was in existence by the middle of the 13th century. In the 13th century Dartmouth was required to furnish ships for the king's service, an obligation maintained throughout the following century. In 1340 the town was incorporated by a charter frequently confirmed by later sovereigns. A French attack on the town was repulsed in 1404, and in 1485 the burgesses received a royal grant of 200 for wailing the town and stretching a chain across the river mouth. Dartmouth fitted out two ships against the Armada and was captured by both the Royalists and Parliamentarians in the Civil War. Manorial markets were granted for Dartmouth in 1237 and 1301. These were important, since as early as 1225 the fleet resorted there for provisions. During the 14th and 15th centuries there was a regular trade with Bordeaux and Brittany and complaints of piracies by Dartmouth men were frequent.

**DARTMOUTH**, a town in Halifax county, Nova Scotia, Canada on the north-eastern side of Halifax harbour connected by a steam ferry with Halifax, of which it is practically a suburb. Pop. (1921) 7,899. It contains a large sugar refinery, foundries, machine shops, saw mills, skate, rope, nail, soap and sash factories and also the Imperial Oil Works.

**DARTMOUTH COLLEGE**, an American institution of higher education in Hanover, New Hampshire. It is Congregational by origin but actually non-sectarian. Dartmouth embraces the original college, incorporated in 1769, a medical school, dating from 1798; the Thayer School of Civil Engineering, established in 1867 by the bequest of General Sylvanus Thayer, and the Amos Tuck School of Administration and Finance, established in 1900 by Edward Tuck—the first, and until the establishment at Harvard of a similar graduate school, the only commercial school in the country whose work is largely post-graduate. The Chandler School of Sciences and the Arts was founded by Abiel Chandler in 1851 in connection with Dartmouth and incorporated in the collegiate department in 1893 as the Chandler scientific course in the college. From 1866 to 1893 the New Hampshire College of Agriculture and the Mechanic Arts, now at Durham, was connected with Dartmouth. The medical school granted the degree of M.D. until 1914, when the last two clinical years were discontinued. The resources of the school are now concentrated on the first two years of the course. The Thayer school and the

Tuck school maintain each a two years' course, the first year of which may, under certain conditions be counted as the senior year of the undergraduate college.

The college has a beautiful campus, 15 instruction halls, 19 residence halls, the most recent completed in 1928 with accommodation for 1,450 students, a large gymnasium built in 1911 by a grant with the Spaulding swimming pool (1919) and the Davis field house (1927) attached, and large athletic fields, an auditorium, Webster hall (1901), College hall (1901) a social headquarters, Rollins chapel (1885); an astronomical and meteorological observatory (Shattuck observatory, 1854). The Fisher Ames Devor Memorial Library (completed 1928) replaces Wilson hall (1865) and contains 235,000 volumes. This library, the gift of George F. Baker, cost \$1,000,000. The physical laboratory is housed in Wilder hall (1909). Instruction in chemistry is given in the Steele Chemistry Laboratory (1921); the natural sciences in a new hall (1928) where geological and ethnological collections are also maintained, while botany is taught in the Clement greenhouse (1928). Parkhurst hall (1911) contains the administrative offices, and Robinson hall (1914) is the home of all college organizations other than athletic. The Mary Hitchcock Memorial Hospital (1893) is associated with the Medical School, and Dick Hall's house (1907) adjoining the hospital is a completely equipped infirmary for 70 students. The college owns the Hanover Inn with accommodation for 150 guests and maintains single or apartment houses for 50 faculty families. In 1928 there were under construction Carpenter hall (fine arts), Saxborn house (English) and two dormitories, as well as the remodelling of Wilson hall for museum purposes.

Dartmouth is the outgrowth of Moor's Indian Charity School, founded by Eleazar Wheelock (1711-79) about 1750 at Lebanon, Connecticut. This school was named in 1755 in honour of Joshua Moor, who in this year gave to it lands and buildings. In 1765 Samson Occom (c. 1723-92), an Indian preacher and former student of the school, visited England and Scotland in its behalf and raised £10,000, whereupon plans were made for enlargement and for a change of site to Hanover. In 1769 the school was incorporated by a charter granted by George III as Dartmouth College, being named after the earl of Dartmouth, president of the trustees of the funds raised in Great Britain. The first college building, Dartmouth hall, was built between 1784 and 1791. This building was destroyed by fire in 1904 and reproduced in brick through gifts of alumni. The college church, built in 1796 and enlarged in 1877 and 1880, is still standing, as is the second building for Moor's Charity School, since 1852 called the Chandler building. During the War of Independence the support from Great Britain was mostly withdrawn. In 1815 President John Wheelock (1754-1817), who succeeded his father in 1779, and was a Presbyterian and a Republican, was removed by the majority of the board of trustees, who were Congregationalists and Federalists, and Francis Brown was chosen in his place. Wheelock, upon his appeal to the legislature, was reinstated at the head of a new corporation called Dartmouth University. The State courts upheld the legislature and the "university," but in 1819 after the famous argument of Daniel Webster (q.v.) in behalf of the "college" board of trustees as against the "university" board before the U.S. Supreme Court, that body decided that the private trust created by the charter of 1769 was inviolable, and Dr. Francis Brown and the old "college" board took possession of the institution's property. The Supreme Court has had frequent occasion to reaffirm the principles of the College Case, and at the Webster centennial celebrated at the college in 1901 Alfred Russell stated that the Dartmouth College Case had at that time been cited in judicial opinions more frequently than any other in the American reports—about 970 times.

The annals of the college have been tranquil with the exception of the disturbed years of the "University" controversy. During the Civil War Dartmouth College contributed 652 alumni and undergraduates to the Union armies. In the World War 3,319 graduates, undergraduates and faculty served in the military forces of the United States. Those dying in active service numbered 112. During most of the 19th century there was little

variation in the numbers attending the college. With the administration of President William Jewett Tucker (1893-1909), however a great expansion of equipment, endowment and enrolment took place which has continued during the present administration of Ernest Martin Hopkins, the 17th president. The enrolment increased from 256 students and 19 members of the faculty in 1890 to 2,200 students and more than 250 members of the faculty in 1928-29. In 1890 91% of the students came from New England. The constituency of the college gradually changed, until in 1926-27 only 41% of the men came from homes within those States. The productive investment assets of the college also increased from approximately \$1,000,000 in 1890 to \$10,000,000 in 1928. The tuition cost in 1928 was \$600 a year, provision is made through scholarships for assisting deserving students unable to pay this sum. The government is entrusted to a board of 12 trustees, five of whom are elected upon the nomination of the alumni. Applicants for the entering class are selected on a basis of character, scholarship and general promise of profiting by a college course. Out of more than 2,000 applicants who apply each year, an entering class is selected designed to maintain a total number in the college of 2,000.

During President Hopkins' administration several important features were introduced. A personnel department for advice on the curriculum and later occupation was organized. Outdoor recreation was made compulsory in the two lower classes. Experts in psychiatry and in nutrition were added to the college staff. In June 1925 certain major changes were made in the curriculum providing *inter alia* for special treatment for students of higher grade and for the granting of but one degree, Bachelor of Arts. One of the interesting influences of the college is promoted by the Dartmouth Outing Club, which maintains a chain of 15 cabins between Hanover and the White mountains and promotes winter sports.

See Frederick Chase, *A History of Dartmouth College and the Town of Hanover* (Cambridge, 1891), John K. Lord, *History of Dartmouth College 1815-1909* (Concord, 1913), Wilder D. Quint, *The Story of Dartmouth* (Boston, 1916); *The Proceedings of the Webster Centennial of Dartmouth College* (1901), *150 Years of Dartmouth College* (1919). For the Dartmouth College Case see Timothy Farrar, *Report of the Case of the Trustees of Dartmouth College against William H. Woodward* (Portsmouth, 1879), Shirley, *The Dartmouth College Causes* (St. Louis, Mo., 1879), Kent, *Commentaries on American Law* (vol. 1, Boston, 1884), and Joseph Story, *Commentaries on the Constitution* (vol. II, Boston, 1891). (E. F. C.)

**DARU, PIERRE ANTOINE, COUNT** (1767-1829), French soldier, was born at Montpellier on Jan. 12, 1767. He was a great army administrator, and served as commissary to the army of defence of the Breton coast (1793), in Masséna's army in Switzerland (1799), in Berthier's army in Italy (1799), and again on the Breton coast (1803). He enjoyed the complete confidence of Napoleon, who employed him as chief commissary of the Grand Army in 1805, and made him intendant of his military household. In the campaigns of 1806-07 he served, in his usual capacity, in the army which overthrew the forces of Russia and Prussia; and he had a share in drawing up the treaty of Tilsit (July 7, 1807). After this he supervised the administrative and financial duties in connection with the French army which occupied the principal fortresses of Prussia. At the congress of Erfurt Daru was present at the interview between Goethe and Napoleon, and interposed tactful references to the works of the great poet. Daru served again as commissary in the campaign of 1809 against Austria, and late in the year 1813 he took up the portfolio of military affairs. After the first abdication of Napoleon in 1814, Daru retired into private life, but aided Napoleon during the Hundred Days. After the second Restoration he became a member of the Chamber of Peers, in which he defended the cause of popular liberty against the ultra-royalists. He died at Meulan on Sept. 5, 1829.

Few men of the Napoleonic empire have been more generally admired and respected than Daru. On one occasion when he expressed a fear that he lacked all the gifts of a courtier, Napoleon replied, "Courtiers! They are common enough about me, I shall never be in want of them. What I want is an enlightened, firm and vigilant administrator, and that is why I have chosen you." At another time Napoleon said, "Daru is good on all sides; he has

good judgment, a good intellect, a great power for work and a body and mind of iron."

Among Daru's literary works are his *Histoire de Venise* (7 vols., 1819), *Histoire de Bretagne* (3 vols., 1826), a poetical translation of Horace; *Discours en vers sur les facultés de l'homme* (1825), and *Astronomie*, a didactic poem in six cantos (1820).

See the "Notice" by Viennet prefixed to the fourth edition of Daru's *Histoire de la république de Venise* (9 vols., 1853) and three articles by Sainte-Beuve in *Causeries au lundi*, vol. ix. For the many letters of Napoleon to Daru see the *Correspondance de Napoléon I<sup>er</sup>* (32 vols., 1858-70).

His son, NAPOLEON DARU (1807-1890) created count in 1832, was a liberal member of the National Assembly in 1848, and of the Legislative Assembly (1869) and foreign minister in 1870. He sat as a conservative in the National Assembly (1871-75), and in the senate from 1876 to 1879.

**DARWEN**, municipal borough, Darwen parliamentary division Lancashire, England, 30 m. north-west from Manchester by the L.M.S. railway. Pop. (1921) 37,906. It lies on the river Darwen, which traverses a densely populated manufacturing district, and is surrounded by high-lying moors. In the neighbourhood are collieries and stone quarries. Darwen manufactures cotton goods, paper, and has blast furnaces and fire-clay works. It has a market hall, technical schools, a free library, and two public parks. Darwen was incorporated in 1783.

**DARWIN, CHARLES ROBERT** (1809-1882), English naturalist, author of the *Origin of Species*, was born at Shrewsbury on Feb. 12, 1809, the grandson of Dr. Erasmus Darwin (*qv.*). His mother, a daughter of Josiah Wedgwood (1730-1795), died in 1817. Charles's elder brother Erasmus Alvey (1804-81), was interested in literature and art rather than science; on the subject of the wide difference between the brothers Charles wrote that he was "inclined to agree with Francis Galton in believing that education and environment produce only a small effect on the mind of anyone, and that most of our qualities are innate" (*Life and Letters*, London, 1887). Darwin considered that his own success was chiefly due to "the love of science, unbounded patience in long reflecting over any subject, industry in observing and collecting facts, and a fair share of invention as well as of common sense" (*ibid.*). He also says: "I have steadily endeavoured to keep my mind free so as to give up any hypothesis, however much beloved (and I cannot resist forming one on every subject), as soon as facts are shown to be opposed to it" (*ibid.*). The essential causes of his success are to be found in this latter sentence, the creative genius ever inspired by existing knowledge to build hypotheses by whose aid further knowledge could be won, the calm unbiassed mind, the love of truth which enabled him to abandon or to modify his own creations when they ceased to be supported by observation. The great naturalist appeared in the ripeness of time, when the world was ready for his splendid generalizations. In the preparation for Darwin Sir Charles Lyell's *Principles of Geology* played an important part, accustoming men's minds to the vast changes brought about by natural processes, and leading them, by its lucid and temperate discussion of Lamarck's and other views, to reflect upon evolution.

Darwin studied at Shrewsbury School under Dr. Samuel Butler (1774-1839), and in 1825 went to Edinburgh to prepare for the medical profession, for which he was unfitted by nature. In 1828 his father sent him to Christ's College, Cambridge with the idea that he should become a clergyman. He took his degree in 1831, tenth in the list of those who do not seek honours. Both at Edinburgh and at Cambridge he gained the friendship of older scientific men—Robert Edmond Grant and William Macgillivray at the former, John Stevens Henslow and Adam Sedgwick at the latter. From Dec. 1831 to Oct. 1836, Darwin was on the "Beagle" as naturalist for the surveying expedition. After visiting the Cape de Verde and other Atlantic islands, the expedition surveyed on the South American coasts and adjacent islands (including the Galapagos), afterwards visiting Tahiti, New Zealand, Australia, Tasmania, Keeling Island, Maldives, Mauritius, St. Helena, Ascension and Brazil, de Verdes and

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 ... and 1854.

Soon after opening his note-book in 1837 he began to collect facts bearing upon the formation of the breeds of domestic animals and plants and quickly saw that selection was the key-stone of man's success. But how selection could be applied to organisms living in a state of nature remained for some time a mystery to him. Various ideas as to the causes of evolution had to be successively abandoned. He had the idea of "laws of change" which affected species and finally led to their extinction, to some extent analogous to the causes which bring about the development, maturity and finally death of an individual. He also had the conception that species must give rise to other species or else die out just as an individual dies unrepresented if it bears no offspring. In Oct. 1838 he read *Malthus on Population*, and his observations having long since convinced him of the struggle for existence, it at once struck him "that under these circumstances favourable variations would tend to be preserved, and unfavourable ones to be destroyed. The result of this would be the formation of new species. Here, then, I had a theory by which to work." In June 1840 he wrote out a sketch, which in 1844 he expanded to an essay of 231 pages folio. The idea of progressive divergence as an advantage in itself, because the competition is most severe between organisms most closely related, did not occur to him until long after. In Jan. 1844 he wrote to his friend Sir Joseph Hooker: "At last gleams of light have come, and I am almost convinced (quite contrary to the opinion I started with) that species are not (it is like confessing a murder) immutable" (*ibid.* ii. 13). In 1857 he explained his views to the great American botanist Asa Gray in a letter which afterwards became classical. He had completed about half of a third and far more expanded treatise, when, in June 1858, he received a manuscript from A. R. Wallace, who was then at Ternate in the Moluccas. Wallace wanted Darwin's opinion on the manuscript, which he asked should be forwarded to Lyell. Darwin was much startled to find in the essay a complete abstract of his own theory of natural selection. He wrote to Lyell, "your words have come true with a vengeance - that I should be forestalled." He placed the manuscript before Hooker, who decided to send it to Darwin, who sent it further with an abstract of Darwin's work, which they asked him to prepare, the joint essay being accompanied by an explanatory letter to the secretary. The title of the joint communication was "On the Tendency of Species to form Varieties; and on the Perpetuation of Varieties and Species by Natural Means of Selection." It was read on July 7, 1859, and appears in the *Ann. Soc. Journal (Zoology)* for the year 1859, as the theory of natural selection.

... 1845 and a brief account of sexual selection and the second an abstract of his letter to Asa Gray dated Sept. 5, 1857. Canon H. B. Tristram was the first to apply the new theory explaining by its aid the colours of desert birds etc. (*Ibis* Oct. 1859).

Acting under the advice of Lyell and Hooker Darwin published on Nov. 24, 1859, his great work *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*. The whole edition of 1,250 copies was exhausted on the day of issue. The first four chapters explain the operation of artificial selection by man and of natural selection in consequence of the struggle for existence. The fifth chapter deals with the laws of variation and causes of modification other than natural selection. The five succeeding chapters consider difficulties in the way of a belief in evolution generally as well as in natural selection. The three remaining chapters (omitting the final recapitulation), deal with the evidence for evolution. The theory which suggested a cause of evolution is thus given the foremost place and the evidence for the existence of evolution considered last. This evidence had never been thought out and marshalled in a manner which bears any comparison with that of Darwin and the work would have been epoch-making had it consisted of the later chapters alone. A storm of controversy arose over the book reaching its height at the British Association at Oxford in 1860 when the celebrated duel between T. H. Huxley and Bishop Wulberforce of Oxford took place. Throughout these struggles Huxley was the foremost champion for evolution and for fair play to natural selection, although he never entirely accepted the latter theory, holding that until man by his selection had made his domestic breeds sterile *inter se*, there was no sufficient evidence that selection accounts for natural species which are thus separated by the barrier of sterility.

*The Variation of Animals and Plants under Domestication*—Probably the second in importance of Darwin's works was published in 1868, and may be looked upon as a complete account of the material condensed in the first chapter of the *Origin*. He finally brought together an immense number of apparently disconnected sets of observations under his "provisional hypothesis of pangenesis," which assumes that every cell in the body, at every stage of growth and in maturity, is represented in each germ-cell by a gemmule. The germ-cell is only the meeting-place of gemmules and the true reproductive power lies in the whole of the body-cells which despatch their representatives, hence "pangenesis." There are reasons for believing that this infinitely complex conception, in which, as his letters show, he had great confidence, was forced upon Darwin in order to explain the hereditary transmission of acquired characters involved in the small proportion of Lamarckian doctrine which he incorporated. If such transmission does not occur, a simpler hypothesis based on the uses of Weismann's "continuity of the germ-plasm" is sufficient to account for the facts (*see* HEREDITY, LAMARCKISM).

*The Descent of Man and Selection in Relation to Sex* (1871), both fulfilled his statement in the *Origin* that "light would be thrown on the origin of man and his history," and collected the evidence in support of his hypothesis of sexual selection which he had briefly described in the 1858 essay. *The Expression of the Emotions* (1872) offered a natural explanation of phenomena which appeared to be a difficulty in the way of the acceptance of evolution. In 1876 Darwin brought out his two previously published geological works on *Volcanic Islands* and *South America* as a single volume. The widely read *Formation of Vegetable Mould through the Action of Worms* appeared in 1881, and the *Fertilization of Orchids* in 1862. *The Effects of Cross- and Self-Fertilization in the Vegetable Kingdom* (1876) proved that the offspring of cross-fertilized individuals are more vigorous, as well as more numerous, than those produced by a self-fertilized parent. *Different Forms of Flowers on Plants of the Same Species* (1877) demonstrates that each different form, although possessing both kinds of sexual organs is specially adapted to be fertilized by the pollen of another form, and that when artificially fertilized by pollen from a plant of its own form, less vigorous offspring are



1875, and *The Power of Movement in Plants* in 1880. Darwin died on April 19, 1882, and was buried in Westminster Abbey on the 6th.

Two daughters and five sons survived him, four of the latter becoming prominent in the scientific world.—Sir George Howard (b. 1843), who became professor of astronomy and experimental philosophy at Cambridge. Sir Francis (b. 1845) the distinguished botanist. Leonard (b. 1850) a major in the royal engineers, and afterwards well known as an economist and eugenicist, and Sir Horace (1851–1928), civil engineer.

See *Life and Letters of Darwin, including an autobiographical chapter*, ed. by his son Francis Darwin (3 vols., 1887) and *More Letters* (2 vols., 1903), E. B. Poulton, *Darwin and the Theory of Natural Selection* (1896) and *Darwin and the Origin of Species* (1909), L. Huxley, *Life and Letters of T. H. Huxley* (2 vols., 1900) and *Charles Darwin* (1921); V. L. Kellogg, *Darwinism To-day* (1907); J. Marchant, *A. R. Wallace, Letters, etc.* (2 vols., 1916) and H. Ward, *C. Darwin* (1927). See also HUXLEY, T. H., WALLACE, A. R. and HOOKER, SIR JOSEPH (E. B. Po.)

**DARWIN, ERASMUS** (1731–1802) English man of science and poet, was born at Elton, Nottinghamshire. Educated at Cambridge and Edinburgh, he settled in 1756 as a physician at Nottingham, but moved in 1757 to Lichfield, and in 1781 to Derby, where he died suddenly on April 18, 1802. His fame as a poet rests upon his *Botanic Garden*, though he also wrote *The Temple of Nature, or the Origin of Society* (1803), and *The Shrine of Nature* (posthumously published). The *Botanic Garden* (1792, the part entitled *The Loves of the Plants* was published anonymously in 1789) shows a genuine scientific enthusiasm and interest in nature, but has little other poetic quality. The artificial character of the diction renders it in emotional passages stilted, and the personification is carried to excess. Botanical notes are added to the poem, and its eulogies of scientific men are frequent. Darwin's most important scientific work is his *Zoonomia* (1794–96), which contains a system of pathology, and a treatise on generation, in which he, in the words of his famous grandson, Charles Darwin, "anticipated the views and erroneous grounds of opinions of Lamarck." The essence of his views is contained in the hypothesis that through millions of ages all warm-blooded animals may have arisen from one living filament which the First Cause endowed with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions and associations.

His *Phytologia, or the Philosophy of Agriculture and Gardening* (1799) claims that plants have sensation and volition. A paper on *Female Education in Boarding Schools* (1797) completes the list of his works.

ROBERT WARING DARWIN (1766–1848), his third son by his first marriage, a doctor at Shrewsbury, was the father of the famous Charles Darwin; and VIOLETTA, his eldest daughter by his second marriage, was the mother of Francis Galton.

See A. Seward, *Memoirs of the Life of Dr. Darwin* (1804). Charles Darwin, *Life of Erasmus Darwin, an introduction to an essay on his works by Ernst Krause* (1879); L. Brandl, "E. Darwin's Botanic Garden" in *Wiener Beiträge zur englischen Philologie* (1909).

**DARWIN, SIR GEORGE HOWARD** (1845–1912), British astronomer, was born at Down, Kent, on July 9, 1845, and was the second son of Charles Darwin (q.v.). He was educated at Trinity College, Cambridge (second wrangler and Smith's prizeman), of which he was elected a fellow in 1868, and where he became Plumian professor of astronomy and experimental philosophy in 1883. His work on the application of harmonic analysis and prediction to oceanic tides is monumental, as is his discussion of the influence of tidal friction in determining the evolution of binary systems, with special reference to the earth and moon. In an early paper he discussed the possibility of geological changes having altered considerably the inclination of the earth's axis to the plane of its orbit, and came to a negative conclusion. These works constituted the first attempt to apply thorough dynamical analysis to cosmogony and the major problems of geological evolution. He also carried out important work on periodic orbits in the problem of three bodies, figures of equilibrium of rotating masses of fluid and the stresses in the earth's crust.

conment and mountain. He was awarded the gold medal of the Royal Astronomical Society in 1892 and the Copley Medal of the Royal Society in 1911. In 1899 Darwin was made president of the Royal Astronomical Society, and of the British Association in 1905. He was made K.C.B. in 1905, and he died in Cambridge on Dec. 7, 1912.

Among his works are *The Tides and Kindred Phenomena in the Solar System* (1898, 3rd ed., 1911) and *Scientific Papers* (5 vols., Cambridge University Press, 1907–16) which has a supplementary volume edited by F. J. M. Stratton and J. Jackson, containing biographical memoirs.

**DARWIN GLASS:** see TERTITE

**DAS, CHITTA RANJAN** (1870–1905), Indian politician and leader of the Swaraj party in Bengal, was born at Calcutta on Nov. 5, 1870. His father, Bhuban Mohan Das, an attorney of the Calcutta High Court, joined the Brahmo Samaj, and edited the *Brahmo* (afterwards the *Bengal*) *Public Opinion*. Chitta Ranjan was educated at the London Missionary College, Bhowanipore, and at the Presidency College, Calcutta. He was called to the bar at the Middle Temple on June 26, 1894. Joining the Calcutta bar, he won his reputation by his successful defence of Arabinda Ghosh in the Manicktollah bomb conspiracy case. He defended relays of young political offenders and assisted in keeping extremist papers, such as *Bande Mataram*, going, until they were checked by the Press Act, 1910.

In 1895 Das had published a volume of Bengali lyrics, *Malancha*, and two volumes of verse were issued during the World War. In 1915 Das started the Bengali monthly *Narayana*, but his chief journalistic work was the founding and conduct of the aggressive Swarajist daily, *Forward*. "His dominating note was hatred—and dread—of everything that savoured of the West. . . . It was the pursuit of these false gods that had converted Bengal from a smiling land of happiness and plenty into a salt waste over which brooded stagnation and death" (Lord Ronaldshay's *Heart of Aryāvarta* [1925]). Yet he was sufficiently interested in the shaping of political reforms on western lines to participate in discussions leading to a joint address of Europeans and Indians to the Secretary of State and the Viceroy in Nov. 1917 (see Lionel Curtis, *Diarchy*, 1920).

Das became an influential though not always tractable supporter of M. K. Gandhi in the non-coöperation movement launched in the autumn of 1918. He abandoned general practice, though he continued to defend political offenders, took to the wearing of *khadar* (homespun cloth) and lived in the utmost simplicity. Late in 1921 the "volunteer" movement was proscribed in Bengal, as in other provinces. On Dec. 10, some days before Das was due to preside at the Indian National Congress at Ahmadābād, he was arrested for issuing a public appeal for the proscribed organization, and was sentenced to six months' imprisonment. Mrs. Das, who was in thorough sympathy with her husband's views, was arrested, but by order of the governor, Lord Ronaldshay, was speedily released. Das presided at the National Congress at Gaya in Dec. 1922, and endeavoured to secure revocation of previous resolutions against entering the Legislatures, suggesting obstructive tactics in place of boycott. The controversy sharply divided the non-coöperationists, but with the decline of Gandhi's influence the Das policy gained ground, and influenced the second general election (1923) under the Reforms; Das was elected to the Bengal Council by more than one constituency. In the following April Das was elected the first mayor of Calcutta.

In the Bengal Legislature Das did not command a clear majority, but he was able to bring pressure both on the Independents and the Mohammedans, to whom he suggested a pact by which a substantial proportion of elective seats and public appointments would be reserved for them in the event of Swarajist success. He secured a bare majority on March 24, 1924, for refusal of the salaries of Ministers appointed provisionally by Lord Lytton. Lord Lytton's offer of a ministership to Das was refused after some hesitation. Das offered vehement opposition to the Bengal Criminal Law Amendment Ordinance (Oct. 25, 1924) subsequently embodied in a certified Act under which 110 persons, some of them associates of Das, were kept in prison for terrorist conspiracy. His refusal of office and c of votes in the Legis

At the Bengal Provincial Conference at Faridpur, held in May 1906, Das not only his position as a resolution was passed concerning the relations with the British. There can be no doubt that the connection between the Terrorists and the Swarajists under Das was not a mere sympathy of the latter for the former. While a complete Party was separate units, each was working to use and assist the other in so far as it was useful for the attainment of the object.

The Secretary for India in the first Labour government, Lord Milner, stated in debate (July 21, 1924) that he was informed by a high authority in Indian politics that Das had the reputation of being a particularly honest and scrupulous politician second only to Gandhi himself in soundness of character. Undoubtedly, the Indian mind was impressed by the great personal sacrifices of Das for the Swaraj cause, and by his courage in act and utterance. In resource and driving power he stood high above his associates. He was skilful in swaying Bengali audiences and individuals being capable both of playing upon their weaknesses and appealing to what was best in them. But his vision of India under Swaraj as a conglomeration of semi-autonomous villages had no relation to the hard facts that make centralization inevitable.

There is reason to believe that Das was gaining a fresh outlook, more tolerant of Western ideas in the closing months of his life. He was at Darjeeling in search of health when he died from heart failure following diabetes, on June 16, 1925.

Das' book, *Words for Indians* (1918) gives extracts from speeches a substantial volume of *Speeches* (some translated from Bengali) was published in Calcutta 1918. *The Way to Swaraj* (1923) gives the speeches made during a tour in southern India, and expounding, according to the preface, the whole of Desabandhu's philosophy of Indian Nationalism. This philosophy is discussed with penetrating insight in Lord Ronaldshay's books *India A Bird's-eye View* (1924) and *The Heart of Aryavarta* (1925). See also *Life and Times of C. R. Das* by P. C. Ray, 1928.

**DASEHRA** (DASSERA), the "ten days" (or nine nights) festival of the modern Hindus, also called in Bengal the Durga-puja. It celebrated the close of the rainy season and the opening of that for warlike activities; but is now observed merely as a festival.

**DASENT, SIR GEORGE WEBBE** (1817-1896), English writer, was born in St. Vincent, West Indies, and educated at Westminster school, King's College, and Oxford. In 1840 he was appointed to a diplomatic post in Stockholm. Here he met Jacob Grimm, and at his suggestion first interested himself in Scandinavian literature and mythology. Returning to England in 1845, he became assistant editor of *The Times* under Delane, whose sister he married. In 1853 he was appointed professor of English literature and modern history at King's College, London. In 1861-62 he visited Iceland. In 1870 he was appointed a civil service commissioner and resigned his post on *The Times*. He was knighted in 1876, and retired from the public service in 1892. He published, besides other translations, *The Story of Burnt Njal*, from the Icelandic of the *Njals Saga* (1861), and *Gisli the Outlaw* (1866).

See Arthur Irwin Dasent the *Life of Delane* (1908).

**DASHKOV, CATHERINA ROMANOVNA VORONTSOV, PRINCESS** (1744-1810). Russian litterateur, was the third daughter of Count Roman Vorontsov. (For the family see VORONTSOV.) She studied mathematics at the University of Moscow, and became one of the leaders of the party that attached itself to the grand duchess (afterwards empress) Catherine. Before she was 16 she married Prince Mikhail Dashkov and went to reside with him at Moscow. In 1762 she was at St. Petersburg (Leningrad) and took a leading part, according to her own account the leading part, in the *coup d'état* by which Catherine was raised to the throne. (See CATHERINE II.) Another course of events would probably have resulted in the elevation of the Princess Dashkov's elder sister, Elizabeth, who was the emperor's mistress, and in whose favour he made no secret of his intention to depose Catherine. Her relations with the new empress were not cordial and she set out in 1768 on an extended tour through Europe. In

1772 she corresponded with Garrick, Dr. Blair and Pontepoli Robertson. In 1782 she returned to the Russian capital where she was appointed *directeur* of the Academy of Arts and Sciences and in 1784 the first president of the Russian Academy founded at her suggestion. She projected the Russian dictionary of the Academy arranged its plan and executed a part of the work herself. She edited a monthly magazine, and wrote at least two dramatic works, *The Marriage of Fabian*, and a comedy entitled *Louisekoff*. Shortly before Catherine's death she retired from court. On the accession of the emperor Paul in 1796 she was deprived of all her offices, and ordered to retire to a village in the government of Novgorod "to meditate on the events of 1762." But she passed the closing years of her life on her estate near Moscow where she died on Jan. 4, 1810.

The *Memoirs of the Princess Dashkoff* written by herself were composed in English and published in London (2 vols., 1840). They were edited by Mrs. W. Bradford, who, as Miss Wilmot, had resided with the princess between 1803 and 1808, and had suggested their preparation.

**DASS, PETTER** (1647-1708), the "father" of modern Norwegian poetry, was the son of a Scottish merchant, Peter Dundas settled in Bergen. He was born on the island of Nord Hero, on the north coast of Norway, studied at Copenhagen, and was ordained priest in 1672. In 1689 he received the important living of Alstahoug in the north of Norway, with jurisdiction over the neighbouring districts. His writings passed in ms. from hand to hand, and few of them were printed in his lifetime. *Nordlands Trompet* (*The Trumpet of Nordland*), his greatest and most famous poem, was not published till 1739; *Den norske Dale-Vise* (*The Norwegian Song of the Valley*) appeared in 1696, the *Aandelig Tidssfordriv* (*Spiritual Pastime*), a volume of sacred poetry, was published in 1711. *The Trumpet of Nordland* remains as fresh as ever in the memories of the inhabitants of the north of Norway; boatmen, peasants, priests will alike repeat long extracts from it at the slightest notice, and its popularity is unbounded. It is a rhyming description of the province of Nordland, its natural features, its trades, its advantages and its drawbacks, given in dancing verse of the most breathless kind, and full of humour, fancy, wit and quaint learning.

The collected writings of Dass were edited (3 vols., Christiania, 1873-77) by Dr. A. E. Ericksen.

**DASYURE**, a name for any member of the family *Dasyuridae* (see MARSUPIALIA). The name is better restricted to animals of the typical genus *Dasyurus*. These are mostly inhabitants of the Australian continent and Tasmania. They hide themselves in the daytime in holes among rocks or in hollow trees, but prowl about at night in search of the small mammals and birds which constitute their prey. In arboreal species there are transversely striated pads on the feet; these are absent in terrestrial forms such as the common dasyure (*D. viverrinus*). The ursine dasyure (*Sarcophilus ursinus*), often called the "Tasmanian Devil," constitutes a distinct genus. In size it may be compared to an English badger. The general colour of the fur is black tinged with brown, with white patches on the neck, shoulders, rump and chest. It is a burrowing animal, nocturnal and carnivorous, and commits great depredations on the sheepyards and poultry-lofts of the inhabitants.

**DATE-LINE:** see INTERNATIONAL DATE-LINE

**DATE PALM.** The dates of commerce are the fruit of a species of palm, *Phoenix dactylifera*, a tree which ranges from the Canary Islands through Northern Africa and the south-east of Asia to India. For an illustration of this tree see PALMS. It has been cultivated and much prized throughout most of these regions from the remotest antiquity. In Arabia it is the chief source of national wealth, and its fruit forms the staple article of food in the country. The tree has also been introduced along the Mediterranean shores of Europe; but as its fruit does not ripen so far north, the European plants are only used to supply leaves for the festival of Palm Sunday among Christians, and for the celebration of the Passover by Jews. It was introduced into the New World by early Spanish missionaries, and is now cultivated in the dry

districts of the south-western United States and in Mexico. The date palm is a beautiful tree, growing to a height of from 60 to 80 ft., and its stem, which is strongly marked with old leaf-scars, terminates in a crown of graceful, shining, pinnate leaves. The flowers spring in branching spadices from the axis of the leaves, and as the trees are only of one sex it is necessary in cultivation to fertilize the female flowers by artificial means. The fruit is oblong, fleshy and contains one very hard seed which is deeply furrowed on the inside. The fruit varies much in size, colour and quality under cultivation. Regarding this fruit, W. G. Palgrave (*Central and Eastern Arabia*) remarked: "Those who, like most Europeans at home, only know the date from the dried specimens of that fruit shown beneath a label in shop-windows, can hardly imagine how delicious it is when eaten fresh and in Central Arabia." In the oases of Sahara, and in other parts of Northern Africa dates are pounded and pressed into a cake for food. The dried fruit used for dessert in European countries contains more than half its weight of sugar, about 6% of albumen, and 12% of gummy matter. All parts of the date palm yield valuable economic products. Its trunk furnishes lumber for house-building and furniture, the leaves supply thatch; their footstalks are used as fuel, and also yield a fibre for cordage. See PALM.

*Date sugar* is a valuable commercial product of the East Indies, obtained from the sap or toddy of *Phoenix sylvestris*, the toddy palm, a tree so closely allied to the date palm that it has been supposed to be the parent stock of all the cultivated varieties. The juice, when not boiled down to form sugar, is either drunk fresh, or fermented and distilled to form arrack. *Date palm meal* is obtained from the stem of a small species, *Phoenix farinifera*, growing in the hill country of southern India.

For further details see Sir G. Watt, *Dictionary of the Economic Products of India* (1892), and *The Date Palm*, U.S. Department of Agriculture Bureau of Plant Industry, Bulletin No. 53 (W. T. Swingle), 1904.

**DATIA**, an Indian state in the Bundelkhand agency. It lies in the extreme north-west of Bundelkhand, near Gwalior, and is surrounded on all sides by other states of Central India, except on the east where it meets the United Provinces. The state came under the British government after the treaty of Bassein in 1802, and was settled with the present family by treaties in 1804 and 1818. Area, 911 sq. m.; pop. (1921) 148,659. The chief, whose title is maharaja, is a Rajput of the Bundela clan, being descended from a younger son of a former chief of Orchha; his salute is 15 guns. The town of Datia (pop. 15,221 in 1921) is surrounded by a stone wall, enclosing handsome palaces, with gardens; the palace of Bir Singh Deo, of the 17th century, is "one of the finest examples of Hindu domestic architecture in India" and is now untenanted.

**DATIVE**, the name, in grammar, of the case of the "indirect object," the person or thing to or for whom or which anything is given or done (Lat. *dativus*, giving or given, from *dare*, to give). In law, the word signifies something, such as an office, which may be disposed of at will. In Scots law the term signifies "appointed or granted by a court." In Roman law, a *tutor* was either *dativus*, if expressly nominated in a testament, or *optivus*, if a power of selection was given.

**DATO, EDUARDO** (1856-1921), Spanish politician, was born at Corunna on Aug. 12, 1856. He graduated in law at Madrid university and was elected deputy in 1884. Under-Secretary for the Home Department in 1892, he became minister for the department in 1899, and promoted bills regarding accidents, insurance and women's labour. In Dec. 1902 he became minister of justice, in 1907 mayor of Madrid and then president of the Chamber. He belonged to the "Liberal-Conservative" variety of the Conservative party, which his friend and political chief Silvela had represented, and after Silvela's death continued to maintain this attitude. When in 1913 Señor Maura refused to take power, Señor Dato dissented from his chief, carrying with him the majority of his party, which elected him as its leader. When the World War broke out, he was responsible for Spain's declaration of neutrality. Becoming prime minister again in June 1917, he faced with determination the revolutionary outbreaks and dis-

turbances of that summer. He resigned in October, but in 1920 resumed office, and while prime minister was murdered in Madrid on March 8, 1921.

**DATOLITE**, a mineral species consisting of basic calcium and boron orthosilicate,  $\text{Ca}(\text{BOH})_2\text{SiO}_3$ . It is white or colourless, often with a greenish tinge, and may be either transparent or opaque, it usually occurs as well-developed monoclinic crystals bounded by numerous bright faces, many of which often have a more or less pentagonal outline, but also as masses with a granular to compact texture, the fractured surfaces having the appearance of porcelain when the mineral is compact. Hardness 5-5½; specific gravity 3.0.

Datolite is a mineral of secondary origin, and in its mode of occurrence it resembles the zeolites, being found with them in the amygdaloidal cavities of basic igneous rocks such as basalt, it is also found in gneiss and serpentine, and in metalliferous veins and in beds of iron ore. At Arendal in Norway, the original locality for both the crystallized and botryoidal, or fibrous variety (known also as botryolite), it is found in a bed of magnetite. In amygdaloidal basaltic rocks it is found at Bishopston in Renfrewshire and near Edinburgh, and as excellent crystallized specimens at several localities in the United States.

**DATUM**, literally "that which is given." The term is commonly used for anything that is regarded as beyond question or that is allowed to be assumed or taken for granted (though it may be only for the sake of argument) in connection with any problem involving further construction or interpretation or inference. Usually there is no difficulty in distinguishing the *data* of a problem from the further constructions or inferences. Sometimes, however, complications arise. It is e.g., a common tendency to regard all perceptions as *data* (or facts, as they are also called). But as is obvious in cases of illusion and hallucination, even comparatively simple percepts (like the recognition of an object or location of a sound) involve mental constructions which may be wrong. And so even in the case of percepts it becomes important to distinguish much more carefully than is commonly done the *sense-data* (such as mere sensations of sight or sound) from the mental constructions immediately and unwittingly put upon them.

**DATURA**: see STRAMONTIUM.

**DAUB, KARL** (1765-1836), German Protestant theologian, was born at Cassel on March 20, 1765. He studied at Marburg, and in 1795 became professor ordinarius of theology at Heidelberg, where he died on Nov. 22, 1836. Daub sought to bring about a speculative reconstruction of orthodox dogma, but he unfortunately ignored historical criticism. His *Lehrbuch der Katechetik* (1801) was written under the spell of Kant, his *Theologumena* (1806), his *Einführung in das Studium der christl. Dogmatik* (1810), and his *Judas Ischarioth* (2 vols., 1816), in the spirit of Schelling, while *Die dogmatische Theologie jetziger Zeit* (1833), and *Vorlesungen über die Prolegomena zur Dogmatik* (1839) are Hegelian in principle.

See Rosenkranz, *Erinnerungen an Karl Daub* (1837); F. Lichtenberger, *History of German Theology* (1889), O. Pfeiderer, *Development of Theology* (1890).

**DAUBENTON, LOUIS-JEAN-MARIE** (1716-1800), French naturalist, was born at Montbar (Côte d'Or). In 1741 he graduated in medicine at Reims, and returned to his native town with the intention of practising, but Buffon invited him to provide the anatomical descriptions for his treatise on natural history. His details of the dissection of 182 species of quadrupeds in Buffon's work brought him great reputation; but a feeling of jealousy induced Buffon to dispense with his services in the remainder of the treatise. Daubenton now occupied himself with zoological descriptions and dissections, the comparative anatomy of recent and fossil animals, vegetable physiology, mineralogy, experiments in agriculture, and the introduction of the merino sheep into France. In 1744 he was appointed keeper and demonstrator of the cabinet of natural history in Paris, and from 1755 lectured on natural history in the college of medicine, and in 1783 on rural economy at the Alfort school. He was also professor of mineralogy at the Jardin du Roi. In Dec. 1799 he was appointed a member of the senate. He died in Paris on Jan. 1, 1800.

**DAUBENY, CHARLES GILES** (1795-1877), English scientist born at Stratford-upon-Avon, Warwickshire, on Feb. 11, 1795, studied medicine. He was professor of Chemistry (1822-35) and of Anatomy (1834-57) at Oxford and carried out numerous experiments on the effect of changes in soil, light, etc., on plants. He also made an extensive survey of the volcanoes of Europe, the results of which are embodied in his *Description of Active and Extinct Volcanoes* (1826), 2nd ed. 1848. He died at Oxford on Dec. 11, 1857.

**DAUBIGNY, CHARLES FRANÇOIS** (1817-1878), French landscape painter, allied in sentiment with the Barbizon school. He was born at Paris, on Dec. 15, 1817, but spent much time as a child at Villamontais, a village on the Oise in the north-west of Paris. Daubigny was the son of an artist, and most of his family were painters. He studied in Italy and painted for nearly two years, he then returned to Paris not to leave it again until, in 1866, he took a house at Auvers on the Oise. By 1837 Daubigny had become famous as a river and landscape painter, although he had been devoting himself as well to drawing in black-and-white to etching, wood engraving and lithography. In 1855 his picture "Lock at Optevoz," in the Louvre, was purchased by the State. He visited London more than once and spent some time in Holland. He died in Paris on Feb. 19, 1878. Daubigny is chiefly preferred in his riverside pictures, of which he painted a great number, but although there are two landscapes by Daubigny in the Louvre, neither is a river view. They are for that reason not so typical as many of his smaller Oise and Seine pictures. Among his most ambitious canvases are "Springtime" (1857), in the Louvre; "Borde de la Cure Morvan" (1864); "Villerville sur Mer" (1864); "Moonlight" (1865); "Andresy sur Oise" (1868), and "Return of the Flock—Moonlight" (1873).

His followers and pupils included his son Karl (who painted so well that his works are occasionally mistaken for those of his father, though in few cases do they equal his father's mastery), Cudinet, Delpy and Damove. The works of Daubigny are, like Corot's, to be found in many modern collections.

See Fraa Henriët, *C. Daubigny et son oeuvre* (1873); Albert Wolff, *La Capitale de Paris: Ch. François Daubigny* (1881); J. Claretie, *Peintres et sculpteurs contemporains. Daubigny* (1882); D. Croal Thomson, *The Barbizon School of Painters* (1860); J. W. Mollett, *Daubigny* (1890).

**DAUBLER, THEODORE** (1876- ), German writer, was born in Trieste on Aug. 17, 1876, son of a merchant family. With the appearance of *Das Nordlicht* (1910) Daubler took his place at the head of the German expressionist movement. *Das Nordlicht* is a massive religious allegory showing the author's own path from agnosticism to mystic religion, under an epic-heroic disguise. Other characteristic poetical works are *Der Sternhelle Weg* (1913), *Das Sternenkind* (1916) and *Die Treppe zum Nordlicht* (1920), *Attische Sonette* (1924); prose works, *Mit silberner Sichel* (1921), *Wir wollen nicht verweiden* (autobiographical fragment, 1916), *Der neue Standpunkt* (artistic criticism, 1916); *Lucidarium in arte musica* (musical criticism, 1917); *Ein Kampf um die moderne Kunst*. Daubler was remarkably successful in giving his thought clear and often melodious expression, but his original work, possibly owing to its Latin forms, was slow in achieving wide popularity in Germany. His influence as a critic of expressionist music and poetry was, however, very great. In 1928 he was elected a member of the German Academy of Letters.

**DAUDET, ALPHONSE** (1840-1897), French novelist, was born at Nîmes on May 13, 1840, the son of a silk manufacturer. The lad, amid much truancy, had but a depressing boyhood. In 1856 he left Lyons, where his schooldays had been mainly spent, and began life as an usher at Alsas, in the south. The position proved to be intolerable. On Nov. 1, 1857, he abandoned teaching, and took refuge with his brother Ernest (q.v.) in Paris. Alphonse wrote poems, shortly collected into a small volume *Les Amour-cœurs* (1858), which met with a fair reception, obtained employment on the *Figaro*, and wrote two or three plays. The duc de Morny appointed him to be one of his secretaries—a post which he held till Morny's death in 1865.

In 1866 appeared *Lettres de mon moulin*. The first of his longer books, *Le petit chapeau* (1868), the pathetic story of his own earlier years, is told with much grace and pathos. The year 1872 produced the famous *Aventures prodigieuses de Tartarin de Tarascon*, and the three-act piece *L'Arlésienne*. *Promant jeune et Roxelane* (1871) struck a note, not new certainly in English literature, but comparatively new in French. Here was a writer who possessed the gift of laughter and tears, a writer not only sensible to pain and sorrow, but also to moral beauty. *Jack*, the story of an illegitimate child, a martyr to his mother's selfishness, followed in 1876. Other novels followed *Le Nabab* (1877), *Les Rois en exil* (1879), *Nama Roumestan* (1881), *Sapho* (1884), and *L'Immortel* (1888). Daudet then wrote his own reminiscences in *Trente ans de Paris* (1887), and *Souvenirs d'un homme de lettres* (1888). These, with the three *Tartarins*—Tartarin the mighty hunter, Tartarin the mountaineer, Tartarin the colonist—and the admirable short stories, written for the most part before he had acquired fame and fortune, constitute his life work.

Though Daudet defended himself from the charge of imitating Dickens it is difficult altogether to believe that so many similarities of spirit and manner were quite unsought. What, however, was purely his own was his style. It is a style that may rightly be called "impressionist," full of light and colour, not descriptive after the old fashion, but flashing its intended effect by a masterly juxtaposition of words that are like pigments. Nor does it convey, like the style of the Goncourts, to whose work it owed something, a constant feeling of effort. It is full of felicity and charm—*un charmeur*. Zola has called him "An intimate friend of Edmond de Goncourt (who died in his house), of Flaubert, of Zola, Daudet belonged essentially to the naturalist school of fiction. His own experiences, his surroundings, the men with whom he had been brought into contact, various persons who had played a part, more or less public, in Paris life—all passed into his art. But he vivified the material supplied by his memory. His world has the great gift of life. *L'Immortel* is a bitter attack on the French Academy, to which august body Daudet never belonged.

Daudet wrote some charming stories for children, among which may be mentioned *La Belle Névernaise*, the story of an old boat and her crew. His married life—he married in 1867 Julia Allard—seems to have been singularly happy. There was perfect intellectual harmony, and Madame Daudet herself is known by her *Impressions de nature et d'art* (1879), *L'Enfance d'une Parisienne* (1883), and by some literary studies written under the pseudonym of Karl Steen. In his later years Daudet suffered from insomnia, failure of health and consequent use of chloral. He died in Paris on Dec. 17, 1897.

The story of Daudet's earlier years is told in his brother Ernest Daudet's *Mon frère et moi*. There is a good deal of autobiographical detail in Daudet's *Trente ans de Paris* and *Souvenirs d'un homme de lettres*, and also scattered in his other books. The references to him in the *Journal des Goncourts* are numerous. See also L. A. Daudet, *Alphonse Daudet* (1898), and biographical and critical essays by R. H. Sherard (1894); by A. Gerstmann (1883); by B. Duedenich (1900), by A. Hermant (1903), and a bibliography by J. Brivois (1895); also *The Works of Alphonse Daudet*, translated by L. Ensor, H. Frith, E. Bartow (1902, etc.). Criticism of Daudet is also to be found in F. Brunetiere, *Le Roman naturaliste* (new ed., 1897); J. Lemaître, *Les Contemporains* (vols. II and IV); G. Pellissier, *Le Mouvement littéraire au XIX<sup>e</sup> siècle* (1890); A. Symons, *Studies in Prose and Verse* (1904).

**DAUDET, LÉON** (1867- ), French man of letters and politician, born in Paris Nov. 16, 1867, son of Alphonse Daudet (q.v.). He married a granddaughter of Victor Hugo, whom he subsequently divorced. His violent opposition to the Government permitted him to display his talents as a controversialist. He wrote for *Le Gaulois* and *Le Figaro*, and also for *La Libre Parole*, a violently anti-semitic paper, in the columns of which he was able to give full vent to his fiery temperament. Influenced by the writer, Charles Maurras, he adopted the doctrines of neo-royalism. At the time of the Dreyfus case, through the generosity of Madame de Loynes, the royalist paper, *Action Française* was founded in 1899, afterwards as a daily in 1908.

often and force of his literary style the wealth of his combined to make him read and

care for 10 years. He was elected to the Chamber as a deputy for Paris in 1919 but was defeated in 1924. With the establishment of peace his influence declined. In the summer of 1925 the death of his young son, Philippe, caused a great sensation. The finding of the judicial enquiry was that he had committed suicide but Leon Daudet conducted a long and violent campaign to prove that he had in fact been murdered. He accused the chauffeur, in whose taxi his son had been found dead from a bullet wound, of complicity. The chauffeur prosecuted him, and Daudet was condemned to prison and ordered to pay heavy compensation. He was imprisoned in the Santé at Paris, from which he was rescued in 1927 by a ruse of some royalists, who made the governor of the prison believe he had been pardoned, Daudet fled to Belgium.

The best of Daudet's novels are: *L'astre noir* (1895); *Les Morticoles* (1894); *Le voyage de Shakespeare* and *Sylla et son destin* (1922). Among his philosophical and controversial works may be mentioned *L'Héliodo* (1916); *Le monde des images* (1919), *L'avant-guerre* (1913); *Le stupide XIX<sup>e</sup> siècle* (1922), and *Souvenirs* (1914).

**DAUGAVPILS** (Dvinsk), a town of Latvia in 55° 53' N 26° 32' E on the Daugava (Western Dvina). Pop. (1926) 40,640. Formerly a Russian fortress, it is now the training centre for the Lettish army, and has some timber industries. The Livonian Knights of the Sword founded a fort 12 m. further up the river, which was removed to its present site by Stephen Bathori, King of Poland, in 1582. Poland, Sweden and Russia alternately occupied this strategic border fort until the partition of Poland gave it to Russia in 1772. The French occupied it in 1812 and it was a centre of strife in 1914-16, its population and industry being much diminished as a result.

**DAULATABAD**, hill-fortress, Hyderabad State, India, about 10 m. N.W. of the city of Aurangabad. The former city of Daulatabad (Deogiri) has shrunk to a village though its magnificent fortress and remains of public buildings survive. The fortress, on a conical rock, crowns a hill rising steeply from the plain to a height of some 600 ft. The outer wall, 2½ m. in circumference, once enclosed the ancient city of Deogiri (Devagiri), and between this and the base of the upper fort are three lines of defences. The only access to the summit is by a narrow bridge, with passage for two men abreast, and a long gallery, excavated in the rock, with a steep stair midway, the top of which is covered by a grating destined in time of war to form the hearth of a huge fire kept burning by the garrison above. The remarkable Chand Minar in Daulatabad, a tower 210 ft. high and originally covered with Persian glazed tiles, was erected in 1445 by Ala-ud-din Bahmani to commemorate his capture of the fort. The Chori Mahal, or China Palace, is the ruin of a building in which Abul Hasan, the last of the Kutb Shahi kings of Golconda, was imprisoned by Aurangzeb in 1687.

Deogiri is said to have been founded c. A.D. 1187 by Bhillama I, who renounced his allegiance to the Chalukyas and established the power of the Yadava dynasty in the west. In 1294 the fort was captured by Ala-ud-din Khilji, and the rajas were reduced to pay tribute. The tribute falling into arrear, Deogiri was again occupied by the Mohammedans, and in 1318 the last raja, Harpal, was flayed alive. Deogiri now became an important base for Muslim expeditions southwards, and in 1339 Mohammed ben Tughlak Shah made it his capital as Daulatabad ("Abode of Prosperity"), and made arrangements for transferring to it the population of Delhi, but troubles summoned him north; during his absence the Muslim governors of the Deccan revolted, and Daulatabad itself was taken by Zafar Khan, governor of Gulbarga. Later it fell into the hands successively of the Nizam Shahis, the emperor Akbar, the Shah of Ahmednagar, the Nizam Shahi usurper, Malik Amber, Shah Jehan, the Mogul emperor and the Nizam of Hyderabad, who took it after the death of Aurangzeb. Its glory, however, had already decayed owing to the removal of the seat of government by the Mughals to Aurangzeb.

**DAUMER, GEORG FRIEDRICH** (1800-1875), German writer on religion. Born in 1800, at Nuremberg and died on Dec. 13, 1875, at Würzburg. He was educated at

Erlangen and Leipzig and forsaking his early pietism, violently opposed Christianity especially in his *Die Geheimnisse des christlichen Aberglaubens* (1847). After the publication of *Religion des neuen Weltalters* 3 vols. (1850) Daumer approached Moham-medanism in his poems, *Mahomet* (1848) and *Liederbluten der Hafis* (1846-51). He became a Catholic in 1859 and wrote *Das Wunder* (1874) and *Kaspar Hauser, sein Wesen, seine Unschuld* (1873).

**DAUMET, PIERRE JÉRÔME HONORÉ** (1826-1911), French architect, member of the Académie des Beaux-Arts, was born on Oct. 23, 1826, in Paris. He entered the École des Beaux-Arts in 1846, and in 1855 was awarded the Prix de Rome. In 1861 he was sent on an archaeological expedition to Macedonia and published, in collaboration with Léon Henzey, an important work on the researches in Thessaly, Thrace and Illyria. He was entrusted with the restoration of many monuments of French architecture, in particular the castle of Chantilly, the Palais de Justice, Paris and the theatre at Orange. In Nov. 1884 Daumet undertook the construction of the Église du Sacré-Cœur on Montmartre, which had already been begun by the architect Abbadie, but the following year he abandoned the task, after a dispute with the ecclesiastical authorities. He died in Paris on Dec. 15, 1911.

**DAUMIER, HONORÉ** (1808-1879), French caricaturist and painter was born at Marseilles on Feb. 20, 1808, and died at Valmondois on Feb. 11, 1879. Daumer started his artistic career by producing plates for music publishers and illustrations for advertisements; these were followed by anonymous work for publishers, in which he followed the style of Charlet and displayed considerable enthusiasm for the Napoleonic legend. When, in the reign of Louis Philippe, Philipon launched the comic journal, *La Caricature*, Daumier joined its staff, which included Devéria, Raffet and Grandville, and started upon his pictorial campaign of scathing satire upon the foibles of the bourgeoisie, the corruption of the law and the incompetence of a blundering Government. His caricature of the king as "Gargantua" led to imprisonment for six months at Ste. Pélagie in 1832. The publication of *La Caricature* was discontinued soon after, but Philipon provided a new field for Daumier's activity when he founded the *Charivari*. For this journal Daumier produced his famous social caricatures in which bourgeois society is held up to ridicule in the figure of Robert Macaire, the hero of a then popular melodrama. Another series, "L'histoire ancienne," was directed against the pseudo-classicism which held the art of the period in fetters. In 1848 Daumier embarked again on his political campaign still in the service of *Charivari*, which he left in 1860 and rejoined in 1864. In spite of his prodigious activity in the field of caricature—the list of Daumier's lithographed plates compiled in 1904 numbers no fewer than 3,958—he found time for flight in the higher sphere of painting. Except for the searching truthfulness of his vision and the powerful directness of his brushwork, it would be difficult to recognize the creator of "Robert Macaire," of "Les Bas bleus," "Les Bohémiens de Paris," and the "Masques," in the paintings of "Christ and His Apostles" at the Ryks Museum in Amsterdam, or in his "Good Samaritan," "Don Quixote and Sancho Panza," "Christ Mocked," or even in the sketches in the Ionides Collection at South Kensington. But as a painter, Daumier, one of the pioneers of naturalism, was before his time, and had little success until in 1878, a year before his death, when M. Durand-Ruel collected his works for exhibition at his galleries and demonstrated the full range of the genius of the man who has been well called the Michelangelo of caricature. At the time of this exhibition Daumier, totally blind, was living in a cottage at Valmondois which was placed at his disposal by Corot, and where he breathed his last in 1879. An important exhibition of his works was held at the École des Beaux-Arts in 1900.

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**DAUN (DHAUN), LEOPOLD JOSEF**, Count von Daun (1712-1789), Austrian field marshal, was born at Vienna on Sept. 17, 1712. He served in Italy and on the Rhine in the War of the Austrian Succession (1740-48) against the Turks (1749-55) and in the War of the Austrian Succession (1756-62). He was present at Chotusitz and Prague and led the successful corps of Khevenhuller's army in the victorious Battle of Mollwitz (1741). Field Marshal Traun, who succeeded Khevenhuller in 1744, thought equally highly of Daun and a report that was he recruited of the Austrian army when it escaped from the French to attack Frederick the Great. He had important commands in the battles of Hohenfriedberg and Soor and in the same year (1745) was promoted to the rank of *Feldmarschall*. After this he served in the Low Countries and was present at the battle of Val Maria. Theresa made him commander of Vienna and a Knight of the Golden Fleece, and in 1744 he was elevated to the rank of field marshal.

During the interval of peace that preceded the Seven Years War he began the reorganization of the Austrian army. He was not actively employed in the first campaigns of the war but in 1757 he commanded the army raised to relieve Prague. On June 28, 1757 Daun defeated Frederick for the first time in his career in the desperately fought battle of Kolin (1757). The union of the relieving army with the forces of Prince Charles at Prague reduced Daun to the position of second in command and as such he took part in the pursuit of the Prussians and the victory of Breslau. Frederick now reappeared and won the most brilliant victory of the age at Leuthen. Daun was not held accountable for the disaster, and when Prince Charles resigned his command Daun was appointed in his place. With the campaign of 1758 began the war of manoeuvre in which Daun, if he missed through over-caution, many opportunities of crushing the Prussians, at least maintained a steady and cool resistance to the fiery strategy of Frederick. In 1758 Major-General Loudon, acting under Daun's instructions, forced the king to raise the siege of Olmutz and later in the same year Daun himself surprised Frederick at Hochkirch and inflicted a severe defeat upon him (Oct. 14). On Nov. 20-21, 1759 he surrounded the entire corps of General Finck at Maxer, forcing the Prussians to surrender. These successes were counterbalanced in the following year by the defeat of Loudon at Liegnitz, which was attributed to the dilatoriness of Daun, and Daun's own defeat in the great battle of Torgau (1760). In this engagement Daun was severely wounded.

He continued to command until the end of the war, and afterwards worked with the greatest energy at the reorganization of the imperial forces. In 1762 he had been appointed president of the *Hofkriegsrat*. He died on Feb. 5, 1766.

See *Der Deutsche Fabius Cunctator, oder Leben u. Thaten S. E. des H. Leopold Reichserzherzogs u. Daun K. K. F. M.* (Frankfurt and Leipzig, 1759-60), and works dealing with the wars of the period.

**DAUNOU, PIERRE CLAUDE FRANÇOIS** (1761-1840). French statesman and historian, born at Boulogne-sur-Mer on Aug. 13, 1761, was educated in the school of the Oratorians there and joined the order in Paris in 1777. He was professor in various seminaries from 1780 till 1787, when he was ordained priest. Elected to the Convention by Pas-de-Calais, he associated himself with the Girondists, but strongly opposed the death sentence on the king. He took little part in the struggle against the Mountain, but was involved in the overthrow of his friends, and was imprisoned for a year. In December 1794 he returned to the Convention and was the principal author of the Constitution of the year III. It seems to have been due to his Girondist ideas that the Ancients were given the right of convoking the *corps législatif* outside Paris, an expedient which made possible Napoleon's *coup d'état* of the 18th and 19th Brumaire. The creation of the Institute was also due to Daunou, who drew up the plan for its organization. His energy was largely responsible for the suppression of the royalist insurrection of the 13th Vendémiaire, and the important place he occupied at the beginning of the Directory is indicated by the fact that he was elected by twenty-seven departments as member of the Council of Five Hundred, and became its first president. He had himself set the age qualification of the

directors at forty and thus debarred himself as candidate, as he was only thirty-four. The direction of affairs having passed into the hands of Talleyrand and his associates, Daunou turned once more to literature, but in 1798 he was sent to Rome to organize the republic there and again almost against his will, he lent his aid to Napoleon in the preparation of the Constitution of the year VIII. He supported Napoleon's policy in the controversy with the Vatican in his *Sur la puissance temporelle du Pape* (1809). Still, he took little part in the new regime, with which at heart he had no sympathy and turned more and more to literature. At the Restoration he was deprived of the post of archivist of the Empire which he had held from 1807, but from 1819 to 1830 (when he again became archivist of the kingdom) he held the chair of *literary and ethics* at the Collège de France. In 1839 he was made a peer. He died in 1840.

Daunou's lectures at the Collège de France, collected and published after his death, fill twenty volumes (*Cours d'études historiques*, 1840-1846). They treat principally of the criticism of sources and the proper method of writing history, and occupy an important place in the evolution of the scientific study of history in France. Personally Daunou was reserved and somewhat austere, preserving in his habits a strange mixture of bourgeois and monk. His indefatigable work as archivist in the time when Napoleon was transferring so many treasures to Paris is not his least claim to the gratitude of scholars.

See Mignet, *Notice historique sur la vie et les travaux de Daunou* (1845); Taillandier, *Documents biographiques sur Daunou* (1847), including a full list of his works; Sainte-Beuve, *Daunou in his Portraits Contemporains*, t. iii. (unfavourable and somewhat unfair).

**DAUPHIN**, an ancient feudal title in France borne only by the counts and dauphins of Vienne, the dauphins of Auvergne, and from 1364 by the eldest son of the king of France. The origin of this curious title is obscure, but it now seems clear that it was in the first instance a proper name. It was borne by Guigo or Gugue IV. (d. 1142) count of Albon and Grenoble, as an additional name, during the lifetime of his father and was also adopted by his son Guigue V. Beatrice daughter and heiress of Guigue V., whose second husband was Hugh III, duke of Burgundy, bestowed the name on their son André, to recall his descent from the ancient counts of Albon. His successors Guigue VI. (d. 1270) and John I. (d. 1282) call themselves sometimes *Delphinus*, sometimes *De-phini*, the name being obviously treated as a patronymic, and in the latter form it was borne by the sons of the reigning "dauphin." But even under Guigue VI. foreigners had begun to confuse the name with a title of dignity, an imperial diploma of 1248 describing Gugue as "*Guigo Dalphinus Viennensis*."

It was not until the marriage of Anne, heiress of John I., with Humbert, Lord of La Tour du Pin that "dauphin" became definitely established as a title. Humbert not only assumed the name of *Delphinus*, but styled himself regularly *Dauphin of the Viennois* (*Dalphinus Viennensis*), and in a treaty concluded in 1285 between Humbert and Robert, duke of Burgundy, the word *delphinatus* (*Dauphiné*) appears for the first time as a synonym for *comitatus* (county). In 1349 Humbert II., the last of his race, sold *Dauphiné* to Charles of Valois who when he became king of France in 1364 transferred it to his eldest son. From that time the eldest sons of the kings of France were always either actual or titular dauphins of the Viennois.

The eldest son of the French king was sometimes called "the king dauphin" (*le roy dauphin*), to distinguish him from the dauphin of Auvergne, who was known, since Auvergne became an appanage of the royal house, as "the prince dauphin." The dauphinate of Auvergne, which is to be distinguished from the county, dates from 1155, when William VII., count of Auvergne, was deposed by his uncle William VIII. William VII. had married a daughter of Guigue IV. Dauphin, after whom their son was named Dauphin (*Delphinus*). The name continued, as in Viennois as a patronymic, and was not used as a title until 1281, when Robert II., count of Clermont, in his will, styles himself for the first time Dauphin of Auvergne for the portion of the county of Auvergne left to his house. In 1483 J. heiress of the dauphin Béraud

IT mar ed Louis de Bourbon count of Mortpen er a 1486) nus brngng he d uph na e m o he roya house of France It was annexed to the C own n 1693

See A. Prudhomme, 'De l'origine et du sens des mots dauphin et dauphiné' in *Bibliothèque de l'École des Chartes*, iv. n. 1893

**DAUPHINÉ**, one of the old provinces (the name being still in current use in the country) of pre-Revolutionary France, in the south-east portion of France, between Provence and Savoy, since 1700 it forms the departments of the Isère, the Drôme and the Hautes Alpes

After the death of the last king of Burgundy, Rudolf III, in 1032, the territories known later as Dauphiné (as part of his realm) reverted to the far-distant emperor Much confusion followed, out of which the counts of Albon (between Valence and Vienne) gradually came to the front The first dynasty ended in 1162 with Gungue V, whose daughter and heiress, Beatrice, carried the possessions of her house to her husband, Hugh III, duke of Burgundy Their son, André, continued the race, this second dynasty making many territorial acquisitions, among them (by marriage) the Embrunais and the Gapençais in 1232 In 1282 the second dynasty ended in another heiress, Anna, who carried all to her husband, Humbert, lord of La Tour du Pin (between Lyons and Grenoble). The title of the chief of the house was Count (later Dauphin) of the Viennois, *not* of Dauphiné. (For the origin of the terms Dauphin and Dauphiné see DAUPHIN) Humbert II (1333-40), grandson of the heiress Anna, was the last independent Dauphin, selling his dominions in 1349 to Charles of Valois, who on his accession to the throne of France as Charles V bestowed Dauphiné on his eldest son, and the title was borne by all succeeding eldest sons of the kings of France. In 1422 the Dauphin and the Valentinois, by the will of the last count, passed to the eldest son of Charles VI, and in 1424 were annexed to the Dauphiné Louis (1440-61), later Louis XI of France, was the last Dauphin who occupied a semi-independent position, Dauphiné being annexed to the crown in 1450 The suzerainty of the emperor (who in 1378 had named the Dauphin "Imperial Vicar" within Dauphiné and Provence) gradually died out. In the 16th century the names of the reformer Guillaume Farel (1489-1565) and of the duke of Lesdiguières (1543-1626) are prominent in Dauphiné history The "States" of Dauphiné (dating from about the middle of the 14th century) were suspended by Louis XIII in 1628 but their unauthorized meeting (on July 21 1788) in the tennis court (*Salle du Jeu de Paume*) of the castle of Vizille, near Grenoble was one of the earliest premonitory signs of the great French Revolution of 1789 It was at Laffrey, near Grenoble, that Napoleon (March 7, 1815) was first acclaimed by his old soldiers sent to arrest him

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**DAURAT** or **DORAT, JEAN** (in Lat. AURATUS) (1508-1588), French poet and scholar, and member of the *Pléiade*, was born at Limoges His name was originally Dinemand. He belonged to a noble family, and, after studying at the college of Limoges, came up to Paris to be presented to Francis I., who made him tutor to his pages As a private tutor in the house of Lazare de Baif, he had J. A. de Baif for his pupil. His son, Louis, showed great precocity, and at the age of ten translated into French verse one of his father's Latin pieces; his poems were published

with his father. After the death of Lazare de Baif in 1517 Jean Daurat became the director of the Collège de Coqueret, where he had among his pupils besides Baif, Ronsard, Remy, Belieau and Pontus de Tyard Joachim du Bellay was added by Ronsard to this group, and these five young poets, under the direction of Daurat, formed a society for the reformation of the French language and literature. They increased their number to seven by the initiation of the dramatist Etienne Jodelle, and thereupon they named themselves *La Pléiade* in emulation of the seven Greek poets of Alexandria. The election of Daurat as their president proved the weight of his personal influence, and the value his pupils set on the learning to which he introduced them, but as a writer of French verse he is the least important of the seven. Meanwhile he collected around him a sort of academy, and stimulated the students on all sides to a passionate study of Greek and Latin poetry. He himself wrote incessantly in both those languages, and was styled the Modern Pindar. His influence extended beyond the bounds of his own country, and he was famous as a scholar in England, Italy and Germany. In 1556 he was appointed professor of Greek at the Collège Royale, a post which he continued to hold until, in 1567, he resigned it in favour of his nephew, Nicolas Goulu. Charles IX gave him the title of *poeta regius*. His flow of language was the wonder of his time: he is said to have composed more than 15,000 Greek and Latin verses. The best of these he published at Paris in 1586 as *J. Aurati Lemovicensis poetae et interpretis regii poemata*. He died in Paris on Nov. 1, 1588, having survived all his illustrious pupils of the *Pléiade* except Pontus de Tyard. He was a little, restless man of untiring energy, rustic in manner and appearance. His unequalled personal influence over the poets of his age gives him an importance for which his own writings do not fully account.

The *Oeuvres poétiques* in the vernacular of Jean Daurat were edited (1875) with biographical notice and bibliography by Ch. Marty-Laveaux in his *Pléiade française*.

**DÁVAO**, a well laid out municipality (with administration centre and 40 *barrios* or districts), and capital of the Province of Davao, Mindanao, Philippine Islands, located on the Gulf of Davao, at the mouth of the Davao river, about 800 m. from Manila. Pop. (1918), 13,300, of whom 45 were whites, 2,374 Japanese and 493 Chinese. It is in the midst of a rich, fertile region which produces considerable abacá of very high grade, besides copra and other products. A meteorological station is established here. In 1918 it had 34 manufacturing establishments, with output valued at 345,500 pesos, and 64 household industry establishments with output valued at 55,900 pesos. Of the nine schools, seven were public. The inhabitants are for the most part Bisayans (Christian Filipinos of the Bisayan islands) pagans (especially Mandayas and Bagobos), Moros and Japanese. The Japanese are developing the entire province of Davao where they have invested considerable capital.

**DAVENANT, CHARLES** (1656-1714), English economist, eldest son of Sir William Davenant, the poet, was born in London, and educated at Cheam grammar school and Balliol college Oxford. He was member of parliament successively for St Ives, Cornwall, and for Great Bedwyn. He held the post of commissioner of excise from 1683 to 1689 and that of inspector-general of exports and imports from 1705 till his death in 1714. He was also secretary to the commission appointed to treat for the union with Scotland. His most important works were: *Ways and Means of supplying the War* (1695), *An Essay on the East India Trade* (1697); *Two Discourses on the Public Revenues and Trade of England* (1698); *An Essay on the probable means of making the people gainers in the balance of Trade* (1699); *A Discourse on Grants and Resumptions and Essays on the Balance of Power* (1701).

See his *Works* edit by C. Whitworth (1771).

**DAVENANT** or **D'AVENANT, SIR WILLIAM** (1606-1668), English poet and dramatist, was baptized on March 3, 1606; he was born at the Crown Inn, Oxford, of which his father, a wealthy vintner, was proprietor. It was stated that Shakespeare always stopped at this house in passing through the city of Oxford, and out of his known or rumoured admiration of the hostess, a

1670 in women, here spoken as a story which attributed Davenant's preference to Shakespeare's legend which there is reason to believe Davenant himself encouraged. After a brief stay at Lincoln college Oxford Davenant became a page to the duchess of Richmond and then entered the household of Fulke Greville, Lord Brooke. After Brooke's death he turned to the stage his first play, *Albion's First at the Law*, being produced in 1637. Other plays and tracts followed, the most important of which was *The Wit* licensed in 1633 and published in 1635. Davenant was high in favour at court, and succeeded Ben Jonson as poet laureate. Throughout the civil war Davenant supported the king. He joined Henrietta Maria in France and was sent by her on more than one mission to England. He fought at the siege of Gloucester (1645) after which he was captured, and returned to Paris after the battle of Naseby. He was captured by the Parliamentarians more than once. In 1652 he was at the head of a colonizing expedition to Virginia which was intercepted in the Channel. He was interned at Cowes until 1651 and was sent to the Tower to await trial for high treason. He solaced his imprisonment by the composition of his epic poem, *Cowdibert*, and was released, it is said, on the personal intercession of Milton, for whom he interceded in his turn after the Restoration.

Davenant had been manager of the Drury Lane theatre when the Puritan régime put an end to dramatic performances. In 1656 he contrived to evade the law by giving semi-private representations in private houses. The first of these productions was *The First Day's Entertainment at Roland House* (May 21, 1656), speeches for and against the drama with declamation and music. The famous *Siege of Rhodes* (Aug. 1656) followed. This was not, as sometimes stated, the first occasion in which changes of scenery were employed and women appeared on the stage, but it does mark the beginning of the change from the ancient simplicity of the English stage. To this performance was given the name "opera." In 1658 Davenant was permitted to open the Cockpit theatre in Drury Lane for historical drama, though not without some protest from Puritan sources. In 1659 he was imprisoned for complicity in the rising of Sir George Booth. At the Restoration Davenant and Killigrew received a patent to set up two companies of players, and Davenant's company became known as the duke of York's players, housed at first in Lincoln's Inn Fields. There were performed many musical plays and the theatre became known as the "opera."

The duke of York's players produced some of Davenant's pre-Commonwealth plays in a revised form, notably *Love and Honour* (1640), *The Wits* and *The Platonic Lovers* (1636) but many plays of Shakespeare, Jonson and Fletcher were "adapted," with considerable freedom, by Davenant for the Restoration stage. He also produced versions of various French plays.

Davenant died on April 7, 1668, and was buried in Westminster Abbey.

His works were collected in folio in 1672. See the edition of his *Dramatic Works*, with preface and notes, by J. Maidment and Logan (1872-74).

**DAVENPORT, CHARLES BENEDICT** (1866- ), American zoologist was born at Stamford, Conn., on June 1, 1866. He graduated in 1887 at Brooklyn Polytechnic institute and, in 1889, at Harvard, from which in 1892 he received the degree of doctor of philosophy. After serving as assistant and instructor in zoology at Harvard in 1888-99, he was assistant and associate professor of zoology and embryology in the University of Chicago from 1899 to 1904 when he was made director of the station (at Cold Spring Harbor, L.I., N.Y.) for experimental evolution of the Carnegie Institution of Washington, in which he became director of the eugenics record office in 1910 and of the department of genetics in 1918. He made valuable investigations in the breeding of animals, and in the heredity of eye hair, and skin color, and of temperament, stature, and build in man. Among his published works are *Experimental Morphology* (1897-99), *Statistical Methods in Biological Variations* (2nd ed. 1904), *Inheritance in Poultry* (1906), *Eugenics* (1910), *Heredity in Relation to Eugenics* (1911), *Heredity of Skin Color in Negro-White Crosses* (1912), *The Poo*

*Nervosism and Temperament* (1925), *Defects Found in Drafted Men* (1920), *Body Build and Its Inheritance* (1923) and numerous contributions to biological journals.

**DAVENPORT, EDWARD LOOMIS** (1816-1877), American actor born in Boston, made his first appearance on the stage in Providence in support of Junius Brutus Booth. Afterwards he went to England, where he supported Mrs. Anna Cora Mowatt (Rachie) (1819-70), Macready and others. In 1854 he was again in the United States, appearing in Shakespearean plays and in dramatizations of Dickens's novels. As Bill Sikes he was especially successful and his Sir Giles Overreach and Brutus were also greatly admired. He died at Canton, Pa., on Sept. 1, 1877. In 1849 he had married Fanny Vinng (Mrs. Charles Gill, d. 1891), an English actress also in Mrs. Mowatt's company.

Their daughter FANNY (LILY GIPSY) DAVENPORT (1850-1898) appeared in America at the age of 12 as the king of Spain in *Faint Heart Never Won Fair Lady*. Later (1869) she was a member of Daly's company, and afterwards, with a company of her own, acted with especial success in Sardou's *Fédora* (1883), *Cleopatra* (1890) and similar plays. Her last appearance was on March 25, 1898, shortly before her death.

**DAVENPORT, ROBERT** (fl. 1623-1639), English dramatist, of whose life nothing is known. Three plays of his have survived, *King John and Matilda* (printed 1655); and two comedies, *The City-Nightcap*, (licensed in 1624, but not printed until 1661) and *A New Tricke to Cheat the Diuell* (printed 1639). Other plays entered in the Stationers' Register as Davenport's are lost, including one called *Henry I and Henry II* (1653), the second part of which was said to be the work of Davenport and Shakespeare.

Davenport's plays were reprinted by A. H. Bullen in *Old English Plays* (new series, 1890). The volume includes two didactic poems, which first saw the light in 1623.

**DAVENPORT**, the third largest city of Iowa, U.S.A., on the Mississippi river, opposite Rock Island and Moline, Ill., the county seat of Scott county. It is on Federal highways 32 and 61, and is served by the Burlington, the Chicago, Milwaukee, St. Paul and Pacific the Clinton, Davenport and Muscatine, and the Rock Island railways, and by river steamers and barges. The area is 17.75 sq. miles. The population in 1920 was 56,727 (85% native white) and was estimated locally at 65,000 in 1928. Davenport has a beautiful location on the slope of a bluff, rising to an altitude of 575 ft. above sea-level, and commanding extensive views of landscape and river scenery. There are 13 parks (one along the river front), covering 747 ac., and including two municipal golf courses, a bathing beach, tennis courts, baseball diamonds and a zoological garden. The assessed valuation of property in 1926 was \$49,703,405. On a 1,000 ac. island in the Mississippi, opposite the city, is the Rock Island arsenal, the largest munitions plant of the U.S. Government, representing an investment of \$48,466,809, where 18,000 persons were employed during the World War. Davenport is an episcopal see of the Roman Catholic and the Protestant Episcopal churches, and is the seat of St. Ambrose's college (Roman Catholic), the Palmer School of Chiropractic, and the Iowa Soldiers' Orphans' Home. It has a large commerce, by rail and by water, shipping especially great quantities of grain, and has important manufactures, including freight cars, gondolas, ready-cut houses, flour and other cereal products, candy, bakery goods, cement, washing machines and agricultural implements. The output of its factories in 1927 was valued at \$30,536,742. Bank clearings in 1926 amounted to \$409,646,000. Davenport was founded in 1835 under the leadership of Col. George Davenport. It was incorporated as a town in 1833 and as a city in 1851. The first bridge across the Mississippi was built at this point in 1853.

**DAVENTRY** (pronounced dā'n'trī or dāv'ēn-trī), a market town and municipal borough in the Daventry parliamentary division of Northamptonshire, England, 73½ m. NW from London on a branch of the L.M.S.R. from Weedon. Pop. (1921) 3,532. Daventry is situated on a sloping site in a rich undulating country. The parish church of Holy Cross was rebuilt in 1752. Borough hill, adjoining Daventry is the site of a vast ancient earthwork, and other

have been found at Burnt Walls in the vicinity



Watling street passes close by. Daventry grammar school (1576), enlarged and modernized is now a mixed secondary school under the county council. The chief industry of the town is the manufacture of boots and shoes. In 1925 the British Broadcasting Corporation established a high-power wireless station (5 XX) on Borough hill, and in 1927 installed a second station (5 GB). The first station took over the functions formerly performed through Cnelmsford, and allows for two-valve reception throughout Great Britain and Northern Ireland, the area for which the B.B.C. is responsible; while 5 GB is in the nature of an experimental station for broadcasting alternative programmes, and takes the place of the earlier Birmingham (IT) station. Connection with London is by special lines laid by the Post Office Engineering Department. Owing to the elevation of Borough hill, the masts (500 ft high) are 1,156 ft. above sea-level. The power of the two stations is, respectively 5XX—25 kw. transmitting on long wave (1,554.4 metres, 193 kc), 5 GB—30 kw, medium wave (479.2 metres; 626 kc). Power derived from Northampton also lights the town of Daventry, and is transformed locally. The large commercial post office station at Hillmorton, near Rugby, is visible from Borough hill. The borough of Daventry is under a mayor, 4 aldermen, 12 councillors, and has a court of summary jurisdiction.

Nothing is known of Daventry itself until the time of the Domesday Survey when the manor consisting of eight hides was held by the countess Judith, the Conqueror's niece, as the widow of Waltheof, the last native earl of Northumbria, who at the Corquest held the great midland earldom of Huntingdonshire and Northamptonshire. Before the end of the century it had passed to Simon de St. Liz, whose grandson, Walter Fitz-Robert, held "of the fee of the king of Scotland," who had become possessed of the earldom of Huntingdon (*see* HUNTINGDONSHIRE and NORTHAMPTONSHIRE). Daventry was created a borough by King John, who granted to Simon, son of Walter, a market on Wednesday and a fair on St. Augustine's day. But there is no extant charter before that of Elizabeth in 1576, by which the town was incorporated under the name of the bailiff, burgesses and commonalty of the borough of Daventry. James I. confirmed this charter in 1605-06, and Charles II. in 1674-75 granted a new charter. During the civil wars Daventry was the headquarters of Charles I. immediately before the battle of Naseby. The last remains of the Cluniac priory endowed by Simon de St. Liz were removed during the last century.

The pronunciation of Daventry as "Dane-tree," which is sanctioned by ancient local usage (*cf* Shakespeare's "Daintry," *Henry VI*, pt. iii, act V.), is referred by tradition to the building of the town by the Danes. Though the written element affords no definite proof of early pronunciation, the spelling "Daventrei" in Domesday is explicit, and in the legend of a seal of the Prior Nicholas (1231-64) reads "Davintre" (*Victoria County History, Northampton*, vol. ii).

**DAVEY OF FERNHURST, HORACE DAVEY**, BARON (1833-1907), English judge, son of Peter Davey, of Horton, Bucks, was born on Aug. 30, 1833, and educated at Rugby and University college, Oxford. In 1861 he was called to the bar, and in 1875 became a Q.C. In 1880 he was returned to parliament as a Liberal, but lost his seat in 1885. On Gladstone's return to power in 1886 he was appointed solicitor-general and was knighted, but had no seat in the House, being defeated at both Ipswich and Stockport in 1886; in 1888 he found a seat at Stockton-on-Tees, but lost it in 1892. As an equity lawyer Sir Horace Davey ranked among the finest intellects and the most subtle pleaders ever known at the English bar. He was called to the University of Oxford, and was engaged in several cases, among which were the Mogul Steamship Case (1892), the trial of the bishop of Lincoln, and the Berkeley Peerage case. In 1862 he married Miss Louisa Donkin, who, with two sons and four daughters, survived him. In 1893 he was raised to the bench as a lord justice of appeal, and in the next year was made a lord of appeal in ordinary and a life peer. He died in London on Feb. 20, 1907.

**DAVID, ST.**, the patron saint of Wales, whose feast falls on March 1. Few historical facts are known regarding the saint, although there is reason to suppose he was born c. 500 and died c. 600. According to his various biographers he was the son of Sanade, a prince of the line of Cunedda, his mother being Non, who ranks as a Cymric saint. He seems to have taken a prominent part in the celebrated synod of Llanddewi-Bref (*see* CARDIGANSHIRE), and to have presided at the so-called "Synod of Victory" held later at Caerleon-on-Usk. At some date unknown, St. David, as *pen-ecolh*, or primate of South Wales, moved the seat of ecclesiastical government from Caerleon to the remote headland of Nynyw or Menevia, which is still under the name of St. David's (*Ty-Dewi*) the cathedral city of the western sea. St. David founded numerous churches throughout South Wales (53 still recall his name) but apparently he never penetrated farther north than the region of Powys, although he seems to have visited Cornwall. His shrine at St. David's became a notable place of pilgrimage, and at Henry I.'s request he was formally canonized by Calixtus II. about 1120.

The earliest known biography is that of Rhygyvarch (d. 1099), one of the last British bishops of St. David's, from whose work Gualdus Cambrensis (q.v.) chiefly compiled an extravagant life. Rhygyvarch's *Life* has been edited with a translation by A. W. Wade-Evans (1914). *See also Catalogue of mss. books etc., relating to St. David, the cathedral Church of St. David's, etc.* (Cardiff, 1927).

**DAVID**, king of Judah and Israel, was the founder of the Judaean dynasty at Jerusalem. The exact date of his reign is uncertain. It used to be reckoned from 1055-1015 B.C., but is now generally fixed at about 1010-970 B.C. Our principal source for his history is 1 Sam. xvi-1 Kings ii. Its very extent shows how deep was the impression he made upon the mind of his people; indeed, his popularity as a national hero is one cause of the difficulty we find in reconstructing his history. Stories of exploits and incidents in his career were repeated with delight from generation to generation. Groups of these stories were collected together, and from several such sources the history of his doings was compiled. The editors have pieced their material so well together, however, that it is impossible for us to separate it with accuracy into its constituent sources. But the harmonizing has not been perfectly carried out, and the inconsistencies and duplications have enabled the critics to separate more or less clearly at least two main sources. The Greek text, again, varies very considerably from the Hebrew, offering a different collection of the narratives. For detailed discussion of these problems the commentaries on Samuel, and SAMUEL (BOOKS OF) should be consulted. Another history of David is to be found in 1 Chron. xi-xxix, which is to some extent parallel to that in Samuel but omits many of the narratives. On the other hand it contains much additional material, which is however, of inferior historical value. It is much fuller on subjects which were the special concern of the editor of Chronicles, such as details of temple arrangements and lists of officers. It is particularly interesting because of its obvious tendency to idealize the character of David, and in this respect was the late stage of a process which must have begun soon after the death of the national hero, and of which we find traces even in Samuel.

The history in Samuel opens with an account of the anointing of David by Samuel as successor to Saul, whom Yahweh had rejected from the throne of Israel (1 Sam. xvi. 1-13). Samuel is instructed that the new king is to be found among the sons of Jesse who dwells at Bethlehem, 5m. south of Jerusalem. A sacrifice is celebrated there, to which, beside Jesse and his sons, the elders of the town are invited. David, busy in tending the sheep, is apparently too young to be summoned with his older brothers. But when the oracle rejects each of the seven elder brothers Samuel asks whether there is no other son, and David is summoned. It is made clear that he is the chosen one, and Samuel anoints him. This narrative, which is seemingly rather the conclusion of Samuel's history than the beginning of David's, raises suspicions. It will be noted that in 1 Sam. xvii. 13 seq. the brothers of David are three in number (v. 12 is harmonistic), not seven, and in 1 Chron. ii. 13-15, six. It is highly improbable that the ceremony could have been performed without some news of it getting to the ears of Saul, and the later seem to ignore it.

**Introduction to Saul.**—1 Sam. xv. 14-23 gives an account of David's introduction to the court of Saul. One of the king's attendants who is a musician, who can play the harp to charm the demons of frenzy which have taken upon Saul, recommends David whom he describes not merely as a good harpist but as "a mighty man of valour and a man of war"—a description difficult to reconcile with the preceding narrative unless a considerable number of years be supposed to intervene. David is summoned and his many talents appear to Saul, who makes him not only court favourite but also his own armour-bearer.

The next section of the history in Samuel (xvii. 1-58) records the most famous exploit of David, his victory in single combat over the Philistine giant Goliath, and its consequences. This account however raises several serious difficulties. First of all there is the fact that in 2 Sam. xxi. 19 the slaying of Goliath is attributed to Elhanan, one of David's heroes. An attempt to reconcile these contradictory statements is found in 1 Chron. xx. 5 where the victim of Elhanan's valour is described as "Lohmi, the brother of Goliath." David's exploit is not referred to in 1 Sam. xxi. 10-15 or in xxix. where some reference to it would have been expected and on these and other grounds the simpler tradition of 1 Samuel is usually preferred. On the other hand, it may well have been some such valiant deed that first attracted Saul's attention to David (1 Sam. xvi. 18) and accounted for the popularity of the latter which made him an object of jealousy to Saul. Hence the narrative of 1 Sam. xvii. though legendary, may be the expanded version of some historic combat in which David's opponent was not Goliath. Much more serious is the impossibility of reconciling the narrative with what precedes. Although according to xvi. Saul has already appointed David to be his musician and armour-bearer, now David appears as an unmarried shepherd lad, sent by his father with provisions for his brothers in the Israelite camp. His brothers treat him with a petulance hardly conceivable if he already stood well at court, and vv. 35-58 show that neither Saul nor his captain Abner had ever heard of David before. Some light is thrown upon this difficult problem by a study of the Greek versions, in one group of which, represented by the Vatican text, xvii. 12-31, 41-52, and xvii. 55-xviii. 5 are missing. This shorter form of the tradition is much more intelligible, and more easy to reconcile with xvi. It will be seen at once that xvii. 32 follows xvi. 17 much more naturally than does v. 12. Whether the Greek or the Hebrew text is original is a much-debated problem, but on the whole it is more likely that the additional verses in the latter are expansions, taken from another biography of David, than that the Greek is an abbreviated form of the Hebrew. In xviii. 1-4 we have the first notice of the friendship that grew up between Jonathan, Saul's son, and David. The investment of David in the apparel of Jonathan may be an alternative to the exchange of blood as a symbol of brotherhood for the clothes of a man were regarded as in a sense part of his personality. Otto Eissfeldt, however, has argued plausibly (*Theologische Blätter*, Oct. 1927) that this is part of a parallel tradition according to which David was armour-bearer and favourite, not of Saul, but of Jonathan, a theory which would explain some difficulties in the later narratives.

**Conflicts with Saul.**—But now Saul becomes jealous of David, because he is the popular idol and his exploits are extolled beyond those of the king. The development of this jealousy is described naturally in the shorter Greek version of xviii., according to which Saul removes David from personal attendance at the court and makes him captain of a thousand soldiers. In his new position David is very successful and his popularity increases, so that Saul becomes more alarmed than ever. Michal, Saul's daughter, falls in love with David, and Saul promises him her hand if he will attempt an almost impossible task of valour, hoping that he may be killed in the endeavour. David succeeds brilliantly and claims the king's daughter. Saul's anger now becomes a fierce hatred, and he proposes to Jonathan and the court the assassination of David (xix. 1). The additional matter in the Hebrew, which includes the incident—a double of xxi. 9 *seq.*—of Saul's attempt to murder David, and his unfulfilled promise to give his daughter Merab to him, destroys the psychological truth of the narrative. The breach between Saul and David was made up, for a time, by Jonathan

(xix. 2-7) but further successes of David in war reawaken the dormant hatred of Saul, who hurls a spear at David which the latter evades. The story of Saul's attempt to have David assassinated in the house where he dwelt with Michal (xix. 11-17), which bears all the marks of truth, is out of place here, when David has already fled (v. 10) and may possibly be connected with xviii. 27 (see H. P. Smith in the *International Critical Commentary*).

Chapter xx., which records the covenant made by Jonathan with David and prepares the way for the story of David's kindness to Jonathan's son Mephibosheth, seems to be independent of the traditions in which it is embedded and has been expanded by the additional interview between the two friends, vv. 40-42. It certainly cannot follow on xix. 18-24, the story of David's attempt to find sanctuary with Samuel at Ramah, for it supposes David to be still at court and Jonathan to be unaware that David stands in peril. This flight of David's may possibly be fitted in after xxii. 9, xx. 1 is an ineffective attempt to remove the difficulty. Next David goes to the sanctuary at Nob, where he had been wont to consult the priestly oracle (xxv. 15), and, pretending that he is engaged on a secret expedition in Saul's behalf, obtains of Ahimelech the priest bread from the sacred table and the sword of Goliath. This narrative may well follow xix. 10, the incident of David's escape from the spear hurled at him by Saul. The story goes on to relate the flight of David to the court of the Philistine king of Gath, Achish, where he escapes from the revenge which might otherwise have been taken upon him by feigning madness (xxi. 10-15). This anticipates xxvii. and is out of place at this point of the history, surely David would not go to the very city of Goliath flaunting the sword of the giant!

**Outlaw Life.**—For years after his escape David lived the life of an outlaw. He made his headquarters first at the stronghold—the traditional "cave" is a mistake—of Adullam, a Canaanite town said to have been captured by Joshua (Josh. xii. 15), probably on the western border of Judah, and about 12 miles from Bethlehem. Here he was joined by his clansmen and by others who were in a desperate position, such as those who feared to be sold into slavery for failure to pay their debts, until his band numbered 400 men. A probably secondary tradition xxii. 3 *seq.* relates that he placed his father and mother under the protection of the king of Moab. The following verse, which speaks of the seer Gad as in the company of David, is also probably a later tradition. Saul was disconcerted at this new development. His hated rival had escaped his clutches, largely through the connivance of his son. An Edomite, Doeg, who had been a concealed witness of the interview at Nob between Ahimelech and David, reported what had happened there, and Saul sent for Ahimelech. In spite of Ahimelech's protest that he had acted in all good faith with Saul, the king commanded that he and all the other priests of the sanctuary should be slaughtered. His bodyguard refusing to carry out this command, he ordered the informer to act as executioner, and Doeg slew 85 priests of Nob—a suspiciously large number. All living creatures in that town were also put to death, save Abiathar, one of Ahimelech's sons, who escaped and took refuge with David.

Presently word was brought to David that the Philistines were raiding Keilah, south of Adullam; and, despite the reluctance of his followers to undertake so desperate an enterprise, the outlaw chief, encouraged by a priestly oracle, defeated the Philistines and delivered Keilah. Probably he maintained his band by acting at a price, as protector of the district against such marauding attempts on the part of the Philistines and Bedouins. Saul saw an opportunity of capturing David while he was away from the protection of his stronghold and prepared to besiege him in Keilah, but David, warned by the oracle that the inhabitants of Keilah would deliver him up to Saul if he remained within their walls, dispersed his band, which had now grown to 600 men. David lived now the life of the hunted outlaw, wandering from stronghold to stronghold in the border country. Popular tradition tells in xxiii., xxiv., xxvi., of a visit of consolation from Jonathan, the attempt of the men of Ziph to betray David to Saul, and of David's magnanimity in sparing Saul's life when it was in his power to kill him, the two latter incidents appearing in duplicate. The incident of David's marriage to Abigail, the wife of a rich farmer who died a few days after he

had churlishly refused to pay David the levy for protection afforded him (xxv) inasmuch as showing how David maintained his band and how he strengthened his position by matrimonial alliances (cf. xxv. 43).

Wearying at last of his precarious life he decided to place himself under the protection of Achish, the Philistine ruler of Gath, from whom he obtained permission to establish himself and his band at Ziklag, which probably lay to the south of Judah. Here for more than a year he maintained his troop by raids upon the Amalekites and other marauding Bedouins. According to the rather improbable story of xxvii. 10-12 he represented these to Achish as raids upon Judah, as though to give proof of his permanent alienation from his own people. In any case Achish was convinced of David's loyalty and took him and his band as part of the army which he led in an important campaign against Saul. But on the eve of battle the Philistine captains, more distrustful than their leader, persuaded Achish to order David's return to Ziklag. David reached Ziklag to find that in his absence the Amalekites had raided and burned the town, carrying off with other booty David's wives. Pursuing the marauders he inflicted upon them a signal defeat, recovering all that had been carried off and much spoil in addition. By distributing a part of his spoil among the rulers of the various towns in the south country and of the old haunts of his freebooting days he strengthened his hold upon the affections of that countryside. In the meantime the Philistine campaign against Israel had been successful, and Saul and his sons, including Jonathan, lay dead upon the slopes of Mt. Gilboa. The fertile lowlands of Jezreel and the Jordan fell into the possession of the victors, and Saul's son Ishbaal, who had escaped the fate of his brothers, maintained a shadowy sovereignty in the remote city of Mahanaim, the force behind his throne being Abner, Saul's commander-in-chief. The news of Israel's defeat and Saul's death is brought (2 Sam. 1) to Ziklag by an Amalekite, who claims—in contradiction to the account in 1 Sam. xxxi. 4—to have slain the wounded king, and offers to David the crown and bracelet which he had taken from the corpse. Instead of receiving the reward which he doubtless looked for the messenger is slain at the command of David who utters the noble dirge on Saul and Jonathan, 2 Sam. i. 19-27. The compiler avowedly takes the poem from the "Book of Jashar," but there appears to be no cogent reason for denying that David is its author.

**King at Hebron.**—David now takes a further step in his advance towards the throne, for, in response to a Divine oracle, he establishes his household and his band in Hebron, where, at the age of 30 (if 2 Sam. v. 4 may be trusted) he is anointed king by the Judæan clans. There he reigned, according to the statement of ii. 11, seven and a half years. His position as established ruler of an important town, on friendly terms with the neighbouring sheikhs, and allied by marriage with the families of Caleb and Jezreel (in Judah), was well secured. Further such marriages are recorded in iii. 3-5. It is quite in keeping with the constant tradition of David's chivalrous treatment of Saul that he should have sent a message of appreciation to the men of Jabesh-Gilead for their pious act in burying the bodies of Saul and his sons, ii. 46 seq.; and with his skilful diplomacy that the messengers should hint that Jabesh-Gilead might do well to transfer its allegiance to himself—a hint which was for the time being ignored.

A conflict between the forces of Ishbaal, under Abner, and those of David, under Joab, which developed out of a contest between 12 picked men on either side, ended greatly to the advantage of David's men. In the course of the struggle Abner slew Asahel, Joab's brother, thus creating a blood-feud which had serious consequences in the subsequent history. Abner, recognizing that the cause of Ishbaal was hopeless, took to himself one of Saul's concubines, an infringement of Ishbaal's prerogative as Saul's successor, with deliberate intent to raise a quarrel with his lord which might provide him with a pretext for transferring his allegiance to David. When Ishbaal protested Abner sent an embassy to David offering to bring the northern clans over to him. According to one story (iii. 12-16), David demanded the return of Michal to him, as an evidence of good faith, but this story is consistent neither with itself nor with its context. In any case Abner, returning

from Hebron after arranging terms with David, was summoned back by Joab and treacherously slain in pursuance of the blood-feud. David was indignant and showed his indignation by according burial to Abner and proclaiming a fast. Apparently Joab was both too strong and too useful for the king to punish him, so David handed over that task to his God. The position of Ishbaal, deprived of Abner's help, went from bad to worse, and he was eventually assassinated by two of his own followers. They brought his head to David, but received the same reward as the Amalekite who thought to have found favour with David by his claim to have killed Saul. Following this the northern tribes swore allegiance to David at Hebron, and he became king of the united peoples. Here we may place the two successes over the Philistines narrated in v. 17-25.

**Capture of Jerusalem.**—Another important stage in David's career was marked by the capture of Jerusalem, an ancient Jebusite stronghold which had never been in Hebrew hands. Regarded as impregnable by its inhabitants, who treated David's threat with derision, it was captured by the ascent of a shaft which had been pierced through the rock to afford the city a water supply. The stronghold was further fortified by David, who built himself a cedarwood palace, the materials and artificers for which were furnished by Hiram, king of Tyre—another indication of David's growing importance. David also enlarged his harem.

The king now turned his attention to the ark of Yahweh, which had remained in obscurity since its return from the Philistines in the early youth of Samuel. It was brought up from Baal of Judah, and, after having been temporarily housed with Obed-Edom owing to an untoward incident during its progress, was placed in a specially prepared pavilion in the citadel, amid great rejoicings. That the king should have proposed to build a temple worthy to stand beside his palace is quite natural, and ch. vii, which relates how Nathan the prophet, after first sanctioning the project, forbade it in the name of Yahweh, may, though comparatively late, be based on a historical foundation. There follows in viii. a summary of military successes achieved by David and Joab, his commander-in-chief. The concluding verses show that the court had been properly organized and a bodyguard of mercenaries provided for the king. The lame Mephibosheth (-Meribaal), Jonathan's son, was admitted to the royal table as the king's pensioner, and his family estates were restored to his use.

A friendly embassy from David to the newly crowned king of Ammon was treated with insult, and a war ensued, in which the Ammonites, who succeeded in gaining considerable Aramean support, were completely defeated, and their chief city was captured by David after a siege. It was during this campaign that David, in order to obtain for himself the beautiful Bathsheba, caused Joab deliberately to abandon her husband, Uriah the Hittite mercenary, to an Ammonite assault. Not only were the Syrian allies of Ammon reduced to submission, but Edom was completely subjugated by Joab.

**Internal Troubles.**—From this time on David's reign was undisturbed by foreign attack, but, in the absence of necessity for standing together against a common foe, internal troubles developed. In part these proceeded from the king's own household. Absalom, his third son, having contrived the murder of Amnon, the eldest, in revenge for an assault upon Absalom's sister Tamar, fled the country and took refuge with his mother's father, Talmai, king of Geshur. After three years Joab satisfied the unexpressed longing of David for his son's return, for which he secured permission by a stratagem. Absalom was excluded from the court for two years, and when David was fully reconciled to receive him began to plot against his father. He succeeded in creating a party for himself, and after some four (so read in xiv. 7) years raised the standard of revolt in Hebron. David was compelled to flee in haste to Gilead, abandoning Jerusalem to Absalom. The first battle between the forces resulted in the total defeat of Absalom, who was slain, against the express command of David, by Joab. David was welcomed back by the people, but the northern tribes resented the precedence which was claimed by Judah on the ground of kinship to the king. This discontent manifested itself in a rebellion headed by Sheba, a Benjamite, who eventually threw him-

... was slain ... he had wa ...  
 ... a ...  
 ... drew out his bow to ...  
 ... it should be said that some scholars ...  
 ... have argued ...  
 ... should be dated in a much earlier period of David's reign ...  
 ... The remaining fragments of a Samuel ...  
 ... which is ...  
 ... They contain fragments relative to David ...  
 ... The two ...  
 ... it will be ...  
 ... interrupted the catalogue of David's ...  
 ... The story of ...  
 ... moved by the pathetic ...  
 ... is probably historic ...  
 ... The story of ...  
 ... though some parts of it may be later ...

The closing scenes of David's life, 2 Kings i-vi 22, show the old warrior enfeebled by age and the succession to his throne the subject of intrigue. His eldest surviving son, Adonijah, regarded himself as the heir. Like Absalom he was of great personal charm and a favourite with numbers of the people, his outstanding supporters being Joab and Abiathar. Like Absalom too, he sought to make his position secure by assuming the state suitable to the heir-apparent. He made a great feast for the men of Judah, inviting the king's sons but deliberately ignoring Solomon, Bathsheba's son, the prophet Nathan, and David's 'mighty men,' who evidently constituted a party in favour of Solomon's succession. Bathsheba and Nathan contrived to secure from David the ratification of an old promise that Solomon should succeed to the throne and the aged king roused himself to make arrangements for the formal proclamation of Bathsheba's son. Adonijah's followers were seized with panic, and he himself sought sanctuary by taking hold of the horns of the altar, whence he suffered himself to be removed upon a rather equivocal promise by Solomon that his life should be spared. The remainder of the story records, with some later expansion by a Deuterocanonic editor, how David left instructions to Solomon that Joab and Shimei should be put to death, but kindness shown to the family of Barzillai. This ungenerous treatment of Joab, to whom more than to any man he owed the success of his career, and the virtual recantation of his promise to spare Shimei strike an unpleasant note in our ears. Nor does the consideration of the king's failing powers and of his possible fear that Solomon's position might be endangered by adversaries whom he himself had felt free to spare completely mellow its harshness. And so, after a reign of 40 years, David slept with his fathers.

**David's Character and Work.**—Rightly to estimate the character and work of David we must judge him by the standards of his own day. His military capacity is proved by the uniform success he achieved as commander. Even though the story of his conduct with Goliath may be legendary it undoubtedly gives us the measure of his reputation for personal bravery. To these qualities he added astute diplomacy and far-seeing statesmanship. That at times he resorted to deceit—as, for example, in the employment of Hushai to spy upon the movements of Absalom—is true, but this would be commended by his own age and is reputable even to-day. He knew well how to wait his opportunity, and instead of snatching at the kingship in haste allowed the fruit to ripen until it fell into his hands, all the while strengthening his hold upon his fellow countrymen. His choice of Jerusalem as capital is an excellent example of his wisdom. In seizing it he furnished himself not only with a secure citadel, whose natural strength was shown later by its desperate resistance to Babylonians and Romans, but also with a centre of government not so closely associated with his own tribe as Hebron, and one therefore less likely to cause jealousy on the part of northern Israel. His real monument was the united kingdom which he established, its influence stretching

... Syria ... powerful empire that ever ...  
 ... True his opportunity was exceptional, he ...  
 ... Assyria ... Babylon was at the time in a ...  
 ... to challenge his progress, but to have achieved it at all ...  
 ... was wonderful. We can readily understand that the Jews of later ...  
 ... days looked back to David as the ideal king and pictured the ...  
 ... ruler of the happy day for which they hoped as a second David.

David may be charged with harshness in the treatment of conquered peoples—though the true meaning of 2 Sam xii 31 is that he set the people of Raabah to menial labour, not that he tortured them, but in this respect he compares favourably with his contemporaries. His delivery of Saul's descendants to be impaled was but obedience to the will of Yahweh as he understood it. And on the other hand his record is marked by chivalrous treatment of his foes on several occasions. Even his outstanding faults, the murder of Uriah that he might obtain Bathsheba, and his weakness in dealing with his sons, though we need not palliate them, were less heinous a thousand years before Christ than they would be to-day. He was a sincerely religious man, a devout worshipper of Yahweh, as may be seen from his care for the Ark. Though his relationships with the prophets Gad and Nathan may have been idealized by later editors he certainly was more amenable to prophetic guidance than was Saul. He was assuredly not the soldier-smint of Chronicles, or the Psalmist of profound religious experience. But while it is improbable that he was the author of any of the Hebrew hymns he was undoubtedly a musician and a poet. The dancer of 2 Sam vi would naturally be the singer, too, and there is good reason for believing the elegy on Saul and Jonathan and the little dirge on Abner, 2 Sam iii seq 33, are of David's composition. Moreover, the attribution of Psalms to David, though mistaken, is most easily understood if he was really a minstrel (cf also Amos vi, 5).

Greatly loved in his day, deeply revered by those who came after him, David was perhaps the most winsome character in Hebrew story, lovable, because so human, even in his faults. A great warrior and a great statesman, his importance as the real constructor of the Hebrew kingdom can hardly be overestimated.

**BIBLIOGRAPHY**—See the articles *DAVID* in *Hastings' Dict. Bible* and the *Ency. Bib.*; the Commentaries on Samuel by H. P. Smith, Dhome and Caspari, S. A. Cook, *Critical Notes on Old Testament History*, R. Kittel, *Geschichte des Volkes Israels*, ii pp. 108-187; *Gestalten und Gedanken in Israel*, pp. 120-157. (W. R. S.; W. L. W.)

**DAVID I.** (1084-1153), king of Scotland, the youngest son of Malcolm Canmore and (Saint) Margaret, sister of Edgar Aetheling, married in 1113 Matilda, daughter and heiress of Waltheof, earl of Northumbria, and thus became possessed of the earldom of Huntingdon. On the death of Edgar, king of Scotland, in 1107, the territories of the Scottish crown were divided in accordance with the terms of his will between his two brothers, Alexander and David. Alexander, together with the crown, received Scotland north of the Forth of Clyde, David the southern district with the title of earl of Cumbria. The death of Alexander I. in 1124 gave David possession of the whole. In 1127, in the character of an English baron, he swore fealty to Matilda as heiress to her father Henry I, and when the usurper Stephen ousted her in 1135 David vindicated her cause in arms and invaded England. But Stephen marched north with a great army, whereupon David made peace. The peace, however, was not kept. After threatening an invasion in 1137, David marched into England in 1138, but sustained a crushing defeat on Cutton Moor in the engagement known as the battle of the Standard. He returned to Carlisle, and soon afterwards concluded peace. In 1141 he joined Matilda in London and accompanied her to Winchester but after a narrow escape from capture he returned to Scotland. Henceforth he remained in his own kingdom and devoted himself to its political and ecclesiastical reorganization. A devoted son of the church, he founded five bishoprics and many monasteries. In secular politics he energetically forwarded the process of feudalization which had been initiated by his immediate predecessors. He died at Carlisle on May 24, 1153.

**DAVID II.** (1324-1371), king of Scotland, son of King Robert the Bruce by his second wife Elizabeth de Burgh (d. 1327) was born at Dumfries on March 5, 1324. In accordance with

the terms of the treaty of Norhampton he was married in July 1281 to Joanna (d. 1362) daughter of the English king Edward I and became king of Scotland on his father's death in June 1289, being crowned at Scone in November 1331. Owing to the victory of Edward III of England and his protégé, Edward Baliol, at Halidon Hill in July 1333, David and his queen were sent for safety into France, reaching Boulogne in May 1334 and being received very graciously by the French king, Philip VI. Little is known about the life of the Scottish king in France except that Château Gaillard was given to him for a residence and that he was present at the bloodless meeting of the English and French armies at Vironfosse in October 1339. Meanwhile his representatives had obtained the upper hand in Scotland, and David was thus enabled to return to his kingdom in June 1341, when he took the reins of government into his own hands. In 1346 he invaded England in the interests of France, but was defeated and taken prisoner at the battle of Neville's Cross in October of this year, and remained in England for eleven years, living principally in London and at Odiham in Hampshire. His imprisonment was not a rigorous one, and negotiations for his release were soon begun. Eventually, in October 1357, after several interruptions, a treaty was signed at Berwick by which the Scottish estates undertook to pay 100,000 marks as a ransom for their king. David, who had probably recognized Edward III as his feudal superior, returned at once to Scotland; but owing to the poverty of the kingdom it was found impossible to raise the ransom. A few instalments were paid, but the king sought to get rid of the liability by offering to make Edward III, or one of his sons, his successor in Scotland. In 1364 the Scottish parliament indignantly rejected a proposal to make Lionel, duke of Clarence, the next king, but David treated secretly with Edward III over this matter, after he had suppressed a rising of some of his unruly nobles. The king died in Edinburgh Castle on Feb. 22, 1371. His second wife was Margaret, widow of Sir John Logie, whom he divorced in 1369, but he left no children, and was succeeded by his nephew, Robert II. David was a weak and incapable ruler, without his father's patriotic spirit. (See SCOTLAND, History.)

**DAVID**, the name of three Welsh princes

**DAVID I** (d. 1203), a son of Prince Owen Gwynedd (d. 1169), came into prominence as a leader of the Welsh during the expedition of Henry II in 1157. In 1170 he became lord of Gwynedd (*ie*, the district around Snowdon), but some regarded him as a bastard, and Gwynedd was also claimed by other members of his family. After fighting with varying fortunes he sought an ally in the English king, whom he supported during the baronial rising in 1173, after this event he married Henry's half-sister Emma. But his enemies increased in power, and about 1194 he was driven from Wales by the partisans of his half-brother Llewelyn ap Iorwerth. The chronicler Benedictus Abbas calls David *rex*, and Rhuddlan castle was probably the centre of his vague authority.

**DAVID II** (c. 1208-1246) was a son of the great Welsh prince, Llewelyn ap Iorwerth, and through his mother Joanna was a grandson of King John. He married an English lady, Isabella de Braose, and, having been recognized as his father's heir both by Henry III and by the Welsh lords, he had to face the hostility of his half-brother Gruffydd, whom he seized and imprisoned in 1239. When Llewelyn died in April 1240, David, who had already taken some part in the duties of government, was acknowledged as a prince of North Wales, doing homage to Henry III at Gloucester. He was soon at variance with the English king, who appears to have espoused the cause of the captive Gruffydd. Henry's Welsh campaign in 1241 was bloodless but decisive. Gruffydd was surrendered to him, David went to London and made a full submission, but two or three years later he was warring against some English barons on the borders. To check the English king he opened negotiations with Innocent IV, doubtless hoping that the pope would recognize Wales as an independent state, but here, as on the field of battle, Henry III was too strong for him. Just after Henry's second campaign in Wales the prince died in March 1246.

**DAVID III** (d. 1283) was a son of Gruffydd and thus a nephew of David II. His life was mainly spent in fighting his

brother the reigning prince Llewelyn ap Gruffydd. His first revolt took place in 1254 or 1255, and after a second about eight years later he took refuge in England, returning to Wales when Henry III made peace with Llewelyn in 1267. Then about 1274 the same process was repeated. David attended Edward I during the Welsh expedition of 1277, receiving from the English king lands in North Wales, but in 1282 he made peace with Llewelyn and suddenly attacked the English garrisons, a proceeding which led to Edward's final conquest of Wales. After Llewelyn's death in December 1282 David maintained the last struggle of the Welsh for independence. All his efforts, however, were vain, in June 1283 he was betrayed to Edward, was tried by a special court and sentenced to death, and was executed with great barbarity at Shrewsbury in October 1283. As the last native prince of Wales, David's praises have been sung by the Welsh bards, but his character was not attractive and a Welsh historian says "his life was the bane of Wales." (See WALES, History.)

**DAVID, FÉLICIEN** (1810-1876), French composer, was born on April 13, 1810, at Cadenet (Vaucluse). He was a precocious child and composed a string quartet at the age of 12. He was educated at the Jesuit college at Aix, and became choirmaster at St. Sauveur at Aix for a year. He then studied for a while at the Paris Conservatoire. In 1831 he joined the sect of Saint Simonians, and in 1833 travelled in the Near East in order to preach the new doctrine. After three years' absence he returned to France and published a collection of *Oriental Melodies* for the pianoforte. For several years he worked in retirement, and wrote two symphonies, some chamber music and songs. On Dec. 8, 1844, he suddenly leapt into fame with his symphonic ode *Le Désert*, produced at the Conservatoire. In this work David attempted in simple strains to evoke the majestic stillness of the desert. Notwithstanding its title of "symphonic ode," *Le Désert*, has little in common with the symphonic style. What distinguishes it is a certain naivete of expression and an effective oriental colouring. His succeeding works, *Moïse au Sinai* (1846), *Christophe Colomb* (1847), *L'Éden* (1848), scarcely bore out the promise shown in *Le Désert*. David produced several operas: *La Perle du Brésil* (1851), *Herculanum* (1859), *Lalla-Roukh* (1862), *Le Saphir* (1865). He died at Saint-Germain-en-Laye on Aug. 29, 1876. At a time when the works of Berlioz were still unappreciated by the majority of people, David succeeded in making the public take interest in music of a picturesque and descriptive kind. Thus he may be considered as one of the pioneers of modern French musical art.

See R. Brancour, *Félicien David* (1911), with full bibliography.

**DAVID, GERARD** [GHEERAERT DAVIT] (?-1523) Netherlands painter, born at Oudewater, in Holland, was the last great master of the Bruges school. He was only rescued from complete oblivion in 1860-63 by W. J. H. Weale, whose researches in the archives of Bruges brought to light the main facts of the master's life. David came to Bruges in 1483, presumably from Haarlem, where he had formed his early style under the tuition of Ouwater, he joined the guild of St. Luke at Bruges in 1484, and became dean of the guild in 1501; he married, in 1496, Cornelia Cnoop, daughter of the dean of the Goldsmiths' guild; became one of the leading citizens of the town; died on Aug. 13, 1523, and was buried in the Church of Our Lady at Bruges.

In his early work he had followed the Haarlem tradition as represented by Dirck Bouts, Ouwater and Geertgen of Haarlem, but already gave evidence of his superior power as colourist. To this early period belong the 'St. John' of the Kaufmann collection in Berlin, and 'St. Jerome' in the Salting collection (National Gallery, London). In Bruges he studied and copied masterpieces by the Van Eycks, Van der Weyden, and Van der Goes, and came under the direct influence of Hans Memling. From him he acquired the intensity of expression, the increased realism in the rendering of the human form and the orderly architectonic arrangement of the figures. In 1515 he visited Antwerp, and became impressed with the life and movement in the work of Quentin Matsys, who had introduced a more intimate and more human conception of sacred themes. David's "Picta" in the National Gallery and the "Descent from the Cross, in the

... the great art treasures  
 ... the Marquis de  
 St Catherine at the National Gallery, the tribune of the Ma-  
 donna Estimote and Saints of the Brantôme-Saint collection in  
 Genoa, the "Annunciation" of the Sigmund collection and  
 above all the "Madonna with Angels and Saints" at Rouen. Of  
 these, only the latter, only Isidore L. A. Comptis and Am-  
 brosius Deneubour had importance. Among other Flemish paint-  
 ings, Jacobus B. and Mabius were to some degree influenced  
 by him.

Erhard Freytag von Bollerhausen, published in 1803 a very  
 complete monograph on *Genes David and his School* (Mu-  
 nich: F. Bruckmann), together with a *catalogue raisonné* of his  
 works, which, after several editions, are reduced to 43.

**DAVID, JACQUES LOUIS** (1748-1825) French painter,  
 was born in Paris on April 30, 1748. His father was killed in a  
 duel when the boy was but nine years old. His education was  
 begun at the Collège des Quatre Nations, but he was soon placed  
 by his guardian in the studio of François Boucher. Boucher rec-  
 ommended him to J. M. Vien, the pioneer of the classical reaction  
 in painting. Under him David studied for some years, and, after  
 several attempts to win the *prix de Rome*, at last succeeded in  
 1775, with his "Loves of Antiochus and Stratonice." He then  
 accompanied Vien, who had just been appointed director of the  
 French academy at Rome. The classical reaction was now in full  
 tide, Winckelmann was writing Raphael Mengs painting, and  
 the treasures of the Vatican galleries helped to confirm David  
 in a taste already moulded by so many kindred influences. This  
 severely classical spirit inspired his first important painting "*Date  
 obitum B. Mariae*" exhibited at Paris in 1780. The picture exactly  
 suited the temper of the time, and was an immense success. It  
 was followed by "The Grief of Andromache" (1783), "The Oath  
 of the Horatii" (Salon, 1785), "The Death of Socrates," "Love of  
 Paris and Helen" (1788), "Briticus" (1789). In the first years of  
 the revolutionary movement the fashion of imitating the ancients  
 even in dress and manners went to the most extravagant length  
 and it was at this time that David returned to Paris.

The success of his sketch for the picture of the "Oath of the  
 Tennis Court" and his pronounced republicanism, secured David's  
 election to the Convention in Sept. 1792, by the *Section du  
 Museum*, and in the January following his election into the Con-  
 vention his vote was given for the king's death. David's revolu-  
 tionary ideas, which led to his election to the presidency of the  
 Convention and to the committee of general security, inspired his  
 pictures "Last Moments of Lepelletier de Saint-Fargeau" and  
 "Marat Assassinated." He also arranged the programme of the  
 principal republican festivals. When Napoleon rose to power  
 David became his enthusiastic admirer. His picture of Napoleon  
 on horseback pointing the way to Italy is now in Berlin. During  
 this period he also painted the "Rape of the Sabines," and  
 "Leonidas at Thermopylae." Appointed painter to the emperor  
 David produced the two notable pictures "The Coronation" (of  
 Josephine), and the "Distribution of the Eagles."

On the return of the Bourbons the painter was exiled with other  
 regicides, and retired to Brussels, where he again returned to  
 classical subjects: "Amor quitting Psyche," "Mars disarmed by  
 Venus," etc. He rejected the offer, made through Baron Hum-  
 boldt, of the office of minister of fine arts at Berlin, and remained  
 at Brussels till his death on Dec. 20, 1825.

It is difficult for a generation which has witnessed another com-  
 plete revolution in the standards of artistic taste to realize the  
 secret of David's immense popularity in his own day. Yet he  
 exercised in his time and generation a great influence. His pictures  
 are magnificent in their composition and draughtsmanship; and  
 his keen observation and insight into character are evident, espe-  
 cially in his portraits, notably of Madame Récamier, of the Con-  
 ventional Gérard and of Boissy d'Anglas.

See E. J. Delectuzze, *Louis David, son école et son temps* (1855),  
 and *Le Peintre Louis David. Souvenirs et documents inédits*, by J. L.  
 Jules David, the painter's grandson (1880); L. Rosenthal, *David*  
 (1904).

**DAVID PIERRE JEAN** 1799-1865 usually called Da vid  
 Pierre. French sculptor was born at Angers on March 12  
 1799 and died in Paris on Jan. 4, 1850. The son of a carver, he  
 went to Paris at 17 with 11 francs in his pocket to study under  
 Roland. After a year and a half's struggle he received a small  
 annuity from the municipality of Angers, and in 1811 won the *prix  
 de Rome* and was sent to Italy, where he worked for some time  
 in Canova's studio. Returning to Paris in 1816 after a short  
 visit to London, he received many important commissions. He  
 was in revolt against the prevailing classical style, and one of his  
 first works in Paris, the "Condé" at Versailles, shows the new  
 tendency towards a more realistic method. In 1827 he visited  
 England and in 1828 and 1834, Germany. Always a Radical in  
 politics he had to leave France for a short period after the *Coup  
 d'État* of Dec. 1851. Many of the most famous men and women  
 of his time sat to David for busts or medallions. A nearly com-  
 plete collection, originals or copies, is to be seen in the Musée  
 David at Angers. Among David's most important works are: the  
 sculptures on the pediment of the Pantheon, showing the prin-  
 cipal personages in France since the Revolution grouped round a  
 figure of "La Patrie", the Gutenberg monument at Strasbourg,  
 the monument to General Gobert in Pere Lachaise, the "Phi-  
 lopoemen" in the Louvre, and the bust of Goethe, presented by  
 him to the poet in 1831, in the public library at Weimar.

See H. Jean, *David d'Angers et ses relations littéraires* (1800),  
*Lettres de P. J. David d'Angers à Louis Dupré* (1891); *Collection de  
 portraits des contemporains d'après les médaillons de P. J. David*  
 (1838).

**DAVIDISTS**, a fancy name rather than a recognized designa-  
 tion for three religious sects. It has been applied (1) to the fol-  
 lowers (if he had any) of David of Dinant, in Belgium, the  
 teacher or pupil of Amalric (Amaury) of Bena, both of whom  
 taught apparently a species of pantheism. David's *Quaterni*, or  
*Quaternuli*, condemned and burnt at Paris (1209), is a lost book,  
 known only by references in Albertus Magnus and Thomas Aquinas,  
 its author would have been burnt had he not fled. (2) To the  
 followers of David George or Joris (q.v.). (3) To the followers of  
 Francis David (1510-79), the apostle of Transylvanian unitari-  
 anism (see SOCIETYS, UNITARIANISM).

**DAVIDOVIC, LJUBOMIR** (1863- ), Yugoslav poli-  
 tician, was born at Vlačka in Serbia. In 1901 he entered parlia-  
 ment and, the next year, with Ljubomir Stojanović founded the  
 Independent Radical party. In 1904 he became Minister of Edu-  
 cation, in 1905 President of the Skupština and in 1909 mayor of  
 Belgrade. In that year he was one of the Serbian witnesses at  
 the Friedjung trial in Vienna, and soon afterwards Prof. Ma-  
 saryk laid before the Austrian delegation the papers on which the  
 forgers had practised Davidovic's signature. In the Serbian  
 Coalition cabinet, formed during the Austrian invasion in Nov.  
 1914, Davidovic again became Minister of Education, but in  
 1917 he resigned office and remained in active opposition to  
 Pašić throughout the remainder of the World War. In 1919 he  
 was elected chief of the newly formed Democratic party and  
 was Yugoslav premier from August of that year until Feb. 1920.  
 In later years he adopted a conciliatory attitude towards the  
 Croats, and condemned the policy of extreme centralization. In  
 July 1924 he again became Prime Minister at the head of a  
 coalition of Democrats, Slovene Clericals and Bosnian Moslems,  
 supported by the Croat peasants. He was, however, unable to  
 maintain himself in office, and was replaced, in Oct. 1924, by a  
 purely Radical Government under Pašić.

**DAVIDSON, ANDREW BRUCE** (1831-1902) Scottish  
 divine, was born in 1831 at Kirkhill, Aberdeenshire, where his  
 father, Andrew Davidson, had a farm. During his four years at  
 Aberdeen university his mother supplied him fortnightly with pro-  
 visions from the farm and sometimes walked the whole 20 miles  
 from Kirkhill, handing the coach fee to her son. He graduated  
 in 1849. In 1852, after three years as a schoolmaster, he entered  
 New College, Edinburgh, and was licensed to preach in 1856. For  
 two years he preached occasionally and took vacancies. In 1858  
 he became assistant professor of Hebrew at New College. He  
 taught during the winter and in the long vacation continued his

preparation for his life work. One year he worked in Germany in the *Evangelical Union*, and the next year he went to Syria to study Arabic. In 1862 he published the first part of a commentary on Job. It was never finished and deals only with one-third of the book, but it is recognized as the first really scientific commentary on the Old Testament in the English language. In 1863 he was appointed by the General Assembly professor of oriental languages at New College. He was junior colleague of Dr. John Duncan (Rabbi Duncan) till 1870, and then for 30 years sole professor. He was a member of the Old Testament revision committee. He died on Jan. 26, 1902.

Besides the commentary on Job he published a book on the *Hebrew Accents*, the only Scottish performance of the kind since the days of Thomas Boston. His *Introductory Hebrew Grammar* has been widely adopted as a class-book in theological colleges. His *Hebrew Syntax* has the same admirable clearness, precision and teaching quality. His *Commentary on the Epistle to the Hebrews* is one of a series of handbooks for Bible classes. These were followed by commentaries on Job, Ezekiel, Nahum, Habakkuk and Zephaniah, in the Cambridge series, and a Bible-class primer on *The Exile and Restoration*. His lectures on *Old Testament Prophecy* were published after his death by Prof. J. A. Paterson. The *Theology of the Old Testament* in the "International Theological Library" is a posthumous volume edited by Prof. Salmon. "Isaiah" in the *Temple Bible* was finished, but not revised, when he died, and he also had in hand the volume on Isaiah for the *International Critical Commentary*, to which must be added a mass of articles contributed to the *Imperial Bible Dictionary*, the *Encyclopædia Britannica* and the chief religious reviews. Various articles in Dr. Hastings' *Bible Dictionary* were by Davidson, including the article "God." Two volumes of sermons, *The Called of God* (with biographical introduction), and *Waiting upon God*, were published after his death.

**DAVIDSON, JOHN** (1857-1909), British poet, playwright and novelist, son of the Rev. Alexander Davidson, a minister of the Evangelical Union, was born at Barrhead, Renfrewshire, Scotland, on April 11, 1857. In 1876 he studied for a session at Edinburgh university, and then went as a master to various Scottish schools till 1890, varying his experiences in 1884 by being a clerk in a Glasgow thread firm. He had married in 1885, and meanwhile he had published his poetical and fantastic plays, *Bruce* (1886), *Smith, a tragic farce* (1888) and *Scaramouch in Naxos* (1889). Determining at all costs to follow his literary vocation, he went to London in 1890. *Fleet Street Eclogues* (1893) at once established Davidson's position among the younger generation of British poets. He produced other books in prose, but his most important work is found in his *Ballads and Songs* (1894), *Second Series of Fleet Street Eclogues* (1895), *New Ballads* (1896), *The Last Ballad, etc.* (1898), all full of remarkably fresh and unconventional beauty. Meanwhile, in 1896, he produced an English verse adaptation in *For the Crown* (acted by Forbes Robertson and Mrs. Patrick Campbell), of François Coppée's drama *Pour la couronne*, and he wrote several other literary plays. In later years he lived at Penzance, provided with a small Civil List pension, but otherwise badly off, for his writings brought in very little money. On March 23, 1909, he disappeared, in circumstances pointing to suicide, and six months later his body was found in the sea.

**DAVIDSON OF LAMBETH, RANDALL THOMAS DAVIDSON**, 1st Baron (1848-1930), English divine, archbishop of Canterbury, 1903-28, was with King Edward VII. at his death in 1910, and he crowned King George V in 1911. He was one of the four counsellors of State who acted as His Majesty's Commission when the King went to India in 1911, and again in 1925 when the King went to the Mediterranean after illness. During the whole of this period he took a leading part as spokesman of the national Church in the House of Lords. Lord Morley bore public witness to the effectiveness of his intervention in the critical debate on the Parliament Act in 1914. He made important contributions in debates on temperance, divorce and various social and moral questions. His influence was also constantly and successfully exerted in matters affecting the welfare of native races; e.g., in Kenya, and he made notable appeals on behalf of Christian minorities in the East. In his educational policy he has steadily supported definite religious instruction in all schools, by teachers willing to give it.

Trusted by Englishmen of all classes for his wisdom and good-

ness, the archbishop commanded the confidence of Free Churchmen to a greater degree than any of his predecessors. He had a peculiarly anxious task during the World War. On more than one occasion he lifted up his voice against reprisals which had "as a deliberate object the killing and wounding of non-combatants." Twice he visited the troops in France. In 1916 he placed himself at the head of a national mission, which aimed at the deepening of religious life at home. At an early date he gave public support to the proposals for a League of Nations, and it was recognized as specially fitting that he should preach the sermon at the opening of the third Assembly in Geneva, 1922. In 1922 Dr. Davidson took the lead in issuing a vigorous protest signed by the leaders of the Anglican, Roman, Free Church and Jewish Communions, against religious persecution in Russia. In 1923 he made a successful public appeal for the retention of the Oecumenical patriarchate at Constantinople.

The archbishop also took a deep interest in the work of the Church overseas. He presided over the sixth Lambeth Conference in 1920, attended by 252 out of the 368 bishops of the Anglican Communion, and throughout the deliberations adopted a strong forward-looking attitude. After the issue of the appeal to all Christian people by that conference he took a prominent part in securing widespread consideration of the proposals for the reunion of Christendom which it contained. He actively forwarded conferences with the Free Church representatives in England, a series of important meetings being held at Lambeth Palace. He further expounded the appeal to the General Assemblies of the Church of Scotland, and the United Free Church of Scotland in 1921. In addition, the archbishop markedly developed friendly relations between the Anglican and Orthodox Churches, and it was to him that the Patriarch (Meletios IV.) of Constantinople communicated his Synod's acceptance of the validity of Anglican ordinations in 1922. He also took "cognizance" of the conversations between Anglican and Roman Catholic theologians held at Malines (1921-25) under the presidency of Cardinal Mercier; Pope Pius XI. taking a similar "cognizance."

He was mainly instrumental in securing the passage into law of the Church Assembly (Powers) Act, 1919, and from 1920-28 presided over the Church Assembly with wisdom and courage. During this period a large number of measures were passed. But the principal measure, dealing with Prayer Book revision, was rejected by the House of Commons on Dec. 15, 1927. This situation, however, afforded an opportunity for an extraordinary outburst of admiration for the archbishop personally in all sections of the community. In Feb. 1928 he completed the 25th year of his primacy—a primacy longer than any since Archbishop Warham. He displayed a remarkable combination of sincere piety, common sense, loyalty to truth and sympathy with modern movements. He resigned Nov. 1928, was succeeded by Dr. Lang, and was created a baron. He died May 25, 1930. (G. K. A. B.)

**DAVIDSON, SAMUEL** (1807-1898), Irish biblical scholar, was born near Ballymena. He became in 1842 professor of biblical criticism, literature and oriental languages at the Lancashire Independent college, Manchester, but was obliged to resign in 1857, on account of *The Text of the Old Testament, and the Interpretation of the Bible*, written for a new edition of Horne's *Introduction to the Sacred Scripture*. In 1862 he removed to London to become scripture examiner in London university, and he spent the rest of his life in literary work. He died on April 1, 1898. Davidson was a member of the Old Testament Revision Committee.

Among Davidson's principal works are:—*The Hebrew Text of the Old Testament Revised* (1855), *Introduction to the Old Testament* (1862), *On a Fresh Revision of the Old Testament* (1873), *The Doctrine of Last Things in the New Testament* (1883), besides translations of the New Testament from Tischendorf's text, Gieseler's *Ecclesiastical History* (1846) and Fürst's *Hebrew and Chaldean Lexicon*.

**DAVIDSON, THOMAS** (1817-1885), British palaeontologist, born in Edinburgh on May 17, 1817, was educated partly in the University of Edinburgh and partly in France, Italy and Switzerland. His *Monograph of British Fossil Brachiopoda* was published by the Palaeontographical Society (1850-86, 6 vols. with 200 plates). He also prepared an exhaustive memoir on "Recent

... of his philosophical poem on the nature of the soul and its immortality—*Nosce teipsum* (1599) Its force, eloquence and ingenuity, the orderly and lucid arrangement of its matter, place it among the finest of English philosophical poems In 1599 Davies published a volume of 10 acrostics on the words *Elisabetha Regina* entitled *Hymns to Astraea* He produced no more poetry except two dialogues contributed to Francis Davison's *Poetical Rhapsody* (1603) In 1601 Davies was restored to his position at the bar, after making his apologies to Martin, and in the same year he sat for Corfe Castle in parliament James I received the author of *Nosce teipsum* with great favour, and sent him (1603) to Ireland as solicitor-general, he was knighted in the same year In 1606 he was promoted to be attorney-general for Ireland, and created serjeant-at-arms One of his chief aims was to establish the Protestant religion firmly in Ireland, and he took an active part in the "plantation" of Ulster In 1612 he published his prose *Discourse of the true causes why Ireland was never entirely subdued until the beginning of his Majesty's happy reign* (ed H Morley in his *Ireland under Elizabeth and James I* [1890]). In the same year he entered the Irish parliament as member for Fermanagh, and was elected speaker after a scene of disorder in which the Catholic nominee, Sir John Everard, who had been installed, was forcibly ejected. In the capacity of speaker he delivered an excellent address reviewing previous Irish parliaments He resigned his Irish offices in 1619, and sat in the English parliament of 1621 for Newcastle-under-Lyme With Sir Robert Cotton he was one of the founders of the Society of Antiquaries He was appointed lord chief justice in 1626, but died suddenly before he could enter on the office He had married (1609) Eleanor Touchet, daughter of George Baron Audley She developed eccentricity verging on madness and wrote several fanatical books on prophecy

**DAVIES, ARTHUR B.** (1862-1938) American painter was born at Union NY on Sept 25, 1862 He was a pupil of Dwight Williams at Union afterwards studying in New York and Chicago He became an adherent of the Romanic school of painting and made notable contributions in the fields of etching and color-illustration Among his more important works are "Dream" and "The Child of Arcia" in the Metropolitan Museum, New York City "Martyr, Murder of Idols" in the Art Institute Chicago, "Sorrow in a Valley" and "Night Overture" in the Minneapolis Institute of Art; and "The Place of the Mother" and "Children of Yesterday" in the Brooklyn Museum In 1923, his picture, "After-Thoughts of Earth" procured for him from the Carnegie Trust a medal of the first class and \$1,500 He died in Italy on Oct 21, 1928

**DAVIES, SIR HENRY WALFORD** (1869- ), knighted 1922 English organist and composer, was born at Oswestry Salop on Sept 5, 1869, and educated privately In 1882 he became a chorister at St George's chapel Windsor and in 1885 assistant organist to Sir Walter Parratt there From 1890-94 he was pupil and scholar at the Royal College of Music, where, in 1895, he became a teacher of counterpoint In 1898 he was appointed organist to the Temple church, a post which he held until 1903 From 1903-07 he was conductor of the London Bach choir in succession to Stanford and from 1919-26 professor of music in the University college of Wales at Aberystwith During the World War, with the rank of major, he worked for the organization of music among the troops, and in 1918 was made director of music to the R.A.F. In 1919 he was appointed director of music and chairman of the National Council of Music, University of Wales, in 1924 Gresham professor of music; and in 1927, organist of St George's chapel, Windsor

His compositions include two symphonies; and in the way of choral works *Everyman*, a felicitous setting for chorus and orchestra of the old morality play, which has enjoyed wide favour, *Ode on Time* (1908); *The Sayings of Jesus* (1911), *Dante Fantasy* (1914), and *Heaven's Gate*; in addition to a quantity of church music, chamber music, part songs, etc Over and above his creative work, Walford Davies has been for many years one of the most potent and stimulating forces (not least by means of his immensely popular wireless talks) in musical education in England; to which it may be added that he has contributed the article on MUSIC TEACHING to the present edition of this *Encyclopaedia*

**DAVIES, HUBERT HENRY** (1876-1917), English playwright, was born in Cheshire on March 17, 1876 After some years of journalism in San Francisco, where he also produced a few vaudevilles, he returned to England and made a success in London with *Cousin Kate* and *Mrs Gorrings's Necklace* Among his other comedies were *The Mollusc* (1907) and *Doormats* (1911) He produced *The Outcast* (1914) His health broke down as the result of overwork in France as a hospital orderly during the World War, and he was found dead at Robin Hood's bay, Yorks, on Aug 17, 1917

**DAVIES, SIR JOHN** (1569-1626), English poet, was baptized on April 16, 1569, at Tisbury, Wiltshire He was educated at Winchester college, and became a commoner of Queen's college Oxford, in 1585 In 1588 he entered the Middle Temple, and was called to the bar in 1593 In his general onslaught on literature in 1599 the archbishop of ... his volume *All Gods's Elegies* (1599) ... D (Middleburgh, 1583?), ... by Marlowe The epigrams ... of composition than the charming ... written in praise of dancing ... friend, Master Richard ... quarrelled, and Davies was expelled from the society for having ...

of his philosophical poem on the nature of the soul and its immortality—*Nosce teipsum* (1599) Its force, eloquence and ingenuity, the orderly and lucid arrangement of its matter, place it among the finest of English philosophical poems In 1599 Davies published a volume of 10 acrostics on the words *Elisabetha Regina* entitled *Hymns to Astraea* He produced no more poetry except two dialogues contributed to Francis Davison's *Poetical Rhapsody* (1603) In 1601 Davies was restored to his position at the bar, after making his apologies to Martin, and in the same year he sat for Corfe Castle in parliament James I received the author of *Nosce teipsum* with great favour, and sent him (1603) to Ireland as solicitor-general, he was knighted in the same year In 1606 he was promoted to be attorney-general for Ireland, and created serjeant-at-arms One of his chief aims was to establish the Protestant religion firmly in Ireland, and he took an active part in the "plantation" of Ulster In 1612 he published his prose *Discourse of the true causes why Ireland was never entirely subdued until the beginning of his Majesty's happy reign* (ed H Morley in his *Ireland under Elizabeth and James I* [1890]). In the same year he entered the Irish parliament as member for Fermanagh, and was elected speaker after a scene of disorder in which the Catholic nominee, Sir John Everard, who had been installed, was forcibly ejected. In the capacity of speaker he delivered an excellent address reviewing previous Irish parliaments He resigned his Irish offices in 1619, and sat in the English parliament of 1621 for Newcastle-under-Lyme With Sir Robert Cotton he was one of the founders of the Society of Antiquaries He was appointed lord chief justice in 1626, but died suddenly before he could enter on the office He had married (1609) Eleanor Touchet, daughter of George Baron Audley She developed eccentricity verging on madness and wrote several fanatical books on prophecy

**BIBLIOGRAPHY**—In 1625 Davies published at Dublin *Le Primer Discours des Cases et Matiers in Ley resolues et adjudges en les Courts del Roy en cest Realme* (reprinted 1628) He issued an edition of his poems in 1622 His prose publications were mainly posthumous *The Question concerning Impositions, Tonnage, Poundage* ... was printed in 1650, and four of the tracts relating to Ireland, with an account of Davies and his services to that country, were edited by G Chalmers in 1786 His works were edited by Dr A B Grosart (1869-76), with a full biography, for the Fuller Worthies Library, also by H Morley for the "Charisbrooke Library" (vol. x, 1889). *Nosce teipsum* is printed in Arber's *English Garner* (vol. v, 1882).

**DAVIES, JOHN**, of Hereford (1565?-1618), English poet, was born at Hereford and settled in Oxford as a writing master. His principal work is the *Microcosmus* (1603), modelled largely on Joshua Sylvester's translation of the *Semaines* of Du Bartas

Among other works are—*Mirum in modum* (1602), *The Holy Roods* (1600) *Wittes Pilgrimage* (c. 1610), *The Scourge of Folly* (c. 1611), *The Muses Sacrifice* (1612), and *Wittes Bedlam* (1607) His *Scourge of Folly* contains verses addressed to many of his contemporaries, to Shakespeare among others He also wrote *A Select Second Husband for Sir Thomas Overbury's Wife* (1616), and *The Writing Schoolmaster* (earliest known edition, 1635) His works were collected by Dr. A. B. Grosart (1873) for the Chertsey Worthies Library.

**DAVIES (DAVISIUS), JOHN** (1679-1733), English classical scholar and critic, was born in London. He was president of Queen's college, Cambridge, and was considered one of the best commentators on Cicero. He edited the *Tusculanae disputationes* (1709), *De natura deorum* (1718), *De divinatione* and *De fato* (1725), *Academica* (1725), *De legibus* (1727), *De finibus* (1728) and other works Davies's editions, which were intended to supplement those of Graevius, show a great knowledge of history and philosophy, but are too free in emendation.

**DAVIES, JOHN LLEWELLYN** (1826-1916), English divine and educationalist, was born at Chichester on Feb 26, 1826 He was educated at Repton and Trinity College, Cambridge, where he was made a fellow in 1851 He was ordained in the same year, and held successively several London livings He was given the crown living of Christ church, Marylebone in 1856 and in 1889 became vicar of Kirby Lausdale Westmorland where he remained until 1908 Davies was closely associated with John Frederick Denham Maurice in the foundation of the Working Men's College, London



a d from 1873-4 and 188-86 was principal of Queen's College, Halifax street founded by Maurice R. 34 for the advancement of women's education. Davies was an advocate of the higher education of women, a cause in which his sister, Sarah Emily Davies (qv), was also prominent, and favoured the granting to women of university degrees and the Parliamentary franchise. He died at Hampstead on May 17, 1916. With Vaughan he produced the well-known translation of Plato's *Republic*.

**DAVIES, SIR LOUIS HENRY** (1845-1924), Canadian politician and jurist was born in Prince Edward Island in 1845, of Huguenot descent. In 1882 he entered the Canadian parliament as a Liberal, and from 1896 to 1901 was minister of marine and fisheries. In the latter year he became one of the judges of the supreme court of Canada. In 1877 he was counsel for Great Britain before the Anglo-American fisheries arbitration at Halifax, in 1897 he was a joint delegate to Washington with Sir Wilfred Laurier on the Bering sea seal question, and in 1898-99 a member of the Anglo-American joint high commission at Quebec. In 1918 he became chief justice and a member of the privy council. He died at Ottawa on May 1, 1924.

**DAVIES, RICHARD** (c. 1505-1581), Welsh bishop and scholar, was born in north Wales and educated at New Inn Hall, Oxford, becoming vicar of Burnham, Bucks., in 1550. He took refuge at Geneva during the reign of Mary. In Jan. 1560 he was consecrated bishop of St. Asaph, whence he was translated, early in 1561, to the bishopric of St. Davids. Davies was a member of the council of Wales, was very friendly with Matthew Parker, archbishop of Canterbury, and was consulted both by him and by Burghley, on Welsh concerns. He took part in translating the New Testament into Welsh, and assisted with the Welsh translation of the Book of Common Prayer. He helped to revise the "Bishops' Bible" of 1568, being responsible for Deuteronomy and 2 Samuel. He died on Nov. 7, 1581.

**DAVIES, SARAH EMILY** (1830-1921), British educationalist, sister of John Llewellyn Davies (qv), was born at Southamton on April 22, 1830. She was educated at home, and later identified herself with the movement for the higher education of women, being also one of a group of women who, about 1858, were discussing the question of women's suffrage at the Kensington Society. In 1862 she became secretary to the committee which was formed to procure the admission of women to university examinations. In 1867, Miss Davies, with the help of Mme. Bodichon (Barbara Leigh Smith) and others, organized a women's college at Hitchin, which was subsequently transferred to Cambridge as Girton college in 1873. From 1870 to 1873 she was a member of the London School Board and withdrew to become mistress of Girton college, Cambridge, a post which she held for two years. In 1873 she was elected a life governor of University college, London, and in 1882 became honorary secretary of Girton college, retiring in 1904. She died in London on July 13, 1921. She published *The Higher Education of Women* (1886), and *Thoughts on Some Questions Relating to Women 1860-1908* (1910).

See B. Stephen, *Emily Davies and Girton College* (1927).

**DAVIES, WILLIAM HENRY** (1871- ), British poet, born at Newport Monmouth, April 20, 1871. After serving as apprentice to a picture-frame maker he tramped through America, crossed the Atlantic many times on cattle boats, became a pedlar and street singer in England, and after eight years of this life published his first volume of poems, *The Soul's Destroyer*, from the Marshalsea prison. Next year appeared in prose *The Autobiography of a Super-Tramp* (1908) with a preface by G. Bernard Shaw, and also *Nature Poems and Others*. Collected editions of his poems appeared in 1916 and 1924. His poetry includes: *Forty New Poems* (1918); *The Hour of Magic, and Other Poems* (1922); *A Poet's Alphabet* (1923); *The Song of Love* (1926). He also published a novel, *A Weak Woman* (1911), and volumes of nature studies and essays, including *A Poet's Pilgrimage* (1918), *Later Days* (1925) and *The Adventures of Johnny Walker Kamp* (1926); *Collected Poems of W. H. Davies* (1929).

**DAVILA, ENRICO CATERINO** (1576-1631), Italian historian, was descended from a *Sannita*—his family. His im-

mediate ancestors had been constables of the kingdom of Cyprus for the Venetian republic since 1464. But in 1570 the island was taken by the Turks, and Antonio Davila, the father of the historian, had to leave it despoiled of all he possessed. He travelled into Spain and France, and finally returned to Padua, and at Sacco on Oct. 30, 1576, his youngest son, Enrico Caterino, was born. About 1583 Antonio took this son to France, where he became a page in the service of Catherine de' Medici, wife of King Henry II. In due time he entered the military service, and fought through the civil wars until the peace in 1598. He then returned to Padua, where, and subsequently at Parma, he led a studious life until, when war broke out, he entered the service of the republic of Venice. During the whole of this active life he never lost sight of his early design of writing the history of those civil wars in France in which he had borne a part. The success of the *Istoria delle guerre civili di Francia* was immediate and enormous. Over 200 editions followed, of which perhaps the best is the one published in Paris in 1644. Davila was murdered, while on his way to take over Cremona for Venice in July 1631.

The *Istoria* was translated into French by G. Baudouin (1642); into Spanish by Varen de Soto (Madrid, 1651, and Antwerp, 1686); into English by W. Aylesbury (1627), and by Charles Cortel (1666), and into Latin by Ettore Francesco Cornazzano (1745). The best account of the life of Davila is that by Apostolo Zeno, prefixed to an edition of the history printed at Venice in 2 vols in 1733.

**DAVIS, CHARLES HOWARD** (1857- ), American landscape painter, was born at East Cambridge (Mass.), Feb. 2, 1857. A pupil of the schools of the Boston Museum of Fine Arts, he was sent to Paris in 1880. Having studied at the Academy Julian under Lefebvre and Bouffanger, he went to Barbizon and painted much in the forest of Fontainebleau under the traditions of the "men of thirty." He became a full member of the National Academy of Design in 1906, and received many awards including a silver medal at the Paris Exhibition of 1889. He is represented by important works in the Metropolitan Museum of Art, New York; the Corcoran Art Gallery, Washington; the Pennsylvania Academy Philadelphia, and the Boston Museum of Fine Arts. The Union League club in New York had an exhibition of his works in Feb. 1927.

**DAVIS, CUSHMAN KELLOGG** (1838-1900), American political leader and lawyer, was born in Henderson, N.Y., on June 16, 1838. He was taken by his parents to Wisconsin Territory in the year of his birth, and was educated at Carroll college, Waukesha, Wis., and at the University of Michigan, where he graduated in 1857. After studying law he was admitted to the bar in 1860. During the Civil War he served as a first lieutenant in 1862-63 and in 1864 was an aide to Gen. Willis A. Gorman (1814-76). Resigning his commission in 1864, he settled in St. Paul, Minn., where he soon became prominent both at the bar and, as a Republican, in politics. He served in the State house of representatives in 1867, and was U.S. district attorney for Minnesota (1868-73). In 1874-76 he was governor of the State, and from 1887 until his death at St. Paul, Nov. 27, 1900, was a member of the U.S. Senate, where he was one of the acknowledged leaders of his party, an able and frequent speaker, and a committee worker of great industry. He was one of the peace commissioners who negotiated and signed the treaty of Paris by which the Spanish-American War was terminated. In addition to various speeches and public addresses, he published an essay entitled *The Law of Shakespeare* (1899).

See sketch by W. B. Chamberlain in *Michigan Almanac*, vol. vii., pp. 133-139 (1902).

**DAVIS, HENRY WILLIAM CARLESS, C.B.E.** (1874-1928), British historian, a son of H. F. A. Davis of Stroud, Gloucestershire, was born on Jan. 13, 1874 and educated at Weymouth college and Balliol college, Oxford. He was a fellow of All Souls (1895-1902), and of Balliol (1902-21). During the World War he served in the War Trade Intelligence Department, and after attending the Peace Conference, directed the Overseas Trade Department. In 1921 Davis was appointed professor of modern history at Manchester and in 1925 he returned to Oxford as regius professor of modern history. He became in addition, curator of the Bodleian Library in 1926. He was made

8 9<sup>th</sup> W F a 9  
 F 8 L W K E - the Curandero Ires. Davis's  
 historical work was chiefly done in the medical field and found  
 expression in his *England under the Normans and Angevins*  
 (1903), *Medieval Europe* (1912), a revised edition of the latter  
*Chronicles of William I* (1913), and *Medieval England*  
 (1914). The calendar of Anglo-Norman Royal Charters, 1066-  
 1154, was not completed, owing to the difficulty of obtaining  
 literary assistance during the World War. Davis was able to  
 finish only the first volume (1912).

The unshaken judgment exact scholarship and constructive  
 illustration shown in his *England under the Normans and*  
*Angevins* brought him into prominence as an authority on medi-  
 eeval history. This work was remarkable for its appreciation of  
 the true position held by England in the period dealt with and  
 marks a definite advance in historical scholarship. His *Medieval*  
*Europe*, though showing a masterly knowledge of the period, was  
 written rather for the general public than for the serious student.  
 After the outbreak of war, Davis's writings on subjects connected  
 with modern political thought (*The Political Thought of Treu-*  
*schke* [1914], and various articles) demonstrated his skill in the  
 denunciation of character and the exposition of policy, and he  
 brought to this work in a very different field the same character-  
 istic ability and thoroughness which had made his mediaeval  
 studies famous. He was exceptionally gifted as a tutor, par-  
 ticularly for those who, themselves, intended to become teachers.  
 Davis died of pneumonia on June 28, 1923, in Edinburgh where  
 he had gone to conduct an examination.

He contributed several articles to *the Encyclopaedia*

**DAVIS, HENRY WINTER** (1817-1895), American politi-  
 cal leader, was born at Annapolis (Md., U.S.A.), on Aug. 16,  
 1817. He graduated from the law department of the University  
 of Virginia in 1821 and began to practice law in Alexandria (Va.),  
 but in 1830 removed to Baltimore (Md.). Early imbued with  
 strong anti-slavery views he began political life as a Whig, but  
 when the Whig party disintegrated, became an "American" or  
 "Know-Nothing" and as such served in the national House of  
 Representatives from 1855 to 1861. In 1860, not ready to ally  
 himself wholly with the Republican party, he declined to be a  
 candidate for the Republican nomination for the vice-presidency.  
 After Lincoln's election, he became a Republican and was re-  
 elected in 1862 to the National House of Representatives, in  
 which his radical views commanded especial attention owing to  
 his being one of the few representatives from a slave state. From  
 Dec. 1863 to March 1865 he was chairman of the committee on  
 foreign affairs. With other radical Republicans Davis was a bitter  
 opponent of Lincoln's reconstruction plan of the Southern States.  
 On Feb. 15, 1864, he reported a bill placing reconstruction under  
 the control of Congress. The bill finally passed both houses but  
 failed to receive the approval of the president who on July 8  
 issued a proclamation defining his position. On Aug. 5, 1864,  
 Davis joined Benjamin F. Wade of Ohio, in issuing the so-called  
 "Wade-Davis Manifesto" which violently denounced President  
 Lincoln for encroaching on the domain of Congress. He was one  
 of the radical leaders who preferred Fremont to Lincoln in 1864,  
 but subsequently supported the President. In July 1865, he pub-  
 licly advocated the extension of the suffrage to negroes. He died  
 in Baltimore (Md.), on Dec. 30, 1895.

See *The Speeches of Henry Winter Davis* (1867), to which is pre-  
 fixed an oration on his life and character delivered in the House of  
 Representatives by Senator J. A. J. Creswell of Maryland.

**DAVIS, JEFFERSON** (1808-1889), American statesman,  
 president of the Confederate States of America, was born on  
 June 3, 1808 on a farm on the present site of Fairview, Todd  
 county, Ky. He was the tenth and youngest child of Samuel  
 Davis (1755-1824), a descendant of a Welsh family that had  
 settled originally in New Jersey and he probably was a cousin of  
 Samuel Davies (1724-1761), president of Princeton. Samuel  
 Davis was born in Georgia, was a captain of infantry in the  
 American revolution and subsequently was a planter. He married  
 Jane Cook (1759-1844) of Scotch-Irish stock. They moved to  
 south-western Kentucky in 1796, thence to Louisiana about 1820

and in 1820 to Wilkinson county, Miss.

Schooled in Kentucky and in Mississippi, Davis attended Tran-  
 sylvania College, Ky., in 1821-24, entered the U.S. Military Aca-  
 demy in Sept. 1824 and graduated no. 23 in a class of 33. In July  
 1828, Albert Sidney Johnston was in a higher class during Davis's  
 cadetship, and Robert E. Lee and Joseph E. Johnston belonged  
 to the next junior class. Davis remained in the army seven years  
 and served chiefly in Wisconsin, where a severe attack of pneu-  
 monia left him with a facial neuralgia that often incapacitated and  
 sometimes blinded him. After 1831 he was never a man of  
 robust health or of a normal nervous system.

Finding in 1835 that army life had become a routine, Davis  
 resigned his commission as lieutenant and after marrying Sarah  
 Knox Taylor, daughter of Col. Zachary Taylor, started as a  
 cotton-planter in Mississippi. His young bride died within three  
 months of their marriage, and he spent the next ten years of his  
 life on his plantation with his leisure devoted to hard reading.  
 He soon developed a system that was almost a model in the  
 relations of master and slaves. He gave the servant community  
 a large measure of self-government and left in its hands, through  
 an interesting jury system the trial of all petty offenders. His  
 own experience shaped his views, knowing that his negroes were  
 well-fed, happy and advancing he could not believe the evil  
 alleged against slavery.

An unsuccessful candidate of the legislature in 1843 and a  
 Democratic presidential elector in 1844, Davis was elected to the  
 U.S. House of Representatives in 1845. He was married that  
 same year to Varina Howell (1828-1907), granddaughter of Gov.  
 Richard Howell of New Jersey. His service in Washington had  
 hardly begun when the war with Mexico broke out and he was  
 named colonel of the First Mississippi Infantry. He resigned  
 from Congress in June 1846, and speedily had his troops well  
 drilled and ready to join in the advance of the army under Gen.  
 Zachary Taylor. Davis and his regiment acquitted themselves  
 well in the battle of Monterey, Sept. 21-23, 1846, and when  
 Taylor's reduced force was attacked at Buena Vista on Feb. 22,  
 1847, a stand by the Mississippians saved the day for the Ameri-  
 can forces and made Davis something of a national figure. He  
 was wounded in this battle and was forced to return to Mis-  
 sissippi, in the company of his troops, whose term of enlistment  
 had expired. He declined President Polk's complimentary com-  
 mission as brigadier-general of volunteers on the ground that  
 officers of volunteers should be named by the States, but in Aug.  
 1847 he accepted appointment to the United States Senate and  
 soon was named chairman of its committee on military affairs.  
 In 1851 the Democrats of Mississippi prevailed upon him, in the  
 party's interest, to become a candidate for governor. He was  
 defeated by a narrow vote and was again in retirement for 18  
 months, but upon the inauguration of Franklin Pierce in 1853,  
 he became secretary of war and served for four years. During  
 this time he strengthened the coast-defences, enlarged the army,  
 directed valuable surveys for a railroad to the Pacific, introduced  
 various betterments at West Point and experimented with the  
 use of camels as draft animals in the West. Expansionist plots  
 in Cuba and in Nicaragua were supposed to have his support.  
 President Pierce's endorsement of the repeal of the Missouri com-  
 promise was probably the result of Davis' influence with him.

Davis re-entered the United States Senate on March 4, 1857,  
 but an affection of the eyes limited his activities for nearly two  
 years. In 1859-60 he was one of the foremost leaders of Southern  
 Democrats in opposition to Stephen A. Douglas. During his first  
 term in the senate (1847-51) he had argued that all the territories  
 should be opened to slavery, but he had been willing to accept  
 an extension of the line of the Missouri compromise to the  
 Pacific. After the verdict of the Supreme Court in the Dred  
 Scott case, he became more aggressive in his views of Southern  
 rights and repudiated Stephen A. Douglas' doctrine of squatter  
 sovereignty. He asserted that Congress had no right to deny  
 admission to the Union to any territory because of the existence  
 or non-existence of slavery which he now frankly defended. His  
 opinions were fully set forth in a series of resolutions offered on  
 Feb. 2, 1860, and  
 ly adopted. He did his utmost to

present the nomination of Douglas for the president and after the split in the Democratic convention a Charlestonian supported Breckinridge and Lane, though he did not canvass for them.

Always a believer in the right of secession, Davis had favoured a convention of the Southern States in 1851, to consider what action they should take on the compromise of 1850, but until after the election of Lincoln in Nov. 1860 he never felt that circumstances justified a withdrawal from the Union. The victory of the party opposed to slavery, the uncompromising attitude of the Republican senators, and the unwillingness of President Buchanan to concede the right of a State peaceably to leave the Union, combined in the early winter of 1860-61 to convince Davis that the South in self-protection should exercise its right of secession and should form a separate confederation. He united with six other senators from the cotton States in an historic declaration to this effect. At the instance of his colleagues he consented to serve on the "committee of thirteen" that sought a last-minute settlement of slavery, but when he found that the Republican members would accept no compromise, he voted against the committee's report. Although he believed further efforts at accommodation were futile, he intervened in South Carolina's behalf in an attempt to have the Federal garrison withdrawn from Charleston harbour. Then, following the secession of his own State, he bade farewell to the senate on Jan. 21, 1861, in a moving address.

#### CIVIL WAR CAREER

Designated commander of his own State's troops, Davis hoped for a military career in case of war. Instead, to his surprise and regret, he was unanimously chosen by Congress provisional president of the Confederate States Feb. 9, 1861. He was inaugurated at Montgomery, Ala., on Feb. 18, 1861, was formally elected by the people on Oct. 16, 1861, was again inaugurated, this time at Richmond, Va., under the "permanent constitution" on Feb. 22, 1862, and was holding the office of president when the Confederacy collapsed.

Selecting a cabinet of moderate views and of no more than moderate ability, Davis sought to negotiate for a withdrawal of the Union troops from military posts in the South, and he did not order military operations to be opened at Charleston, S.C., in April 1861, until he was convinced that the Lincoln administration had sent an armed expedition to re-occupy and reinforce the garrison of Ft. Sumter.

The easy victory of the Confederates at Bull Run, on July 21, 1861, misled the South into believing that its independence would be won without great effort. Even Davis himself, who had warned the Confederacy of the magnitude of its task, seems to have been so deluded in the summer of 1861 by the hope of speedy foreign intervention that he did not capitalize the war ardour of the first months of the struggle. Events of the winter of 1861-62, however, spurred him to a vigorous policy. He procured the passage of a conscription law, and although the South had only one rolling-mill of any consequence, he contrived to manufacture cannon in sufficient numbers. Side-arms, powder, uniforms and quartermasters stores were obtained in a country that had few facilities for making them. A navy was constructed in improvised yards and by secret, adroit purchase abroad. The war was financed on fiat money. The feeble disjointed transport system of the South was welded together and was made to serve.

The results of hard effort, coupled with the fortunate choice of good commanders, showed during 1862 in a series of brilliant victories in Virginia. It was otherwise on the Mississippi. Friction among rival generals and a lack of co-ordination led from disappointment to disaster. A visit of Davis to the threatened front in Dec. 1862 failed to change the situation. The next year he decided on an offensive in the East in preference to reinforcement of the army on the Mississippi. It was his most momentous decision and perhaps his greatest blunder, because the Eastern offensive failed at Gettysburg and the very next day, by the fall of Vicksburg, the Confederacy was cut in half.

In 1864, Lee maintained a successful defensive in Virginia,

but in Tennessee and Georgia conditions went from bad to worse. Davis had delayed too long in removing the unsuccessful Braxton Bragg and after he at last relieved Bragg of command of the Army of Tennessee, he offended public opinion by making him his chief military adviser. On July 17, 1864, when Sherman was close to Atlanta, Davis supplanted Joseph E. Johnston by John B. Hood. This most ruinous change led to the speedy break-up of the only army that stood in the way of Sherman's march to join Grant, who by this time had pinned Lee to the Richmond defences. The reaction against Davis was now blamed for all this, was immediate and severe. Congress no longer sustained him, the governors of North Carolina and of Georgia were openly antagonistic, the press denounced him, and Robert E. Lee would probably have been named dictator in Davis' place if Lee had been willing to counteract a revolution within the Confederacy. The failure of the Hampton Roads conference, on Feb. 3, 1865, to find any basis of peace, filled out the measure of Davis' unpopularity.

Davis was perhaps too harshly judged by his contemporaries. He never had a general military policy. He was too prone to take the course of immediate safety. After the removal of the Confederate capital to Richmond, in May 1861, he laid too much emphasis on the defence of Virginia to the neglect of other parts of the Confederacy. He acted on occasion as his own chief of staff, and then, with no apparent reason for change, he left his field commanders entirely to their own discretion. He became so absorbed in operations that he neglected the commissary and transport. Above all, he was not a good judge of men when his affection, his pride or his prejudice were involved, though it must be remembered to his credit that he kept his faith in Robert E. Lee at a time when the press and the country decreed Lee a failure because of his unsuccessful campaign in Western Virginia. Criticism sometimes aroused in Davis a dangerous obstinacy. He could not brook open opposition and he was singularly sensitive. This last-named bad quality, his coldness and his personal dignity kept him from making an effective appeal to the emotions of his people. He was unhappy in his dealings with a short-sighted, contentious congress, and he was maladroit in his foreign relations, particularly with France. His loyalty to his friends was so extreme as to be a positive vice. But against all his failings is to be set the fact that the agricultural South, with resources vastly inferior to those of the North, kept up the struggle for four years. Perhaps the strongest single force in that defence, when all is said, was Jefferson Davis.

On the evacuation of Richmond, April 2-3, 1865, Davis removed the executive offices to Danville, Va., and thence to Greensboro, N.C. Journeying southward in the hope of reaching the Trans-Mississippi department, he was captured near Irwinville, Ga., on May 10, 1865, and was transported to Ft. Monroe, Va. He was confined there, under threat of a trial for treason, until May 4, 1867, when he was admitted to bail and was allowed to go to Canada. During the early part of his imprisonment he was manacled and subjected to severities that impaired his health. This maltreatment, and the effort of the North to make him a scapegoat, won for him the sympathy of the South and restored him to his former place in its affection. Although he was twice indicted for treason, the proceedings were dropped after the general amnesty proclamation of Dec. 25, 1868. He subsequently visited Europe, served for a time as president of an insurance company and then retired to Belvoir, the home of an admiring friend in Mississippi, where he wrote his *Rise and Fall of the Confederate Government* in two volumes (1881). This is an excellent review of the constitutional questions underlying secession but is in many respects a singularly reticent account of his administration. He later composed *A Short History of the Confederate States of America*, issued posthumously in 1890. He declined to take any part in politics on his return to the United States, and he was cheerfully engaged in his correspondence and in interviews with frequent visitors when a brief illness from a bronchial complaint terminated fatally on Dec. 6, 1889, in New Orleans, La. He was buried there, but in 1893 his body was taken to Richmond and on May 31 was reinterred in Hollywood cemetery.

his eyes were... his nose was... and his features were... He had much dignity of manner and a fine voice...

After the death of his wife... Besides his widow... Margaret Davis... known as the daughter of the Confederacy...

Books written by H. A. Bond and E. A. Peckard... Mrs. Davis... by W. E. Davis... by H. J. Eschroeder... by Mrs. Dunbar Rowland...

DAVIS or DAVYS, JOHN (1550-1565), one of the chief English navigators and explorers under Elizabeth, was born at Sandridge near Dartmouth about 1550. He early made several voyages with Adm. Gilbert. In Jan 1583 he appears to have proposed his design of a north-west passage to Walsingham and John Dee and in 1585 he started on his first north-western expedition. He began by striking the ice-bound east shore of Greenland, which he followed south to Cape Farewell, thence he turned north and coasted the west Greenland littoral and shaped a course for China by the north-west. In 66° N, however he fell in with Baffin Land and though he pushed some way up Cumberland sound, he turned back (end of August). He tried again in 1586 and 1587 in the last voyage he pushed through the straits still named after him into Baffin's bay coasting west Greenland to 73° N, almost to Upernivik. Many points in Arctic latitudes (Cumberland sound, Cape Walsingham, Exeter sound, etc.) retain names given them by Davis, who ranks with Baffin and Hudson as the greatest of early Arctic explorers and, like Frobisher narrowly missed the discovery of Hudson's bay via Hudson's straits.

In 1598 he seems to have commanded the "Black Dog" against the Spanish Armada, and in 1591 he accompanied Thomas Cavendish on his last voyage, with the object of searching that north-west discovery upon the back parts of America. After the rest of Cavendish's expedition returned unsuccessful, he continued to attempt on his own account the passage of the Strait of Magellan, and discovered the Falkland islands. After his return in 1593 he published a valuable treatise on practical navigation in The Seaman's Secrets (1594), and a more theoretical work in The World's Hydrographical Description (1595). His invention of back-staff and double quadrant (called a "Davis Quadrant") held the field long after Hadley's reflecting quadrant had been introduced. In 1596-97 Davis sailed with Raleigh (as master of Sir Walter's own ship) to Cadiz and the Azores, and in 1598-1600 he accompanied a Dutch expedition to the East Indies as pilot. In 1601-03 he accompanied Sir James Lancaster as first pilot on his voyage in the service of the East India Company; and in Dec 1604 he sailed again for the same destination as pilot to Sir Edward Mitchellborne (or Michelbourn). On this journey he was killed by Japanese pirates off Bixang near Sumatra.

A Treasure Book made by John Davis in 1587, an Account of his Second Voyage in 1586 and a Report of Master John Davis of his three voyages made for the Discovery of the North West Passage were printed in Hakluyt's collection. Davis himself published The Seaman's Secrets divided into two Parts (1594). The World's Hydrographical Description appeared with (one of a short and speedy Passage into the South Sea, to China, Malacca, Philippina, and India, by Nathaniel Davis in 1595).

DAVIS JOHN WILLIAM is an American lawyer as bcr at Clarkburg (W Va) Apr 13 18 where he received his early education. He graduated at Washington and Lee university in 1891 and from the law school there in 1895 being admitted to the bar in the same year. After a year as assistant professor of law at his alma mater he returned in 1897 to Clarkburg where he entered into an informal partnership with his father, also a lawyer, which continued until 1913. In 1899 he was elected a member of the West Virginia house of delegates, and in 1904 was a delegate to the Democratic national convention at St. Louis. He was elected to the 62nd (1911) and 63rd (1913) congresses for the first West Virginia district. During his period of service he was one of the managers on the part of the House in the successful impeachment of Judge Archbald.

In Aug. 1913, he was appointed solicitor-general of the United States, an office which he held until 1918. In this position he conducted many important cases among them the Midwest Oil case, involving the right of the President to withdraw from entry public lands thought to contain mineral deposits. From 1913 to 1918 he was counsel for the American Red Cross. In 1918 he was appointed American delegate to a conference with Germany at Bern on the treatment and exchange of prisoners of war, and in the same year succeeded Walter Hines Page as American ambassador to Great Britain, retaining this post until 1921. Among the honours conferred upon him was that of election as a bencher of the Middle Temple.

During the Peace Conference John W. Davis was one of President Wilson's advisers, and was the American representative on the joint committee which drafted the form of Allied control and government in the occupied Rhineland territory. In 1921 he returned from England and accepted a partnership in the New York law firm of Stetson, Jennings and Russell, which had many distinguished clients, among them J. P. Morgan and Co., and the Guaranty Trust Company. Davis was nominated on the 193rd ballot as Democratic candidate for the presidency at the Democratic national convention held in New York city, July 1924. The ensuing election resulted in an overwhelming victory for Calvin Coolidge, the Republican candidate, the electoral vote being 382 for the latter, 136 for Davis and 13 for La Follette, the Progressive candidate, while the popular vote was 15,748,356 for Coolidge, 8,617,454 for Davis and 4,686,681 for La Follette.

DAVIS, RICHARD HARDING (1864-1916), American writer, was born in Philadelphia April 18, 1864. He studied at Lehigh and Johns Hopkins universities, and in 1886 became a reporter on the Philadelphia Record. After working on several newspapers, at the same time writing short stories, he was managing editor of Harper's Weekly. In Dec. 1890 he arranged to travel and write for Harper's Monthly, the first book thus resulting being The West from a Car Window (1892). He became widely known as a war correspondent, reporting every war from the Greco-Turkish War (1897) to the World War. Of his numerous works of fiction, the earliest are the best, especially Gallegher and Other Stories (1891), and Van Babber and Others (1892). His other books include Soldiers of Fortune (1897), A Year from a Reporter's Note-Book (1898), Real Soldiers of Fortune (1906), Forces (1906), The White Mice (1909), Notes of a War Correspondent (1910), and Somewhere in France (1915). He died near Mt. Kisco N.Y. April 11 1916.

There have been several collective editions, the principal one being The Novels and Stories of Richard Harding Davis (1916). A collection of the best of his short stories, From Gallegher to the Deserter, was edited by Robert H. Davis (1927). See also Adventures and Letters of Richard Harding Davis, 1891-1917, edited by his brother Charles B. Davis (1917); and a Bibliography (1924), by H. C. Quinby.

DAVIS, THOMAS OSBORNE (1814-1845), Irish poet and politician, was born at Mallow co Cork. He graduated at Trinity college, Dublin, in 1836 and was called to the bar in 1838. He joined John Blake Dillon in editing the Daily Nation (1841) and worked as a folio printer.

of lyrics, "The Lament of Owen Roe O'Neill," "The Battle of Fontenoy," "The Geraldines," "Máire Bhán a Stoir," and many others. Differences arose between O'Connell and the young writers of *The Nation*, and Davis was one of the leaders of the extremist party, "Young Ireland," till his premature death.

See his *Poems* and his *Literary and Historical Essays* collected in 1820 (new ed. 1915). There is an edition of his prose writings (1889) in the *Camelot Classics*. See the monograph on *Thomas Davis* by Sir Charles Gavan Duffy (1890, abridged ed. 1896), and the same writer's *Young Ireland* (revised ed. 1896).

**DAVIS, WILLIAM MORRIS** (1850— ), American geographer and geologist, was born in Philadelphia, Pa., on Feb. 12, 1850. After graduating from the Lawrence scientific school, Harvard university in 1870, he was assistant astronomer at the Argentine National observatory, Cordoba, Argentina, in 1870-73. In 1877 he made a tour of the world. He was instructor and professor of physical geography and geology at Harvard from 1877 until 1912 when he was made professor emeritus. In 1903 he went to Turkistan as a physiographer of Pumpelly's Carnegie institution expedition. He visited South Africa in 1905 and Australia in 1914 as guest of the British Association for the Advancement of Science. He was visiting professor at the University of Berlin in 1908-09 and at the University of Paris in 1911-12. In 1914 he crossed the Pacific on a Shaler memorial study of coral reefs. He was founder and for three terms president of the Association of American Geographers, founder and president (1902-11) of the Harvard Travellers' club, and president (1911) of the Geological Society of America. By his lectures and writings on the development of the physical features of the earth he won high rank among modern physiographers.

Among his published works are *Elementary Meteorology* (1894), *The Triassic Formation of Connecticut* (US Geological Survey, 1896), *Physical Geography* (1898), *Practical Exercises in Physical Geography* (1908), *Geographical Essays* (1909), *Physogeographie* (with G. Braun, 1911), *Erkl. Beschreibung der Landformen* (lectures in Berlin, 1912), *The Coral Reef Problem* (1928); and numerous scientific essays. In 1895 he was made a member of the editorial committee of *Science* and in 1909 he became associate editor of the *American Journal of Science*.

**DAVISON, WILLIAM** (c. 1541-1608), secretary to Queen Elizabeth, was of Scottish descent. In 1566 he acted as secretary to Henry Killebrew (d. 1603), when he was sent into Scotland by Elizabeth on a mission to Mary queen of Scots. Remaining in that country for about 10 years, Davison then went twice to the Netherlands on diplomatic business, returning to England in 1586 to defend the hasty conduct of his friend, Robert Dudley, earl of Leicester, who had assumed the office of Governor of the Low Countries without Elizabeth's instructions. In the same year he became member of parliament for Knaresborough, a privy councillor, and assistant to Elizabeth's secretary, Thomas Walsingham; but he soon appears to have acted rather as the colleague than the subordinate of Walsingham. He was a member of the commission appointed to try Mary, queen of Scots, although he took no part in its proceedings, was never at Fotheringay, and was not present at Westminster when the sentence of death was passed. The warrant for Mary's execution was entrusted to Davison. On this occasion, and also in subsequent interviews with her secretary, Elizabeth suggested that she would be glad to avoid the responsibility of the execution, but Mary's gaolers, Paulet and Drury, refused to take the hints thrown out to them. Meanwhile, the privy council having been summoned by Lord Burghley, it was decided to carry out the sentence at once, and Mary was beheaded on Feb. 8, 1587. When the news of the execution reached Elizabeth she was extremely indignant, and her wrath was chiefly directed against Davison, who, she asserted, had disobeyed her instructions not to part with the warrant. The secretary was arrested and thrown into prison, but, although he defended himself when interrogated in the Tower, he did not say anything about the queen's wish to get rid of Mary by assassination. Charged before the Star Chamber (March 28, 1587) with *contempt*, he was acquitted by reason of the *contempt* of evil *but* was *to* pay a fine of 10,000 marks, and to *ent* during the

queen's pleasure, but he was released in 1589. He retired to Stepney, where he died. He was buried on Dec. 4, 1608. Davison was undoubtedly made the scapegoat for the queen's pusillanimous conduct.

His eldest son FRANCIS DAVISON (c. 1575-c. 1619), and his fourth son WALTER (1581-1608<sup>2</sup>) both contributed poems to the *Poetical Rhapsody* (1602), notices of them are given in Sir N. H. Nicolas's edition (1826) of that miscellany. Francis Davison also wrote a metrical translation of the Psalms, which remained in ms. until they were edited by Sir E. Brydges and by Nicolas in the 19th century.

Many state papers written by him, and many of his letters, are extant in various collections of manuscripts. See Sir N. H. Nicolas, *Life of W. Davison* (1823); J. A. Froude, *History of England* (1881 fol.); *Calendar of State Papers 1580-1609*, and *Correspondence of Leicester during his Government of the Low Countries*, edited by J. Bruce (1844).

**DAVIS STRAIT**, the broad strait which separates Greenland from North America, and connects Baffin bay with the open Atlantic. At its narrowest point, which occurs just where the Arctic Circle crosses it, it is nearly 200 m. wide. This part is also the shallowest, a sounding of 112 fathoms being found in the centre, whereas the depth increases rapidly both to north and to south. Along the western shore (Baffin Land) a cold current passes southward, but along the east there is a warm northward stream. There are a few Danish settlements on the Greenland coast. The strait takes its name from the explorer John Davis.

**DAVITT, MICHAEL** (1836-1906), Irish Nationalist politician, son of a peasant farmer, was born at Straide Co. Mayo, on March 25, 1836. His father was evicted for non-payment of rent in 1852, and migrated to Lancashire, where at the age of ten the boy began work in a cotton mill at Haslingden. In 1857 he lost his right arm by a machinery accident; he was sent to school, and at 15 became a newsboy and printer's "devil." He drifted into the ranks of the Fenian brotherhood in 1865, and on May 14, 1870, he was arrested at Paddington for treason-felony in arranging to send firearms into Ireland, and was sentenced to 15 years penal servitude. After seven years, spent chiefly at Dartmoor, he was released on ticket-of-leave. He at once rejoined the "Irish Republican Brotherhood," and went to the United States, where his mother, herself of American birth, had settled with the rest of the family, with the idea of grafting constitutional methods on the revolutionary movement on lines which he had thought out in prison. He proposed to link up the campaign for independence with the agrarian question. Returning to Ireland he seems to have persuaded Parnell of the importance of the agrarian element, and helped him to start the Land League in 1879, and his violent speeches resulted in his re-arrest and consignment to Portland by Sir William Harcourt, then home secretary. He was released in 1882 but was again prosecuted for seditious speeches, and imprisoned for three months in 1883. Before this his support of Parnell had led to his expulsion from the supreme council of the I.R.B., though he remained a member of the organization until 1882. Between 1882 and 1885 he conducted a campaign on land nationalization, which Parnell repudiated. He had been elected to parliament for Meath as a Nationalist in 1882, but, being a convict, was disqualified to sit. He was included as one of the respondents before the Parnell Commission (1888-1889), and spoke for five days in his own defence. That he had brought the Irish Party into contact with the Fenians in America was undoubted. (See PARNELL.) He took the anti-Parnellite side in 1890, and in 1892 was elected to parliament for North Meath, but was unseated on petition. He was then returned for North-East Cork, but had to vacate his seat through bankruptcy, caused by the costs in the North Meath petition. In 1895 he was elected for West Mayo. In 1898 he helped William O'Brien to found the United Irish League to reconcile the Parnellite and anti-Parnellite factions. He retired from the House of Commons to express his disapproval of the Boer War. He fiercely opposed the Wyndham Land Purchase Act and William O'Brien's conciliatory policy. He died on May 31, 1906 in Dublin. A sincere but embittered Nationalist, anti-English, anti-clerical and sceptical as to the value of the purely parliamentary agitation

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... respect of many even those who thought his doctrine... The first official authority is to be found in his... works as given in his speech before the Bernadotte Commission... *Le Duvoy de la Haute Savoie* (1891) by... F. Scherz, Lausanne, M. and Co. (1908).

**DAVOS**, a mountain valley in the Swiss portion of the Grisons... lying east of Coire (no more distant by rail)... of the Lower Engadine (18 m. by road from Sals)... two main valleys 1 m. from each other Dord. and Platz (the chief hamlet) which are 5000 ft. above sea-level and... population in 1920 of 9727 a figure exceeded in the Grisons... by the capital Coire. Of the population 5385 were Protestants, 2309 Romanists and 163 Jews; while 7770 were German-speaking and 430 Romansch-speaking. Davaus or Tavauins is mentioned in 1160 and 1213 as a mountain pasture or 'alp'. It was then in the hands of a Romansch-speaking population as is shown by many surviving local names. But between 1260 and 1782 German-speaking colonists from the Upper Valais were planted there so that it has long been a Teutonic island in the midst of a Romansch-speaking population. Historically it is associated with the Prongard or Landquart valley to the north, and in 1438 became the capital of the League of the Ten Jurisdictions (See GRISONS). It formerly contained many iron mines, and besieged from 1477 to 1649 by the Austrian Habsburgs.

In 1860 the population was only 1,705; the increase being due to the fact that the region is much frequented as a winter resort and has many sanatoria, etc. At the north end of the valley is Lake Davos while from Platz the *Landwasserstrasse* leads (20 m.) down to the Alvanenbad station.

**DAVOUT, LOUIS NICOLAS**, duke of Auerstädt and prince of Eckmühl (1770-1823), marshal of France, was born at Annoux (Yonne) on May 10, 1770. His name is also, less correctly spelt Davout and Davoust. He entered the French army as a sub-lieutenant in 1788 and was *chef de bataillon* in a volunteer corps in the campaign of 1792, and distinguished himself at Neerwinden in the following spring. He had just been promoted general of brigade when he was removed from the active list as being of noble birth. He served however, in the campaigns of 1794-97 on the Rhine, and accompanied Desaix in the Egyptian expedition of Bonaparte. On his return he fought in the campaign of Marengo under Napoleon, who made him a general of division, and in 1801 gave him a command in the consular guard. Davout was created a marshal of France when Napoleon became emperor. As commander of the III corps of the *Grande Armée* Davout rendered the greatest services. At Austerlitz after a forced march of 48 hours, the III corps bore the brunt of the allies' attack. In the Jena campaign Davout with a single corps fought and won the brilliant victory of Auerstädt against the main Prussian army (See NAPOLEONIC CAMPAIGNS). He took part in the campaign of Eylau and Friedland. Napoleon left him as governor general in the grand-duchy of Warsaw when the treaty of Tilsit put an end to the war (1807), and in 1808 created him duke of Auerstädt. In the war of 1809 Davout took a brilliant part in the actions which culminated in the victory of Eckmühl, and had an important share in the battle of Wagram (q.v.). He was created prince of Eckmühl about this time. It was Davout who was entrusted by Napoleon with the task of organizing the "corps of observation of the Elbe," which was in reality the army with which the emperor invaded Russia in 1812. In this Davout commanded the I. corps, over 70,000 strong and defeated the Russians at Mohilev before he joined the main army, with which he continued throughout the campaign and the retreat from Moscow. In 1813 he defended Hamburg, a city ill-fortified and provisioned, and full of disaffection, through a long siege, only surrendering the place on the direct order of Louis XVIII. after the fall of Napoleon in 1814.

Davout was a stern disciplinarian almost the only one of the marshals who exacted rigid and precise obedience from his troops. Thus in the earlier days of the *Armée* it was always the

superior orders which he enforced on his own subordinates. He was admired by his contemporaries and by later judgment to be one of the ablest perhaps the ablest, of all Napoleon's marshals. On the first restoration he retired into private life, and at once joined Napoleon on his return from Elba. Appointed minister of war, he was so indispensable to the war department that Napoleon kept him at Paris during the Waterloo campaign. Napoleon has been criticised for not availing himself in the field of the services of the best general he then possessed. Davout directed the defence of Paris after Waterloo, and was deprived of his marshalate and his titles at the second restoration. When some of his subordinate generals were proscribed, he demanded to be held responsible for their acts, as executed under his orders, and he endeavoured to prevent the condemnation of Ney. After a time the hostility of the Bourbons towards Davout died away, and he was reconciled to the monarchy. In 1817 his rank and titles were restored, and in 1819 he became a member of the chamber of peers. He died in Paris June 1 1823.

See Ch. de Mazade, *Corr. du mar. Davout* (1885), the marquise de Bloqueville *Le Maréchal Davout raconté par les siens et lui-même* (Paris, 1870-80, 1887), Chénier, *Davout, duc d'Auerstadt* (Paris, 1866).

**DAVY, SIR HUMPHRY, BART** (1778-1829), English chemist, was born on Dec. 17, 1778, at Penzance, Cornwall. In his school days at the grammar schools of Penzance and Truro he showed few signs of a taste for scientific pursuits. During his apprenticeship to a surgeon-apothecary at Penzance he studied metaphysics, ethics and mathematics. He turned to chemistry at the end of 1797, and, after reading Nicholson's and Lavoisier's treatises he began a series of chemical experiments with any apparatus and materials he could obtain. About this time he made the acquaintance of Davies Giddy afterwards Gilbert (1767-1839), who was president of the Royal Society (1827-31). Giddy recommended him to Dr. Thomas Beddoes, who was in 1798 establishing his Medical Pneumatic Institution at Bristol for investigating the medicinal properties of various gases. Here Davy, released from his indentures, was installed as superintendent towards the end of 1798. Early next year two papers by him were published by Beddoes, these contained the results of Davy's crude experiments and theories hastily formed on insufficient evidence.

One of his first discoveries at the Pneumatic Institution on April 9, 1799, was that pure nitrous oxide is perfectly respirable and he narrates that on the next day he became "absolutely intoxicated" through breathing 16 quarts of it for "near seven minutes." This discovery brought both him and the Pneumatic Institution into prominence, and Count Rumford, requiring a lecturer on chemistry for the recently established Royal Institution in London, engaged him in 1801 as assistant lecturer in chemistry and director of the laboratory. He was almost at once appointed lecturer, and his promotion to be professor followed on May 31, 1802. One of his first tasks was the delivery of a course of lectures on the chemical principles of tanning. The main facts he discovered from his experiments in this connection were described before the Royal Society in 1802-3. In 1803 the board of agriculture requested him to direct his attention to agricultural subjects; and in 1803, with the acquiescence of the Royal Institution, he gave his first course of lectures on agricultural chemistry and continued them for ten successive years, ultimately publishing their substance as *Elements of Agricultural Chemistry* in 1813. Although Davy had taken up the subject by order, this book remained for nearly 50 years the standard work on the subject.

But his chief interest at the Royal Institution was with electro-chemistry. His early work on this subject is summed up in his first Bakerian lecture "On some Chemical Agencies of Electricity." This paper gained him from the French Institute the medal offered by Napoleon for the best experiment made each year on "galvanism." The discovery of potassium and sodium and their preparation by an electrolytic effected in Oct. 1807 was of great

importance. According to his cousin Edmund Davy, then his laboratory assistant, he was so delighted with this achievement that he danced about the room in ecstasy.

Four days after reading his second Bakerian lecture his health broke down, and he was unable to resume work until March 1808. He continued to research on the alkalis and earths and his results were communicated in successive Bakerian lectures (1807-10). Another important discovery due to Davy was that oxymuriatic acid was a simple substance, he proposed the name 'chlorine' for it. He succeeded in preparing boron for which at first he proposed the name boracium, under the impression that it was a metal. Davy also discovered hydrogen telluride, hydrogen phosphide and a number of other compounds. On April 9, 1812, he gave his farewell lecture as professor of chemistry at the Royal Institution, though he continued his connection as an honorary professor. In that month he was knighted, and married to Mrs. Apreece, daughter and heiress of Charles Kerr of Kelso. A few months after his marriage he published the first and only volume of his *Elements of Chemical Philosophy*.

In Oct. 1813 he started with his wife for a continental tour, and with them as "assistant in experiments and writing," went to Michael Faraday, his assistant in the Royal Institution laboratory. In spite of the fact that England and France were at war Davy was welcomed in Paris, where he was made a corresponding member of the first class of the Institute. From Paris he went to Genoa where he investigated the electricity of the torpedo-fish, and at Florence, by the aid of the great burning-glass in the Accademia del Cimento, he effected the combustion of the diamond in oxygen and decided that, beyond containing a little hydrogen, it consisted of pure carbon.

A few months after his return, through Germany, to London in 1815, he considered the construction of a miner's safety lamp. His lamps were brought into use in the mines in 1816. A large collection of the different models made by Davy in the course of his inquiries is in the possession of the Royal Institution. He took out no patent for his invention and in recognition of his disinterestedness the Newcastle coal-owners in Sept. 1817 presented him with a dinner-service of silver plate. Davy's will directed that this service should pass to his brother, Dr. John Davy, on whose decease, if he had no heirs who could make use of it, it was to be melted and sold, the proceeds going to the Royal Society to found a medal to be given annually for the most important discovery in chemistry anywhere made in Europe or Anglo-America. The silver produced £736, and the interest on that sum is expended on the Davy medal, which was awarded for the first time in 1877, to Bunsen and Kirchhoff for their discovery of spectrum analysis.

In 1818 he received a baronetcy for this signal service to industry. In that year also he was commissioned by the British government to examine the papyrus of Herculaneum in the Neapolitan museum. He had been secretary of the Royal Society from 1807 to 1812, and on his return from Italy in 1820 became president, but his personal qualities did not make for success in that office especially in comparison with the tact and firmness of his predecessor, Sir Joseph Banks. He directed his attention to various subjects, chiefly electromagnetism, but his researches were less successful than his earlier experiments. In 1823 the admiralty consulted the Royal Society as to a means of preserving the copper sheathing of ships from corrosion and keeping it smooth and he suggested that the copper would be preserved if it were rendered negatively electrical, as would be done by fixing "protectors" of zinc to the sheathing. This method was tried on several ships, but it was found that the bottoms became extremely foul from accumulations of seaweed and shellfish. For this reason the admiralty decided against the plan. In 1826 Davy's health, which showed signs of failure in 1823, made rest necessary. The following years were spent chiefly abroad, and he died at Geneva on May 29, 1829. On this journey he wrote his *Consolations in Travel* (1830).

Of a sanguine somewhat irritable temperament, Davy displayed characteristic enthusiasm and energy in all his pursuits. As is shown by his verses (all his life he found solace in writing

verse) and sometimes by his prose, his mind was highly imaginative. The poet Coleridge declared that if he had not been the first chemist he would have been the first poet of his age," and Southey said that "he had all the elements of a poet, he only wanted the art. In spite of his ungainly exterior and peculiar manner, his happy gifts of exposition and illustration won him extraordinary popularity as a lecturer, his experiments were ingenious and rapidly performed and Coleridge went to hear him "to increase his stock of metaphors." Though his ambition sometimes betrayed him into petty jealousy it did not leave him insensible to the claims on his knowledge of the cause of humanity. To use a phrase often employed by him in connection with his invention of the miners' lamp

See J. A. Paris *The Life of Sir Humphry Davy* (1831), John Davy, *Memoirs of Sir Humphry Davy* (1876); *Collected Works* (with shorter memoir, 1830). *Fragmentary Remains, Literary and Scientific* (1858), T. E. Thorpe, *Humphry Davy, Poet and Philosopher* (1896).

**DAVY LAMP.** If a piece of metal gauze is interposed between a flame and an explosive gaseous mixture, the heat of the flame is absorbed and conducted away by the metal gauze so that the gaseous mixture does not explode. That is the principle of the Davy lamp, which was invented by Sir Humphry Davy in 1816. The Davy lamp consisted of a small cylindrical oil lamp, covered with a cylinder of wire gauze about 6 in. long and 1½ in. diameter, with a flat gauze top. The upper part of the gauze was doubled to prevent it from being worn into holes by the products of combustion. The gauze was mounted in a frame of upright wires screwed into a brass ring at each end. The upper ring carried the handle and the lower one was screwed to a collar on the oil vessel at the bottom of the lamp. Thus encircled with a case of metal gauze, the flame or gases could not pass out at a temperature high enough to fire an explosive mixture in the mine. For the subsequent developments of this invention, see **SAFETY LAMP**.

**DAWARI** or **DAURI**, a Pathan tribe on the Waziri border of the North-West Frontier Province of India. The Dawaris inhabit the Tochi Valley (*qv*), otherwise known as Dawar or Daur, and are a homogeneous tribe of considerable size.

**DAWES, CHARLES GATES** (1865- ), American statesman and financier, was born in Marietta, O. on Aug. 27, 1865, the son of Gen. Rufus R. Dawes. He was educated in his home town, graduating at Marietta college in 1884 at the early age of 19. He then attended the Cincinnati law school and in order to defray his expenses obtained employment during his vacation on the Marietta, Columbus and Northern Ohio railway. Before finishing his two-years law course he was made chief engineer in charge of construction on this railway—a fact eloquent of the energy and versatility which were to distinguish his whole career. He graduated in 1886, before he was old enough to practise. Admitted to the bar several months later, he commenced practice at Lincoln, Neb., in 1887.

Dawes' reputation as a lawyer was established by his part in the Nebraska rate case in which he appeared successfully as counsel for the Lincoln board of trade in an effort to obtain a reduction in railway rates in Nebraska. In 1894 he became extensively interested in the gas business at Evanston, Ill., and at other western points, and removed to Evanston in that year. In 1896 he organized the movement in Illinois to nominate William McKinley as Republican candidate for the presidency. He was active in securing McKinley's nomination and election and was chosen a member of the executive committee of the Republican national committee. He was appointed comptroller of the currency by President McKinley on Jan. 1, 1898. His tenure of office was conspicuous for efficiency of administration and disregard of "red-tape" methods, especially in the conduct of the many receiverships and trusts created by the financial disorders following 1893. Retiring from this office in 1902, he organized the Central Trust Co. of Illinois, which, under his presidency, became one of the strongest financial institutions in Chicago.

On the declaration of war against Germany by the United States (April 6, 1917) Dawes volunteered for service and was given a commission as major and later as lieutenant-colonel of the 1st

DAWES, RICHARD (1858-1929), English classical scholar, philanthropist, soldier, organizer of the Government budget, leading spirit in the settlement of German reparations and vice-president of the United States. General Dawes found time also to become an accomplished musician on the piano and flute. In March and April 1929, he headed a financial commission to the Dominican Republic. In April he was appointed ambassador to Great Britain.

Dawes wrote *The Banking System of the United States and its Relation to the Money and Business of the Country* (1894), *Essays and Speeches* (1915), *A Journal of the Great War* (1921), and *The First Year of the Budget of the United States of America* (1923). (O D V)

**DAWES, RICHARD** (1703-1765), English classical scholar was born in or near Market Bosworth. He was elected fellow of Emmanuel college Cambridge, in 1731. From 1738 to 1740 he was master of the Newcastle grammar school. The book on which his fame rests is his *Miscellanea critica* (1745) which gained the commendation of such distinguished Continental scholars as L. C. Valckenaer and J. J. Reiske. The *Miscellanea*, which was re-edited by T. Burgess (1781), G. C. Harles (1800) and T. Kidd (1817), will remain an enduring monument of English scholarship, although some of the "canons" have been proved untenable.

See J. Hodgson, *An Account of the Life and Writings of Richard Dawes* (1828); H. R. Luard in *Dict. of Nat. Biog.*; J. E. Sandys, *Hist. of Classical Scholarship*, II 415.

After the conclusion of the Armistice Dawes became a member of the negotiation committee of the A. E. F. charged with the task of disposing of the huge accumulations of American property in France and of settling outstanding claims against the enemy. This engaged his efforts until Aug. 1919, when he resigned his commission and returned to the United States. Upon the creation of a budget bureau by Congress April 1921 the directorship of it was offered to General Dawes by President Harding and was accepted on condition that the bureau should be non-political, that in gathering information the director should be assumed to be acting for the President and his calls for consultation or information should take precedence of all others. His work in organizing this bureau and creating under executive order the existing system of co-ordinating boards now operating in Government business was carried through with characteristic vigour and directness and resulted in savings estimated officially at \$250,000,000 in the first year. Having completed the task of placing the budget on a satisfactory and permanent basis, he resigned his position on June 30, 1922.

In the meantime the collapse of the German financial structure and international reactions resulting therefrom had precipitated a crisis in European affairs, the outcome of which appeared ominous. At this juncture, the Allied Reparations Commission, in 1923, appointed General Dawes and Owen D. Young as U.S. members of the committee of experts to report upon means of balancing Germany's budget and stabilizing its currency. Dawes was selected as chairman, and the committee's report, known as the "Dawes Plan," was subsequently ratified and accepted by all the Powers concerned. By making the actual transfer of reparation payments conditional on the stability of the German exchange, this plan provided a non-political and automatic means for determining Germany's ability to pay and so withdrew this vexed question from international controversy and paved the way for the later agreements entered into at Locarno. (See REPARATIONS.)

At the Republican National Convention held at Cleveland, O., June 10-12, 1924, following the nomination of President Coolidge for re-election General Dawes was nominated for vice-president on the third ballot by a vote of 682½ against 334½ for Herbert Hoover and 75 for Judge Kenyon. Following the overwhelming triumph of the Republican ticket at the ensuing election, General Dawes assumed office on March 4, 1925. In his inaugural speech he called for a revision of the rules of procedure in the Senate so that a majority vote could apply the closure to debate. He later carried his proposals for senatorial reform before the people in a series of public meetings in various parts of the country.

Another aspect of General Dawes's character is revealed by two acts of philanthropy. In memory of his son, Rufus Fearing, who was accidentally drowned (Sept. 5, 1912) he established the Rufus F. Dawes hotels in Chicago and Boston, at which impoverished men could obtain food and accommodation at nominal rates. As a memorial to his mother he established the Mary Gates Dawes memorial hotel, where women might live cheaply and retain the physical comforts and social opportunities compatible with self-respect. In the course of his varied and successful career as engineer, lawyer, politician, and public

philanthropist, soldier, organizer of the Government budget, leading spirit in the settlement of German reparations and vice-president of the United States, General Dawes found time also to become an accomplished musician on the piano and flute. In March and April 1929, he headed a financial commission to the Dominican Republic. In April he was appointed ambassador to Great Britain.

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**DAWES PLAN:** see REPARATIONS AND DAWES PLAN.

**DAWISON, BOGUMIL** (1818-1872) German actor, was born at Warsaw, of Jewish parents, and at the age of 19 went on the stage. In 1839 he received an appointment to the theatre at Lemberg in Galicia. In 1847 he played at Hamburg with marked success, was from 1846 to 1854 a member of the Burg theatre in Vienna, and then of the Dresden court theatre. He died in Dresden on Feb. 1, 1872. Dawison was considered in Germany an actor of a new type; a leading critic wrote that he and Marie Seebach "swept like fresh gales over dusty tradition." His chief parts were Mephistopheles, Franz Moor, Mark Anthony, Hamlet, Charles V., Richard III. and King Lear.

**DAWKINS, SIR WILLIAM BOYD** (1837-1929), English geologist and archaeologist, was born at Buttington vicarage near Welshpool. Educated at Rossall school and Oxford, he joined the Geological Survey in 1862, and in 1870 became curator of the Manchester museum, a post which he retained till 1890. He was appointed professor of geology and palaeontology in Owens college, Manchester, in 1872. He paid special attention to the question of the existence of coal in Kent, and in 1882 was selected by the Channel tunnel committee to make a survey of the French and English coasts. He was also employed in the scheme of a tunnel beneath the Humber. His chief distinctions, however were won by his researches into the lives of the prehistoric cave-dwellers described in *Cave-hunting* (1874), *Early Man in Britain* (1880), *British Pleistocene Mammalia* (1866-87). He was knighted in 1919, and died on Jan. 15, 1929.

**DAWLISH**, urban district and seaside resort Tiverton parliamentary division, Devon, England, on the English channel at the mouth of Dawlish brook, 12 m. S. from Exeter by G. W. railway. Pop. (1921) 4,675. It lies on a cove sheltered by two headlands, and both sides of the Dawlish brook are lined by pleasure grounds. The warm climate and excellent bathing attract many visitors in spring and early summer. It holds an annual fair on Easter Monday and a regatta in August or September. Until its sale, in the 19th century, the site of Dawlish belonged to Exeter cathedral from 1050.

**DAWN**, the time when light appears (*daws*) in the sky. The dawn colours appear in the reverse order from those of the sunset. When the sun is lowest in both cases the colour is deep red, this gradually changes through orange to gold and yellow as the sun nears the horizon. This is their order of refrangibility, in the spectrum; the blue rays usually are scattered in the sky. The colours of the dawn are purer and colder than the sunset colours as the reduced dust content of the atmosphere causes less sifting of the light rays.

**DAWSON OF PENN, BERTRAND EDWARD DAWSON**, 187 BAKER British physician, studied medicine at Univer-



at college and the London hospital where in 1896 he became an assistant physician and in 1906 physician. His extensive researches on gastric affections he became one of the authorities on this subject. He was appointed physician extraordinary to Edward VII. in 1907, and later physician in ordinary to George V and in 1923 to the prince of Wales. During the World War he worked on war diseases, publishing various papers on paratyphoid and infective jaundice. He was made G.C.V.O. in 1917, K.C.M.G. in 1919 and in 1920 was raised to the peerage. Dawson has published *The Diagnosis and Operative Treatment of Diseases of the Stomach* (1908), and has contributed to this *Encyclopædia*. He was made a Privy Councillor in June 1920.

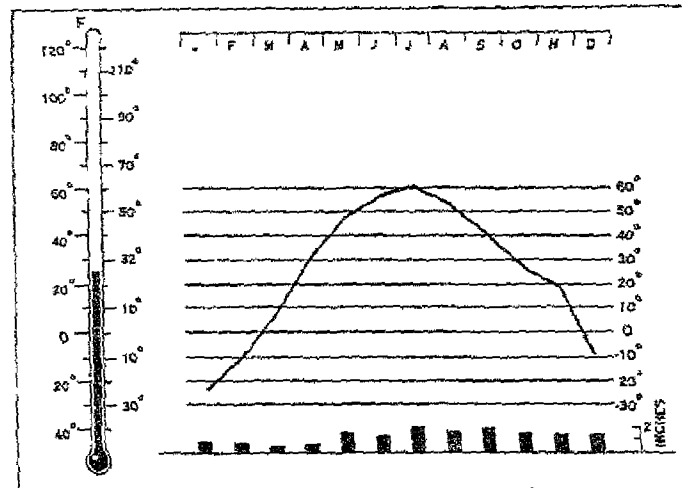
**DAWSON, GEORGE GEOFFREY** (1874- ). editor of *The Times*, 1912-1919, and again from 1923 to the present date (1928). He was educated at Eton and Magdalen college, Oxford, and was elected a fellow of All Souls college in 1900. Passing into the civil service he was appointed to the Colonial Office and in 1901 he went to South Africa as private secretary to Lord Milner, then high commissioner. On Lord Milner's retirement from the high commissionership in 1905 he accepted the editorship of the *Johannesburg Star*, which he held for the next four years. Returning to London in 1910, he was appointed a director of *The Times*, which was then in the early days of Lord Northcliffe's direction, and in 1912 succeeded G. E. Buckle as editor. The conspicuous success which *The Times* attained during the difficult years of the World War was largely due to Dawson's sound judgment and knowledge of affairs, which formed an admirable and often very necessary complement to Lord Northcliffe's imagination and genius. In 1919, however, Dawson found himself unable to carry out Lord Northcliffe's policy for *The Times* and resigned. He was succeeded by Henry Wickham Steed (q.v.). When in consequence of Lord Northcliffe's death in 1923 *The Times* was reconstructed, Steed retired and Dawson was recalled to the editorship. During his absence from journalism he was estates bursar of All Souls college (1919-23) and secretary to the Rhodes Trust (1921-22).

**DAWSON, SIR JOHN WILLIAM** (1830-1899), Canadian geologist, was born at Pictou, Nova Scotia, on Oct. 30, 1830. He was educated at Edinburgh, Scotland, and on his return to Nova Scotia in 1842 he accompanied Sir Charles Lyell on his first visit to that territory. He was superintendent of education (1850-53), at the same time he studied the geology of the country, making a special investigation of the fossil forests of the coal-measures. From these strata, in company with Lyell (during his second visit) in 1852, he obtained the first remains of an "air-breathing reptile" named *Dendroperpeton*. He also described the fossil plants of the Silurian, Devonian and Carboniferous rocks of Canada for the Geological Survey of that country (1871-73). From 1855 to 1893 he was professor of geology and principal of McGill university, Montreal. He was elected F.R.S. in 1862, and knighted in 1884. Dawson published, besides other works, *Acadian Geology: The geological structure, organic remains and mineral resources of Nova Scotia, New Brunswick and Prince Edward Island* (1855, ed. 3, 1878); *Air-breathers of the Coal Period* (1863). He died on Nov. 20, 1899.

His son, **GEORGE MERCER DAWSON** (1849-1901), was born at Pictou on Aug. 1, 1849, and received his education at McGill University and the Royal School of Mines London. In 1873 he was appointed geologist and naturalist to the North American boundary commission, and two years later he joined the staff of the geological survey of Canada, of which he became assistant director in 1883 and director in 1895. He was in charge of the Canadian government's Yukon expedition in 1887, and his name is commemorated in Dawson City, of gold-bearing fame. He was one of the Bering Sea Commissioners in 1891. He was elected F.R.S. in 1891, and was president of the Royal Society of Canada in 1893. He died on March 2, 1901. He was the author of many scientific papers and reports on the surface geology and glacial phenomena of the northern and western parts of Canada.

**DAWSON CITY** or **DAWSON**, capital of the Yukon territory, Canada, on the bank of the Yukon river, and in the middle of the Klondike gold region, of which it is the distributing

centre. It is in beautiful mountains country 1,049 ft. above the sea, and 1,500 m. from the mouth of the Yukon river, and is reached by river steamer from White Horse (460 m.) in summer and by sleigh in winter. There are metal works and saw mills. Order is kept by the Northwest Mounted Police. Founded in 1896 its population soon reached over 20,000 at the height of the gold rush, in 1901 it was 9,112 and in 1921, 975. The tem-



WEATHER GRAPH OF DAWSON CITY THE THERMOMETER SHOWS THE NORMAL ANNUAL MEAN TEMPERATURE THE CURVE SHOWS THE NORMAL MONTHLY RAINFALL

perature varied in 1926 from 83° F in summer to 41° below zero in winter.

**DAX**, a town of south-western France, capital of an *arrondissement* in the department of Landes, 92 m. S.S.W. of Bordeaux, on the Southern railway between that city and Bayonne. Pop. (1926), 9,786. It lies on the left bank of the Adour, and its suburb Le Sabler, on the right. Its ancient Gallo-Roman fortifications are now a promenade. Dax (*Aquæ Tarbellicæ, Aquæ Augustæ*, later *D'Acqs*) was the capital of the Tarbelli in Roman times, when its waters were already famous. In the 11th century its viscounty passed to the viscounts of Béarn and in 1177 was annexed by Richard Coeur de Lion to Gascony. The bishopric founded in the 3rd century, was in 1801 attached to that of Aire. The church of Notre-Dame, once a cathedral, was rebuilt from 1656 to 1719, but still preserves a sacristy, a porch and a fine sculptured doorway of the 13th century. The church of St. Paul-lès-Dax, mainly 15th century, has a Romanesque apse with curious bas-reliefs. Dax, well known as a winter resort, has thermal waters and mud-baths (the deposit of the Adour). The principal of numerous bathing establishments are the Grands Thermes, the Bains Salés, adjoining a casino, and the Baignots, which fringe the Adour and are surrounded by gardens. Dax has a subprefecture and tribunals of first instance and of commerce. Commerce is chiefly in the pine wood, resin and cork of the Landes, and in mules, cattle and horses.

**DAY, JOHN** (1574-1640?). English dramatist, was born at Cawston, Norfolk, in 1574, and educated at Ely. He became a sizar of Caius College, Cambridge, in 1592, but was expelled in the next year for stealing a book. As early as 1598 he became one of Henslowe's playwrights, collaborating with Henry Chettle, William Haughton, Thomas Dekker, Richard Hathway, and Wentworth Smith, but his almost incessant activity seems to have left him poor enough to judge by the small loans, of five shillings and even two shillings, that he obtained from Henslowe. The first play in which Day appears as part-author is *The Conquest of Brute, with the finding of the Bath* (1598), which, with most of his journeyman's work, is lost. *The Ile of Gulls* (printed 1606), a prose comedy founded upon Sir Philip Sidney's *Arcadia*, contains in its light dialogue much satire to which the key is now lost. In 1607 Day produced, with William Rowley and George Wilkins, *The Travails of the Three English Brothers* which detailed the adventures of Sir Thomas, Sir Anthony and Robert Shirley. The work on which Day's reputation chiefly

... is the Parliament of Bees. This exquisite masque, or rather series of pastoral elegies is entirely occupied with the domestic habits and manners of bees. The bees hold a parliament under Francis the Master Bee and various complaints are presented against the hum-breeze the wasp the drone and other intruders. This artificial allegory of affairs ends with a royal address of Oberon who distributes justice to all. There is no caricature of the Parliament of Bees, true that in 1607 but a consistent tradition has assigned the piece to 1607. In 1608 Day published two comedies *Law Tricks* or *Who Would Have Thought of It* and *Harbour out of Breach*. The date of his death is uncertain but an elegy on him by John Tatham the city poet, was published in 1610. The six dramas by John Day which we possess show a delicate fancy and dainty inventiveness all his own. The beauty and ingenuity of *The Parliament of Bees* were well and warmly extolled by Charles Lamb, and Day's work has since found many admirers.

His works, edited by A. H. Bullen, were printed at the Clarendon Press in 1881. The same editor included *The Muses' Metamorphosis* in vol. 1 of his *Collection of Old Plays*. *The Parliament of Bees* and *Harbour out of Breach* were printed in *New and Other Plays* (Mermaid Series, 1888) with an introduction by Arthur Symonds. An appreciation by Mr. A. C. Sturtevant appeared in *The Nineteenth Century* (Oct. 1897).

**DAY, THOMAS** (1748-1789), British author, was born in London and is famous as the writer of *Sandford and Merton* (1783-89), a book for the young. Day was educated at the Charterhouse and at Corpus Christi college, Oxford, and became a great admirer of J. J. Rousseau and his doctrine of the ideal state of nature. Having independent means he devoted himself to a life of study and philanthropy. He brought up two foundlings, one of whom he hoped eventually to marry on the severest principles but neither acquired the high quality of stoicism which he had looked for, and ultimately he married an heiress who agreed with his ascetic programme of life. He settled in 1781 at Otter-snow in Surrey and took to farming on philanthropic principles. His poem "The Dying Negro" (1773) struck the keynote of the anti-slavery movement.

**DAY**, in astronomy, the interval of time in which a revolution of the earth on its axis is performed. Days are distinguished as solar, sidereal or lunar according as the revolution is taken relatively to the sun, the stars or the moon. The solar day is the fundamental unit of time in daily life and in astronomical practice. In the latter case, being determined by observations of the sun, it is taken to begin with the passage of the mean sun over the meridian of the place or at mean noon, while the civil day begins at midnight.

The question of a possible variability in the length of the day is one of fundamental importance. One necessary effect of the tidal retardation of the earth's rotation is gradually to increase this length. It is remarkable that the discussion of ancient eclipses of the moon, and their comparison with modern observations, show only a small and rather doubtful change, amounting perhaps to less than one-hundredth of a second per century. As this amount seems to be less than that which would be expected from the cause in question, it is probable that some other cause tends to accelerate the earth's rotation and so to shorten the day. (See MOON and TIDES)

**Legal Aspects.**—In law, a day may be either a *dies naturalis* or natural day, or a *dies artificialis* or civil day. A natural day includes all the 24 hours from midnight to midnight. Fractions of the day are disregarded to avoid dispute, though sometimes the law will consider fractions, as where it is necessary to show the first of two acts or events. In cases where action must be taken for preserving or asserting a right, a day means the whole natural day of 24 hours.

When a statute directs any act to be done within so many days, these words mean *clear days*, i.e., a number of perfect intervening days, not counting the terminal days: if the statute says nothing about Sunday, the days mentioned mean consecutive days and include Sundays. Under some statutes Sundays and holidays are included in reckoning days and all the

custom the word 'day' may be understood in some special sense.

**Lay Days**, which are days given to the charterer in a charter party, either to load or unload without paying for the use of the ship, are days of the week, not periods of 24 hours. As to lay days, running days, working days and weather working days, see AFFREIGHTMENT. For days of grace see BILL OF EXCHANGE.

**Civil Days.**—An artificial or civil day is difficult to define, it is a convenient term to signify the various kinds of "day" known in legal proceedings other than the natural day. In England, the United States and most of the countries of Europe the Roman civil day still prevails, the day commencing at 12 P.M.

In England the period of the civil day may and does vary under different statutes. Daytime, within which distress for rent must be made, is from sunrise to sunset. An obligation to pay money on a certain day is discharged if the money is paid before midnight of the day on which it falls due, but the law requires reasonable hours to be observed. If, for instance, payment has to be made at a bank or place of business it must be within business hours.

When an act of parliament is expressed to come into operation on a certain day, it is to be construed as coming into operation on the expiration of the previous day (Interpretation Act 1889, § 36, Statutes [Definition of Time] Act 1880).

Under the orders of the supreme court the word 'day' has two meanings. For purposes of personal service of writs it means any time of the day or night on week-days, but excludes the time from 12 midnight on Saturday till 12 midnight on Sunday. For purposes of service not required to be personal, it means before six o'clock on any week-day except Saturday, and before 2 P.M. on Saturday.

**Closed Days**, i.e., Sunday, Christmas day and Good Friday, are excluded from all fixtures of time less than six days, otherwise they are included, unless the last day of the time fixed falls on one of those days. (R.S.C., O. lxiv).

See ENGLISH LAW.

**DAY-BED**, a small type of French couch bed, intended to serve as a bed at night and as a sofa during the day. The standard day-bed is narrow, with foot and head pieces identical in size and appearance. Because of the convenience of its size the day-bed has come into wide use in small apartments where every effort must be made to conserve space. It is especially popular in the large cities of the United States. The low and symmetrical head and foot pieces give it the appearance of a divan, thus serving to conceal to some degree the fact that the living-room in which it appears is converted at night into a bedroom.

**DAY BOOK:** see BOOKKEEPING.

**DAYE, STEPHEN** (c. 1594-1668) first printer in the Anglo-American colonies, was born in London. Although it has been stated that he served an apprenticeship as a printer there, the records extant indicate that he was a locksmith. In the summer of 1638, however, he came to America with the Rev. José Glover, a dissenting minister of some means, with whom he made a contract to set up the first printing press in the English colonies. This he did in the autumn of 1638 at Cambridge, Mass. The first issue from his press was the *Freeman's Oath*, Jan. 1639; the second, an *Almanack* by William Pierce mariner, 1639, the third, the *Psalms*, now known as the *Bay Psalm Book*, 1640. According to the records of the general court of Cambridge, Dec. 20, 1641, he was granted 300 ac. of land for "being the first that sett upon printing." His name is not found in connection with the imprint of any of his publications but that of his son, Matthew, who seems to have been next in charge of the press, appears on the title-page of the *Almanack*, 1647. The extant issues from his press are *The Whole Booke of Psalms, faithfully translated into English Metre* (1640), *A list of Theses at the Harvard Commencement in 1643* (1643), *A Declaration of Former Passages and Proceedings betwixt the English and the Narragansetts, with their confederates, Wherein the grounds and justice of the ensuing warre are opened and cleared* (1645). He died at Cambridge, Mass., on Dec. 22, 1668.

**DAY FLOWER**, the name given to plants of the botanical genus *C* of the spiderwort family (Commelinaceae).

There are about 115 species, chiefly natives of tropical and subtropical regions, 8 of which are found in the southern United States. They are usually ascending or reclining, somewhat fleshy, branching herbs, with short-staked leaves, and irregular, usually blue flowers, in small clusters more or less enfolded in two spathe-like bracts. The Virginia day-flower (*C. virginica*), found in moist places from southern New York to Illinois southward to Florida and Texas and thence to Paraguay, has diffusely branching stems, 1½ ft to 3 ft high, lance-shaped leaves, and showy blue flowers an inch broad. The creeping day-flower (*C. nudiflora*), with reclining stems 1 ft to 2½ ft long, rooting at the joints, and small blue flowers, about ½ in. broad, found from New Jersey to Missouri and southward, is extensively distributed also in South America, Asia and Africa. The Asiatic day-flower (*C. communis*), with small, very deep blue flowers, has become widely naturalized in the eastern and southern States. Various species are in cultivation.

**DAYLESFORD**, a town of Talbot county, Victoria, Australia. Pop. c. 5,000. It lies on the flank of the Great Dividing range, at an elevation of 2,030 ft. Much wheat is grown in the district, gold-mining, both quartz and alluvial, is carried on, and there is a mining school. Near the town are the Hepburn mineral springs.

**DAYLIGHT, ARTIFICIAL.** The wide use of artificial light in civilization has created a demand for lamps which show coloured objects truthfully, *i.e.*, which do not change colours from their hues as seen by daylight. The problem is thus one of producing an artificial light whose spectrum (*see* LIGHT) closely resembles that of sunlight. Artificial light always contains too high a proportion of red, orange and yellow rays.

A gas-filled electric lamp is employed, as its filament temperature is high and its form the most economical. The spectrum obtained from a black body, heated to 5,000° C., is found to be approximately that of average diffused daylight. According to the temperature at which the filament of an incandescent electric lamp burns the amount of red and orange contained in the spectrum of its light varies, becoming greater as the temperature is lowered, a metal filament bulb burns at 2,300° and has more red and orange in it than the gas-filled bulb, which burns at approximately 3,000°. Therefore, the gas-filled bulb is used in artificial daylight devices, but its light has to be subjected to special treatment to correct its undue yellowness and redness.

Various means are employed for this purpose, such as filtering the light through a coloured transparent medium, *i.e.*, glass, talc or varnish, or by the use of a coloured reflector, or by a series of coloured mirrors fixed in a reflector. Coloured reflectors with certain pigmentations have proved successful, and by this means it is possible to match practically any type of daylight, but this method absorbs a very large quantity of the initial illumination. By the use of tinted or coloured glasses, one or more different colours being placed one behind the other, the same effect can be obtained, the loss of light by this method, however, is not so high as in the former.

Artificial daylight was at first mainly used for the purpose of matching colours. It has come into use for general illumination, however, as the value of artificial daylight in resting the eyes has become appreciated. Hospital staffs, dentists, physicians and surgeons find artificial daylight of great value. The method is also employed in dye and colour works. *See* LIGHTING.

**DAYLIGHT SAVING.** In the second year of the World War nearly every country in Europe adopted the device of putting the clock forward an hour during the spring, summer and autumn months. The motive was to get people to bed an hour earlier and out of bed an hour earlier, to save fuel for lighting and heating.

**Great Britain.**—In Great Britain, the idea itself did not arise out of the war. About 1907 it occurred to William Willett, a Chelsea builder, that civilization got up an hour or two too late in the summer months, and had a short evening for outdoor recreation, when it might have a long one. He devoted himself to a campaign for putting the clock on by 80 min. in the spring and summer months. He ran the campaign at his own expense, and succeeded so far that in 1908 Mr. (afterwards Sir Robert) Pearce introduced a bill in the House of Commons to put the clock on

by law. The bill was sent to a select committee the following year. In 1916, the expert committee set up by the British Government to study the question of fuel economy advised that the measure should be adopted. The scheme was simplified. Willett had proposed that the clock should be put on 80 minutes in four moves of 20 minutes each. The first select committee in 1908 had advocated one movement of the clock of one hour in the spring. This was the method adopted by the act which was passed on May 17, 1916, and put into operation the following Sunday, May 21. There was a good deal of opposition. Farmers objected to it because milkers would have to get up an hour earlier to do their work, which meant getting up in the dark during the greater part of the year. Hay and corn harvests could not be carried until the dew was dried off, which meant an hour during which labourers could do nothing. When put to the test of practice these difficulties proved to have been much exaggerated.

Summer time was introduced on Sunday, May 21, 1916. The president of the Royal Meteorological Society sent out a letter stating that Greenwich mean time would continue to be used for all meteorological observations and publications, but asked that regular observers for this society should state in their reports whether they were recording Greenwich or summer time. The Port of London Authority announced that the tide tables in the almanacs would remain Greenwich time. The Royal and L.C.C. parks decided to close at dusk by the sun, but Kew Gardens decided to follow the clock and closed an hour earlier by the sun. At Edinburgh the Castle gun continued to be fired at 1 P.M. summer time but the ball on the top of the Nelson monument on Calton hill was dropped at 1 o'clock, Greenwich mean time, for the benefit of mariners who watched it from the Firth of Forth. The legal change of the clock was fixed for 2 A.M.

In Great Britain summer time was renewed after the World War by a series of acts of Parliament. The final and permanent Act of 1925 provided that summer time should begin on the day next following the third Saturday in April, or if that day is Easter day the day next following the second Saturday in April. Summer time closes on the first Saturday in October. The official time for altering the clock is 2 A.M., Sunday.

**United States.**—No public interest was developed in the project in the United States till after the outbreak of the World War, and it was not until 1916 that a nation-wide campaign was initiated in its support. Opinion was divided, but in 1917 Congress passed an act, to take effect in 1918, whereby the standard time of the United States would be advanced one hour on the last Sunday in March and set back one hour on the last Sunday in October. The act was effective from March 31 till Oct. 27, 1918, and again on March 30, 1919. Strenuous opposition developed, however, from the farmers and the law was repealed on Aug. 20, 1919, over the President's veto. Since then daylight legislation has been sporadic and intermittent. Daylight saving is observed (1928) in the States of Massachusetts and Rhode Island by virtue of State laws, and by municipal ordinance in the New York Metropolitan district, Philadelphia, Chicago and a number of other cities and towns, but the movement as a whole has lost ground. Chicago is the most westerly city using the summer system. In Seattle the banks alone have adopted it. But west of the Mississippi and in the South daylight saving is practically unknown. While the system is widely used only in the North-east, it has, even there, found opposition, as in Connecticut, where it is a State offence to show any but Eastern standard time publicly. However, a number of the principal towns in this State observe daylight saving. An analogous State law is in force in Maine, yet in the city of Portland daylight saving is observed by general consent.

**Other Countries.**—The daylight saving bills adopted during the World War in Germany, Austria, Italy and Scandinavia have not been revived. A permanent "summer time" bill was adopted in France, in 1923, and in 1928 summer time was being observed, April 14-15 to Oct. 6-7. Summer time bills were approved in Canada in 1924, in Holland and Belgium in 1925, in Spain and Portugal in 1926 and in New Zealand in 1927. Mexico observes "summer time" all the year round.

DAY NURSERIES

... part of the public health work of Great Britain, the United States, and other industrial countries.

Their original object was to assist widows and other women whose circumstances obliged them to go out to work by caring for their young children under school age during the day. During the 17th century France and Belgium had many 'crèches' but they were on a very simple scale a 'motherly' woman was put in charge of two or three rooms and for very small fees the working mothers could leave their children to be looked after during the day. This system proved unsatisfactory, want of technical knowledge and incompetent sanitary precautions led to the spread of infection and the 'crèche' soon got a bad name. But with the increase in the knowledge and study of 'mothercraft' and infant welfare, which coincided roughly with the early years of the 19th century, day-nurseries were brought to England and to the United States, and organized on a modern and hygienic method, very different from those of the old 'crèches'. The value of fresh air and 'moving' air was increasingly appreciated and open-air nurseries were built in London, Manchester and elsewhere.

In Great Britain the movement is largely associated with the names of Mrs Arthur Perceval and Marcell Viscountess Heimsley who founded the National Society of Day-Nurseries with the objects of starting nurseries raising the standard of existing 'crèches', putting them in close touch with the Government departments, and "standardizing" the training of staffs.

The movement, like many other branches of the infant welfare movement, originated in private enterprise and the day-nursery was generally started by a voluntary committee. From the year 1915 a grant in aid was given by the Board of Education. When, in 1918, the Local Government Board was merged in the Ministry of Health, day-nurseries were placed under their maternity and child welfare department.

The ministry inspect the nurseries at regular intervals and give a grant proportionate to the expenses incurred, in certain cases grants are also made towards capital expenditure, such as the purchase of premises, etc. The cost of upkeep is met by the parents' payments (1s a day is a common charge), the Government grant, private subscriptions and, in some cases, a municipal grant. Local authorities have the power to provide day-nurseries.

Children are received from the age of one month, until they attain school-age. The mother brings the child in the early morning on her way to work and calls for it on her return in the evening. The child is inspected on arrival by the "crèche-trained" matron, and, if found to be free from any signs of infection, is bathed, dressed in the nursery clothes, and cared for during the day in accordance with the requirements of its age. The infants have cot, and the necessary food and sleep; the older children or "toddlers" have three good meals and plenty of opportunity for fresh air, rest and exercise. The mental development of the toddlers is assisted by "nursery school classes," under the supervision of a specially trained member of the staff. The furnishing of the nursery is of great importance, small tables and chairs are provided for meals, etc., and stretchers for rest. The staff generally consists of a matron and sister, with "nursery" training and some hospital experience, a toddlers' nurse, young probationers and a cook.

The health of the children is under the daily care of the matron, who weighs the children weekly or fortnightly; accurate records are kept and are seen by the visiting doctor at the fortnightly medical inspection. The previous medical history of the child, if it has attended the infant welfare centre, is used for reference and the nursery record is available for the school doctor when the child leaves the nursery. In this way a complete record can, in some cases, be obtained of the child's medical history. A great point is made of the clothing and feeding of the children in the nursery. It is held that the nurseries are in this way of great educational value to the mothers.

Prohibition in day-nurseries for tobacco on a syllabus prepared by the National Society of

National League for Health, Maternity and Child Welfare. They attend certain lectures and then sit for a series of examinations. The successful candidates who can show evidence of satisfactory practical work then obtain a certificate of proficiency in the care of children. These girls are then fitted to become 'nursery nurses' in private posts or public institutions, and the scheme of training is approved by the Ministry of Health.

Since 1916 the headquarters of the National Society of Day-Nurseries have been under the same roof as many other organizations for infant and child welfare at Carnegie House, 117, Piccadilly, London. The Society publishes a monthly magazine, *Crèche News*.

**The Day-Nursery in the United States.**—The day-nursery movement in America has followed rather different lines, but there, even more than in England, its value is recognized as an essential part of child welfare.

Government inspectors from state, county and city departments of health have the right to inspect and criticize the nurseries, but no Government grant is given and they are entirely supported by voluntary charity, supplemented by the parents' fees.

The first day-nurseries in America were started in 1853 (New York) and in 1863 (Philadelphia), but the actual movement dates from the conferences held in 1892, 1897 and 1898. At this last conference the National Federation of Day-Nurseries was inaugurated, this society has not only encouraged the formation of many nurseries but has done valuable research work in connection with the 'pre-school child'. It has organized biennial conferences dealing with day-nursery questions and has published reports of these conferences, leaflets, dietaries, etc., and the *Day-Nursery Bulletin*, a monthly dealing with day-nursery problems. The headquarters are at 105, East 22nd street, New York city.

As regards other countries the tendency of the present day is to establish day-nurseries in connection with infant welfare work and nursery schools. In France the "Crèches d'Arrondissements" of 19th century Paris have been largely superseded by nurseries connected with large factories and shops, or department stores. These are frequently used for infants, and give special facilities to nursing mothers for the breast-feeding of their own babies.

Belgium, Holland, Switzerland, Germany, India and Japan encourage the provision of day-nurseries, and Poland, Serbia and Spain have recently followed their example.

See the publications of National Society of Day-Nurseries, 117, Piccadilly, London, and of the National Federation of Day-Nurseries, New York. *Maternity and Child Welfare Act (1918)* (N. L. H.)

**DAYS OF GRACE.** The extra time allowed to meet the payment of a bill of exchange after its due date. In English law, three days grace are thus allowed. No extra time is allowed, however, for a bill payable at sight. In the case of insurance premiums, also days of grace are allowed before the policy actually expires. In the United States days of grace in all bills of exchange have been abolished by the Negotiable Instruments Law, except in a very few States, as to sight drafts. (See BILL OF EXCHANGE, INSURANCE.)

**DAYTON**, a city of Campbell county, Kentucky, U.S.A., on the Ohio river, opposite Cincinnati, served by the Chesapeake and Ohio railway. The population was 7,646 in 1920 (95% native white) and was estimated locally at 9,540 in 1928. There is a watch-case factory, but the city is primarily a residential suburb of Cincinnati. It was settled and incorporated in 1849.

**DAYTON**, a city of south-western Ohio, U.S.A., on the Great Miami river, 55m. N.N.E. of Cincinnati, a port of entry, the county seat of Montgomery county, and a leading centre of aviation research. It is served by the Baltimore and Ohio, the Big Four, the Erie, the Pennsylvania, and 5 inter-urban electric railways, and by 14 motor bus and 11 motor truck lines operating over the hard-surfaced roads which radiate in every direction. There are three commercial and two Government airports and numerous emergency landing fields. The population was 152,559 in 1920, of whom 9,025 were negroes (an of 86% in ten years) and 14,111 were foreign born white (nearly a third from Germany) and was by the census bureau at 180,700 in

The city covers 17 sq m of level ground 710ft above sea-level in a wide river trough, where three rapid streams (Wolf creek, Sullwater river and Mad river) flow into the Miami. It is completely protected (since 1921) from all danger from floods. Boulevards and streets are wide and in the residential districts are lined with trees. The dwellings (49% of which were owned by the occupants in 1927) are for the most part small private houses each with its own garden. Many of the factories are surrounded by attractive grounds. The public parks and playgrounds comprise 621ac (including a 23ac island in the Miami) and just south of the city there is a municipal country club (294ac of natural forest) with golf courses and tennis courts. The elimination of grade crossings within the city, and the construction of a boulevard on the bed of the abandoned Miami and Erie canal, were begun in 1927. A comprehensive city plan (adopted in 1925) is in process of development.

Dayton has had a commission-manager form of government since 1914. The water supply comes from driven wells 50-100ft deep. Natural gas is used and it is estimated that the supply will last until 1945 or 1950. Electric current, steam-generated, is provided by a super-power system, and the local power and light company furnishes steam heat to a considerable area in the central part of the city. The city has one of the few financially successful municipal garbage-reduction plants. Both the death rate and the cost of living are relatively low.

The manufactures are many and varied, with an aggregate output in 1927 valued at \$235,165,907. Dayton has long been known as the home of the National Cash Register company. In recent years it has become the leading producer, also, of electric-lighting and water plants for home use, electric refrigeration equipment, fare registers, computing scales, water softeners, fan belts, shoemakers' lasts, aeroplane parts, golf clubs and ice cream cones, and it makes the Government stamped envelopes. "Precision industries" predominate, in which labour is more important than material, and skilled labour more important than unskilled. The percentage of women in industry is relatively low, and there is little child labour. Except in the building trades the "open shop" prevails. The making of aeroplanes at Dayton began with the experiments of Orville and Wilbur Wright (qv) who in 1903 flew successfully the first heavier-than-air machine. During the World War the U.S. Government located its aviation experiment laboratories at McCook field, on the northern boundary of the city. When this became too small, the people of Dayton raised \$400,000 in four days to buy a tract of 5,000ac, north-west of the city (including the Wrights' original flying field), which they presented to the war department, to be a permanent home for the experimental and research division of the Army Air Corps.

The annual volume of Dayton's wholesale business is estimated at \$45,000,000; its retail trade at \$353,000,000. In 1927 bank debits amounted to \$1,132,335,779; post-office receipts were \$2,353,439; and the assessed valuation of property was \$345,672,290.

The city has 79 public schools including a normal college, and 17 parochial schools; 152 churches; and 4 daily newspapers, one of which is in German. It is the seat of the university of Dayton, a Roman Catholic institution (formerly St. Mary's college, founded in 1850), Bonebrake Theological seminary (United Brethren); and the Central Theological seminary of the German Reformed Church; also of an art institute (established 1919). The Engineers' Club and the Foremen's Club are distinctive organizations. The National Association of Foremen was founded in Dayton and its official organ is published there. The first house built in Dayton, a log cabin on the bank of the Miami, is preserved as a historic museum. There is a State hospital for the insane; and a branch of the National Home for Disabled Volunteer Soldiers.

**History.**—The site of Dayton was bought in 1795 from John Cleves Symmes by a party of Revolutionary soldiers. It was laid out as a town in 1796 by Israel Ludlow, one of the owners, and named after Jonathan Dayton (1760-1824), who had fought in the Revolution and was at the time a representative of New Jersey in Congress. In 1803 it was made the county seat and in 1805 the town was incorporated. Growth was rapid after the opening of

the Miami and Erie canal in 1803, and in 1841 it was chartered as a city. By 1860 the population had reached 20,081, increasing to 38,678 in 1880, 85,333 in 1900 and 116,577 in 1910. In March 1913, the Miami valley was swept for five days by a steady downfall of rain, resulting in a great flood. Over 400 lives were lost in the valley, and damage to property was estimated at \$100,000,000. When the waters receded, Dayton was left covered with mud and debris. A pestilence was averted only by prompt and energetic measures. Martial law was declared, food was distributed, and tents were put up for the homeless. A relief fund of \$750,000 was disbursed by the American Red Cross and the Citizens Relief committee. Steps were taken to prevent the recurrence of such a disaster. On June 28, 1915, the Miami Conservancy District, a political sub-division of the State, was established under a new law, for the purpose of building and maintaining flood-control works in the Miami valley. The plan finally adopted combined channel improvement with the construction of five great retarding basins. Five dams (from 1,200 to 6,400ft long, from 75 to 125ft high, and from 380 to 785ft thick at the base) were built across the upper valleys of the Miami and four of its tributaries. Construction work began in 1913 and was completed in 1922. The cost was \$32,000,000. Protection has been provided against a flood 40% greater than that of 1913 and 30% greater than the maximum estimated to be possible. Following the flood Dayton adopted a commission-manager form of government, which came into effect on Jan. 1, 1914. It was the first large city to install a manager and there has been no disposition to return to the mayoralty system.

For an account of the flood of 1913 and the construction of the flood-control works see *Technical Reports* (10 vols.) by various authors, published by the Miami Conservancy district, Dayton, O.

**DAYTON**, a city of south-eastern Tennessee, U.S.A., 38m N.N.E. of Chattanooga, at the foot of the Cumberland escarpment, the county seat of Rhea county. It is served by the Southern railway. The population in 1920 was 1701. In July 1925 the little country town was the scene of the famous "anti-evolution" trial in which John T. Scopes, a teacher of science in the high school, was found guilty of having violated a State law prohibiting the teaching, in the schools supported by the State, of any theories to the effect "that man is descended from the lower animals." Counsel for the defence included Clarence Darrow and Dudley Field Malone. The prosecution had the support of William Jennings Bryan, who died in Dayton a few days after the close of the trial. Mr. Scopes was fined \$100, but the penalty was set aside by the State Supreme court on a technicality, without any expression of opinion as to the constitutionality of the law. A Fundamentalist university on a hill at the back of the town is projected by Bryan's admirers as a memorial.

**DAYTONA BEACH**, a city of Volusia county, Fla., U.S.A., on the Halifax river, 30m below St. Augustine; on the Dixie and Atlantic Coast highways and the Ocean Shore boulevard, and served by the Florida East Coast railway. It was formed in 1926 by the consolidation of the city of Daytona (pop. 1925, 9,592) and the towns of Daytona Beach (pop. 1925, 2,129) and Seabreeze (1,792), and its population in 1928 was estimated locally at 25,000. Daytona Beach is a popular winter resort with many hotels and private winter homes. The Spanish style of architecture prevails, and the assessed valuation of property in 1927 was \$51,605,000. Along the hard, white beach, which adjoins that of Ormond, is a fine automobile racing course, where many speed records have been made.

**DEACON**, a minister or officer of the Christian Church. The status and functions of the office have varied in different ages and Churches, and the name is the Gr. *διάκονος*, minister, servant.

(a) **The Ancient Church.**—The office of deacon is almost as old as Christianity itself. Tradition connects its origin with the appointment of "the Seven" recorded in Acts vi. 1-6. This connection, however, is questioned on the ground that "the Seven" are not called deacons in the New Testament and do not seem to have been identified with them till the time of Irenaeus (c. 180). The officers of the Church are described in Philipp. i. 1 as "bishops and deacons"; and in 1 Tim. iii. 8-13 the office of

the *Curia* were soon to be established, the deacon being the lowest and subordinate to the bishop and the presbyters. In the apostolic age the duties of deacons were naturally vague and undefined with the growth of the episcopate. However, they became the immediate ministers of the bishop. Their duties included the management of Church property and finances, distribution of alms and care of the sick and of widows and orphans. They were also required to seek out and approve offenders (*Apostolical Constitutions*, lth cent.). With the growth of hospitals and other charitable institutions, however, the social work of the Church was transferred to other, and the diaconate came by degrees to be regarded (as in the Roman Catholic and Anglican Churches to-day) merely as a step towards the priesthood and the deacon's duties were practically restricted to ritual acts, such as reading the Gospel, carrying the priest, etc., at High Mass.

(6) **The Church of England.**—The diaconate is recognized as one of the 'three orders,' and is conferred by episcopal ordination. Candidates must be 23 years old and must satisfy the bishop as to their intellectual, moral and spiritual fitness. Deacons may perform any sacred office except that of consecrating the elements and pronouncing absolution.

(7) **Churches of the Congregational Order.**—In these (which include Baptists) the deacons are laymen appointed by the members of the Church to superintend the financial affairs of the Church, co-operate with the minister in the various branches of his work, assist in the visitation of the sick, attend to the Church property and generally supervise its activities.

See Thomassin's *Leitn. de vita diaconica*, pars 1, lib 1, c 51 f. and lib 1, c 29 f. (Lugdunum, 1706), J. N. Seidl, *Der Diakonat in der kirchlichen Kirche* (Regensburg, 1884), R. Sohm, *Kirchenrecht*, 1, 221-257 (Leipzig, 1892), F. J. A. Hort, *The Christian Ecclesia* (London, 1897).

**DEACONESS**, a woman set apart for special service in the Christian Church. The origin and early history of the office are obscure. The arguments for its existence in apostolic times, based on Rom. xvi 1 (where Phoebe is called *διάκονος*) and 1 Tim iii 11, and on Piny's mention of two *ancillae quae ministras dicebantur*, are hardly conclusive. But it is certain that before the middle of the 4th century there existed in the Eastern Church an order of deaconesses of higher rank than the somewhat similar orders of 'virgins' and 'widows'. The order is recognized in the canons of the councils of Nicaea (325) and Chalcedon (451), and many of Cyprius's letters are addressed to deaconesses at Constantinople. The ordination of deaconesses resembled that of deacons, but conveyed no sacerdotal powers or authority (for specimens of the ordination service see Cecilia Robinson, *The Ministry of Deaconesses*, 2nd ed., 1914, pp 219-229). Their mission was to perform certain offices in connection with the care of women. The functions of the deaconess, according to the apostolical Constitutions, were as follows: (1) To assist at the baptism of women; (2) to visit and minister to the needs of sick and afflicted women; (3) to act as door-keepers in the church and conduct the women to their seats. In the Western Church an attempt seems to have been made in the 4th century to introduce the order into Gaul. The movement, however, was strongly opposed, and was condemned by the councils of Orange (441) and Epaone (517). Despite the prohibition the institution made some headway, and traces of it are found later in Italy, but it never became popular in the West. In the middle ages the order fell into abeyance in both East and West.

In modern times several attempts have been made to revive the order. In 1835 Pastor Fliedner founded "an order of deaconesses for the Rhenish provinces of Westphalia" at Kaiserswerth. The original aim of the institution was to train nurses for hospital work, but afterwards it trained its members for teaching and parish work as well. Kaiserswerth became the parent of many similar institutions. The revival of the order in the Church of England dates from 1862, when Miss Elizabeth Ferard was set apart by the Bishop of London. Other dioceses gradually adopted the innovation. It has been sanctioned by Convocation, and the Lambeth Conference in 1897 "recognized with thankfulness the revival of

the office of deaconess, but limited that the name must be restricted to women set apart by the bishop and working under the control of the parochial clergy.

In addition to Miss Robinson's book cited above, see *Church Quarterly Review*, xlvii 302 ff., art "On the Early History and Modern Revival of Deaconesses" (London, 1899), and the works there referred to, D. Ladas *Χριστιανική Αρχαιολογία* i 163-172 (Athens, 1883), *Testamentum Domini*, ed Rahmani (Mainz, 1899), L. Zscharnack *Der Dienst der Frau in den ersten Jahrhunderten der chr. Kirche* (1902).

**DEAD, DISPOSAL OF THE.** Monuments and buildings set up by man for the use of the living were seldom preserved by him beyond their period of usefulness and seldom remain intact: but his arrangements for the dead were usually made with permanency in view and are frequently discovered undisturbed. From these records of the past knowledge is yielded of man's physical characteristics, circumstances, material achievements, customs and beliefs. Inscriptions are rarely present to give a date to graves, but the method of disposal, the type of grave, the objects deposited with the dead, their relative positions, the posture and orientation of the body, and, in the older periods, the geological stratification and contemporary fauna, provide knowledge of the period and race to which the remains may be assigned.

**PALAEOLITHIC PERIOD**

The earliest human remains as yet discovered—at Trindl (*Pithecanthropus*) Heidelberg and Piltdown—were river-borne fragments, whether originally buried is unknown, but the earlier part of the last ice age supplies in several instances evidence of the disposal of its dead by the Neanderthal race in Europe. Thus the bodies of the La Ferrassie man and child were protected by stones; a pillow of flint-chippings was gathered together for the Le Moustier youth and graves were dug for the La Chapelle man and La Ferrassie infant. Belief that the dead lived on and had the same needs as the living is shown in the stone implements placed with the Le Moustier, Spy I, and La Chapelle burials, and in the ochre and food supplied for La Chapelle, and in each case the home of the dead is, as in life, the rock-shelter or cave.

Finds from the Upper Palaeolithic period are more numerous, and here again almost all burials are in caves or by rock-shelters, including probably the remarkable oval grave fenced round with mammoth shoulder-blades at Předmost (Moravia) thus enclosed 20 burials in squatting position, and was dug in loess close to a limestone outcrop which once probably formed a rock-shelter. The chief exception is the richly furnished single burial in level ground at Brunn. The same kind of provision continues to be made for the dead during this epoch, but its developed culture provides finer implements and a wealth of personal ornament, necklaces, armlets, anklets, aprons, caps, of threaded shells and animals' teeth; carved bone amulets, ivory figurines. Instead of the small lumps of red ochre at La Chapelle, many of these later graves are liberally bestrewn with the substance. The cave-hearth is now frequently chosen as burial-site (Solutré, Grimaldi) and here occasional charred bones are more probably due to incompletely extinguished fires than to deliberate cremation.

Though no invariable position characterizes palaeolithic burials, an attitude of sleep—knees bent, arm under head—is the most frequent in Europe; while in Africa contracted posture obtained in the palaeolithic cave-burials discovered in 1927 near Lake Nakuru (Kenya) and with the skeleton of the same type and period from Oldoway (1913) further north. In Lower Palaeolithic burials at La Ferrassie and an Upper Palaeolithic at Grimaldi, however, were skeletons whose sharply bent knees and arms were pressed close against the chest. So lie the dead of many primitive peoples, bound tightly lest they walk, or use their hands for mischief on the living.

Already in Upper Palaeolithic Spain and France there are some indications of a cult of the skull in calvaria prepared as "bowls," and in occasional burial of the head alone. But with its closing phase (Aulian) comes the remarkable cave-burial at Ofnet (Bavaria) where the severed heads of the dead were deposited one by one into two scooped-out "nests," six into one, 27 into the other. They were rich with red ochre and all faced west. Charcoal

and charred remains near by suggested that the bodies were re-mated. From the same period date the human bones in Mas d'Azil (France) scraped clean of flesh and painted red before interment.

#### POST-PALAEOLITHIC

As mankind passes through stages marked by his discoveries of the crafts of stone-polishing, copper-, bronze- and iron-working, we find an immense variety of funerary custom conditioned partly by natural and cultural resources, largely by belief as to the kind of life after death, and the relationship between dead and living.

**Cremation and Inhumation.**—In Europe total cremation is found associated with the Late Neolithic banded-pottery and painted-pottery cultures, from Belgium to southern Russia. Inhumation was general over Europe in the earlier part of the bronze age, but gradually in the later part it was largely replaced by cremation, and from then on the two methods competed and alternated in different countries until the spread of Christianity banished cremation from European civilization down to its modern revival. This practice has a long and varied history in other continents also. A mid-4th-millennium cemetery rich in gold and copper objects was discovered at Ur (Mesopotamia) in 1927 and contained partial cremations which argued total cremations at an earlier epoch, by the end of that millennium inhumation prevailed alone at Ur. Cremation has been the usual Hindu method, frequent also among Buddhists; rare in China. It was general among the Aztecs of Mexico, reserved only for people of rank in the Maya civilization of Yucatan, and for occasional criminals among the Jews. In Egypt it is unknown.

**Other Methods.**—These include (1) the preservation of the body by smoke-drying, embalming, etc. (*see* MUMMY); (2) exposure to birds of prey (as by the ancient Scythians, the Zoroastrians, the poorer Siamese), river-committal, or other methods little likely to help in identifying the remains; (3) disposal in two stages—first, of the corpse by burial, exposure, etc., until the soft tissues disappear, second, of the bones either individually as in eastern South America (in jars), or collectively, as in neolithic British barrows, in the great neolithic hypogeum at Hal Saflieni (Malta), or in vaults of mediaeval English churches such as Hythe.

**Posture and Orientation.**—In many cultures and religions a definite position is given to the dead. The posture usually ranges from tightly contracted to fully extended, the former tending to be associated with more primitive, the latter with higher civilizations, the body usually lies on side or back, or is seated, and it is frequently orientated in a given direction. Thus in Egypt the tightly contracted pre-dynastic posture gradually loosens as the dynasties pass until full extension is reached in the Middle Kingdom. From the Old Kingdom onwards the body usually lies with head north, face to the sunrise. In England bodies lay contracted till shortly before our era, but orientation varied until Christianity taught that the feet of the dead should be towards the east, whither they must hasten at the last trump. The custom mainly holds in England still, but Norway and Holland have long abandoned it, except in country districts. Buddhist tradition—where Buddhists bury—dictates head north, face upward, as Buddha died. The Mohammedan must lie on his right side, facing Mecca, but the Japanese in his tub-shaped coffin sits upright, like some among our ancestors in chambered barrows.

**Tomb-furniture.**—Burials bare of all else but (originally) a garment or shroud are not infrequent, and betoken sometimes poverty, sometimes high beliefs. Strict Jews must bury thus. But further protection is usually afforded. The pre-dynastic Egyptian and early Sumerian were often wrapped in matting, though panshaped and bucket-shaped pottery coffins were already in use. Slipper-shaped pottery coffins were common among the Chorotegans (Nicaragua) and Parthians, large jars, in Greece at the end of the 2nd millennium, in prehistoric southern India, in the Americas. Wicker-work, wood, stone, marble—all have played their part in confining the dead. As to possessions: sometimes the latter have none, sometimes a sophisticated civilization cheats them with useless imitations; but mostly the objects are real, valued in life and in death.

**Type of Tomb.** The use of caves as sepulchres continued in the Neolithic period usually as sepulchres alone, and in the Late Neolithic were excavated the first artificial burial places. In Mediterranean lands the single cave entered direct from cliff-face then added an entrance-passage, as the trench in level ground gained a side-chamber, then both gradually developed extra chambers and niches. These elaborations culminated in catacombs such as those of Panticapoeum (Crimea) and—most elaborate of all—of Rome. Megalithic tomb-architecture sprang up in Neolithic, flowered and died in Bronze (*see* MEGALITHS). In Neolithic times the first barrows also were piled up as burial-places and memorials. But as mankind elaborates—plays out—these various ideas conceived in his imaginative adolescence, he reverts ever and again to the simple grave as standard; while throughout we find the simple grave persists for simple folk.

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In the early times of Neanderthal man the bodies of the dead were buried with some ceremony, and, with the apparent exception of one or two very primitive tribes, there is no known people to-day which does not dispose of its dead in some well-defined traditional manner. The treatment of the corpse however, is not as a rite complete in itself, it is but an incident in a series of rites. When a community loses one of its members especially anyone of importance, it suffers a shock, and the rites connected with the dead are to be regarded as the stereotyped behaviour of society by which it readjusts itself during such a period of strain and emotional disintegration. For this reason their correct performance is important to society. The more serious the loss, that is, the greater the value of the deceased to the community, the more elaborate will these rites be and the greater the number of people which they concern. The very aged, on the other hand, and those who have long been ill and who, therefore, have for some time taken little part in the life of the community, often receive scant attention at death and may even be buried alive, since, socially, they are in a sense already dead.

There are many variations in the ceremonies connected with death, and in the treatment of the corpse, but each has its recognized procedure from which deviations are rare, and in all there seem to be three distinct phases. The first lasts from the time of death, or when all hope of the sick person's recovery is abandoned, until the beginning of the rites directly connected with the disposal of the body, the second is during the performance of these rites, the third is covered by the period from the disposal of the body till the cessation of mourning.

When the individual is dead, or regarded as dead, the corpse is usually washed and decorated and a ceremony of leave-taking may be gone through, often accompanied by the presentation of gifts. The duration of this period varies considerably according to the importance of the deceased or to the affection felt for him. For a commoner a day or two may suffice but for a chief it may occupy many weeks and the body is sometimes partially embalmed to prevent decomposition from setting in during this time. If it is suspected that death was due to foul play, especially sorcery omens are now carefully observed or the body is asked to indicate in some recognized manner the guilty person or village. Friends and relatives having now said farewell, the body is laid to rest.

The number of ways in which a body can be disposed, are six: inhumation or burial, cremation, preservation, exposure, water-burial and hastening decomposition by artificial means. Occasionally the bodies are exposed for destruction by wild animals. Many or all of these methods are sometimes found in use among a single people. Where this is so, the mode of disposal of the body is usually determined by his social status, by membership of some social group, his achievements in life or the cause of his death. In general, such methods as preservation and the artificial hastening of decomposition are reserved mainly for those who have been important in life. Those who are unimportant to society are usually given a form of disposal which entails little trouble or expense. The cause of a person's death often affects profoundly the fate both of the body and soul. A who has died by

most a... is related to... and women who have died in... The reasons for such distinctions are not always clear but in general these interments are considered to be undesirable. Those who are earth-bound are usually feared and measures are taken to prevent their souls from troubling the living such as putting stones in the feet of the corpse so that the spirit may not walk, putting stones or trunks over the grave so that it may not escape at night or burning the body and so destroying the soul.

**Inhumation.**—Where inhumation is practised there is often a cemetery usually situated at a little distance from the village, where all of that community are buried, or there may be separate ones for the different kindreds which compose it, occasionally one is reserved for men and another for women. These are often carefully tended and are sometimes used for the meetings of the village council. Frequently, however, cemeteries are absent and the site of a man's grave is either fixed by tradition as for instance in his garden or before the threshold of his house, or selected by himself or his heirs. The most usual form of grave is a trench, sometimes shallow, occasionally of considerable depth, but some are more elaborate. A common form is a pit at the bottom of which a horizontal recess is excavated and in this the corpse is laid, the pit being usually but not always filled in afterwards. In some areas the grave is an underground chamber approached by a subterranean passage. To prevent the soil touching the corpse the sides of the grave are sometimes lined with wood, stone, leaves or mats, or the body itself is carefully wrapped up. Wooden coffins are used by some tribes, or, among sea-faring peoples, the deceased is buried in his canoe. The superstructure of the grave may be only a low hummock of earth, but, over the remains of important people, large mounds are often erected. A small hut is often set up over or beside the grave to protect the soul (which usually hingers near the body until decomposition is complete) from the inclemencies of the weather. Grave-stones are also erected as memorials and as temporary abodes for the spirits when they desire to visit the living.

**Cremation.**—The destruction of the corpse by fire has a world-wide distribution. Often it is restricted to a certain class of people, notably chiefs, but sometimes where other methods are normal it is used for lunatics, workers of black magic and other dangerous members of society. When such people are burnt the remains are generally thrown away. In other cases they are buried, cast ceremonially into water or placed in ossuaries belonging to a kindred or village group. Sometimes some member of the deceased's family keeps them, or certain of them, and treasures them as a link with the soul of the departed. The construction of the pyre and the kind of timber used are generally decreed by custom, since any deviation brings misfortune on the soul of the deceased.

**Preservation.**—The practice of preserving the bodies of the dead is not restricted to ancient Egypt. It is found to-day among tribes scattered throughout the world and even among such primitive ones as those of Torres Straits. Generally it is reserved for chiefs or priests. The methods used vary considerably. Preservatives, such as alcohol, honey, salt, butter or the shavings of certain woods are common; sometimes the body is dried by smoking, usually preceded by evisceration or massage to extract the juices, and sometimes it is placed in a sealed wooden effigy or coffin. In one tribe in East Africa, a fire is lit on the top of the grave with the intention of baking the body.

**Exposure.**—More common than preservation is the custom of exposing the dead on trees, rocks or on platforms erected in the gardens or the bush. Where the atmosphere is hot and dry this may result in desiccation which possibly is intended. Elsewhere the corpse is left to decompose and the bones are collected and kept as relics or placed in an ossuary. During the period of decomposition the living often visit the body and sometimes rub themselves with its juices, probably in order to fix their souls closely to the body or to absorb its strength.

... in some places, be closely allied to burial, for where there is

... the soul of the dead... lay the body on the ground.

**Artificial Decomposition.**—Artificial means to hasten decomposition are often resorted to for important men. It is sometimes effected by warming the body over a slow fire or by washing it regularly and scraping away the putrifying flesh. If only a portion of the body is to be cleaned, such as the head, which is treasured by many who have an ancestor cult, this may be wrenched off and placed in a termite nest to be eaten clean, while the rest of the body is disposed elsewhere.

**Water Burial.**—To fling a corpse into the water is an easy mode of disposal and is, therefore, often the fate of slaves, foreigners or people of no account. But there are tribes among whom it is not considered an undistinguished end, and some individuals may even request to be buried at sea, because they "like wash all time long salt water." Certain parts of the coast are in some islands set aside as water cemeteries where, after being wrapped up to protect them from the fish and weighted to prevent them from being washed on shore, the bodies are sunk. In the Solomon islands, however, where sharks are regarded with veneration, the dead are laid on the reef for these creatures to complete the burial. A method (not strictly "water-burial") is that of placing the deceased in a canoe and pushing it out to sea. This was formerly practised in many parts of Polynesia, and is recorded from the Cameroons, where the coastal inhabitants set the figure of a bird on the prow of a funeral canoe to guide it on its way because those for whom it is done are descendants of an immigrant people who at death must return across the sea to the land of their origin. This may also explain the other forms of sea-burial and likewise the use of a canoe as a coffin; certainly the latter is sometimes definitely connected with an after world which must be reached by boat.

**Orientation.**—Wherever inhumation, cremation or exposure are the custom, the position in which the body is placed and the orientation in the grave or on pyre or platform, are important. Even so insignificant a point as whether the body is laid on its right or left side may affect the fate of the soul in the land of the dead. The corpse may lie extended on its back or front, or be seated upright or recline with flexed knees. Sometimes if buried on land or in the sea it may be fixed as though standing, the erect position in the water being obtained by weighting the feet. A very common position for burial is lying on one side with knees drawn up and the hands raised to the face as in sleep, though it has also been suggested that this is in imitation of an infant before birth.

Often there is no definite orientation. Even in one cemetery the bodies may be facing in many different directions. But it is frequently the custom for the head to point or the face to look towards that point of the compass where lies the other world or the land whence the people have migrated.

**Secondary Disposal.**—The disposal of the remains after cremation and exposure is a necessary part of the funeral rites. But even where inhumation is practised the bones are sometimes exhumed and laid in a special spot, often as a regular part of the ritual which may take place at a definite time after the burial or on a great annual ceremony when the bones of all who have died within the year are finally laid to rest. Among people who have a cult of the dead the skull is often kept by the living to be an abode for the soul if it wishes to visit this world. Other bones are also sometimes kept, not as shrines, but for use in magical ceremonies or for the making of weapons. This secondary disposal often marks the close of the period of mourning and may be for the deceased the last act in the *passage rite* (see *PASSAGE RITES*), as a ceremony whereby the soul is finally despatched to the other world of which community it is henceforth a full member. Sometimes, however, exhumation and secondary disposal are only performed under exceptional circumstances. If a soul troubles the living, the body may be dug up and either removed elsewhere or destroyed by fire or water. Often the soil itself indicates that such a removal, and it may be necessary to change its abode before it finds one to its liking. It is its wishes



# DEAD RECKONING DEAD SEA

either to a relative in dreams, or by causing sickness and misfortune

**Grave-goods.**—To the savage the dead closely resemble the living in both psychological and physical make-up. It often seems that at death the soul is conceived as being weak just as its body was. To give it increased vitality the mourners cut themselves and allow the blood to drip on to the corpse, for blood is the elixir of life. The laying of food on the grave and the lighting of fires are plainly the result of this material conception of the soul, but the reasons given for the practice vary. Sometimes the journey to the other world is long and the food is for the support of the traveller on his way. In other places it is intended for the comfort of the disembodied creature during the time that it hangs about its home, before departing to join its ancestors. The grave-goods destroyed or buried with the body are definitely for use in the land of the dead, which in physical and social formation is very like that of the living. In it a man will need those things which were valuable in life—weapons, tools, wealth. They are therefore buried or burnt with him, if burnt they are often broken in order that their non-material essence may be released. Pots have been found specially made as grave-goods with holes in the bottom or with uncompleted designs, through which this spiritual part can escape. The killing of a man's favourite wife or slaves is a further logical result of this conception of life after death, for he will continue to need them to minister to his wants. To avoid the actual destruction of the property cheap imitations may be burned or burnt as in China to-day, or the objects may be laid on the corpse while it lies in state and removed before disposal. In this way the dead man retains the use of them in the other world and his heirs have the use of them in this.

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**DEAD RECKONING**, the computation of a ship's position derived from the latitude and longitude last determined, from the direction of the compass and rate and time of sailing according to the log, reference also being made to astronomical observation for correction and comparison of this method. See **NAVIGATION**, and **AERIAL NAVIGATION**.

**DEAD RENT**. The fixed rent payable under the leases of mines or quarries and paid in addition to the stipulated royalties. This payment secures to the owner of the mine or quarry a certain income, and ensures that the mine or quarry is worked in his interest, since if the property lies idle the dead rent must be paid. (See **RENT**.)

**DEAD SEA**, the lake in southern Palestine in which the river Jordan terminates. It is bounded on the north by the Jordan valley—at that point broad, arid and forbidding, on the east by the escarpment of the Moabite plateau, on the south by the desert of the Arabah, and on the west by the mountains of Judaea. It has a length of 47 m. and a breadth of 10 m., a superficial area of 360 sq. m. and a mean depth of 1,080 feet. Its surface level, which has a seasonal variation of 10 to 15 ft., lies about 1,300 ft. below that of the Mediterranean, and is the lowest sheet of water on the earth's crust. The Jordan alone pours into the Dead sea on a daily average a volume of water estimated at 6 million tons, and in the winter season torrents—very few of which are perennial—from the hills to the east and west add their contribution. The rainfall in the Dead sea valley seldom exceeds 5 in. in the year. There is, of course, no effluent. The heavy inflow is carried off by evaporation (estimated at 13½ mm. per day), visible in strange looking blue-white clouds which float half-formed and ethereal above the waters. An interesting feature is the peninsula, called from its shape the *Lisān* (tongue) which projects from the east shore. The sea to the south of this point is shallow showing a depth of from 5 to 30 ft. whilst north of it the eastern shore, is the point of greatest depth

(1,310 feet)

**Geology.**—The Dead sea occupies the lowest part of the Jordan rift-valley or trough-fault, caused by the sinking of the strip of earth's crust confined by the two parallel ridges visible in the rock walls on either side of the valley. During the Jurassic and Cretaceous periods an extended Mediterranean Sea covered Syria and Palestine, but during the Tertiary period the successive upheaval of the sea-bed produced land. The earth's crust was uneven creating wrinkles (the Lebanon and the western Palestine) and causing the fractures which form the Jordan-Dead sea depression. There seems reason to believe that prior to the Pluvial period, which later followed, the surface of this region was similar to that now prevailing. At that time the Dead sea was approximately the same size as at present. During the Pluvial period the surface of the Dead sea gradually reached a height of 1,400 ft. above present level, frequently higher than the Mediterranean. At this time it was a vast inland sea stretching 200 m. from Huleh in the north to a point 40 m. beyond its present southern limit. Its surface was capable of supporting life and remains of its fauna have been found in its marginal deposits.

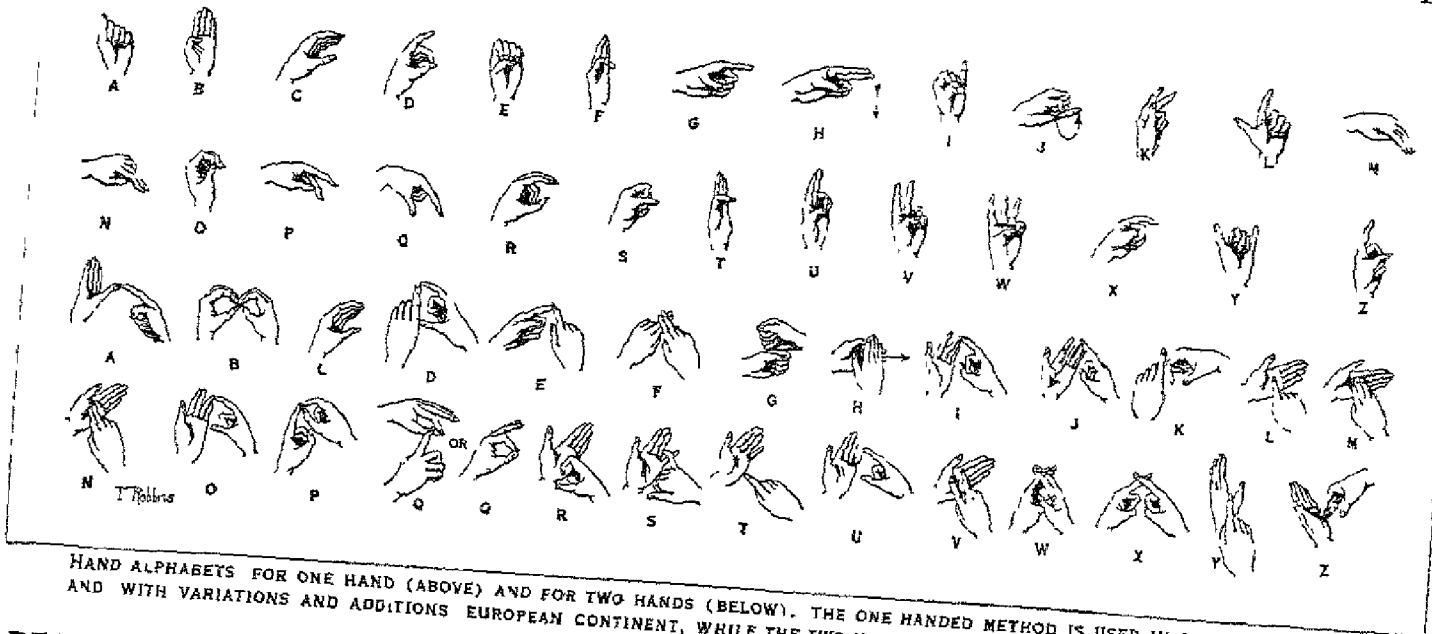
A dry period supervened during which evaporation exceeded over precipitation causing a gradual shrinkage until, after a long interval only a remnant of the great sea remained. The low-lying deposits of marl, gypsum and salt, and the high, white beaches to bear silent witness to the uneven course of the sea. The formation of the *Lisān* and of *Jebel Usdum* at the north and south-west shore, must have occurred subsequent to the period of contraction, since both are composed entirely of tertiary deposits. The strata of the *Lisān* dip to the east, and there has been an upheaval of the floor of the *Ghor* to the west. It is possible to conjecture that the crustal movements due to continued faulting, which forced up the *Lisān* and *Jebel Usdum* forming a southern escarpment of varying elevation along a base line, depressed at the same time the sea-bed to the north of the *Lisān* where its deepest part is known to be confined to the north of this barrier, what is now the floor of the Dead sea would be dry land. At no very recent time the sea broke this barrier at its western side, aided by another tremor, or by merely overflowing, as it did in 1883-84 at a point where the barrier was low. That the level of the sea is now rising, and has seemingly been rising for many years, is well established. Since Kitchener's survey in 1883-84 the level has risen nearly 20 feet. Since 1900 it has not risen more than 10 feet, however. The chief contributing factors to this rise are the encroachment on the sea of the Jordan delta, the raising of the sea-bed through fresh layers of precipitation, and the climate that seems to be growing more moist.

**Salinity.**—The water of the Dead sea is intensely saline. Whilst ocean water has a salinity of 4-6%, Dead sea water contains 23-25% of salts. Exhaustive analyses of water from different parts and at different depths have been made. The following selection from the analyses made by Terrestrial and Marine Biological Laboratory, Cambridge, Mass., U.S.A. is surface water at the north end, B 120 metres deep, at the south end of Kās el-Feshkha, C 300 metres deep, at the same place.

	A	B
Chlorine	65.81	67.66
Bromine	2.37	1.98
Sulphate	0.31	0.22
Carbonate	T	T
Sodium	11.65	10.20
Potassium	1.85	1.60
Calcium	4.73	1.51
Magnesium	13.20	16.80
Silica	T	T
Total solids in grams for 100 grams of liquid	100.00	100.00
	19.2	24.5

The water is largely composed of sodium chloride. The water is largely composed of sodium chloride. The water is largely composed of sodium chloride.





HAND ALPHABETS FOR ONE HAND (ABOVE) AND FOR TWO HANDS (BELOW). THE ONE HANDED METHOD IS USED IN AMERICA IRELAND AND WITH VARIATIONS AND ADDITIONS EUROPEAN CONTINENT, WHILE THE TWO-HANDED IS IN USE IN GREAT BRITAIN AND AUSTRALIA

## DEAF AND DUMB, EDUCATION AND WELFARE

**OF THE.** The term "deaf" is frequently applied to those who are deficient in hearing power in any degree, however slight, as well as to people who are unable to detect the loudest sounds. The reference here is to those who are so far handicapped as to be incapable of instruction by means of the ear. Deafness, then is the incapacity to be instructed by means of the ear, and dumbness is ignorance of how to speak as an effect of deafness. Of such deaf people many can hear sounds to some extent. D Kerr Love quotes several authorities (*Deaf Mutism*, p 58) to show that 50% or 60% are absolutely deaf, while 25% can detect loud sounds, and the rest can distinguish vowels or even words. He thinks that the ability to hear speech exists in about one in four, while ten or fifteen in each hundred are only semi-deaf. He warns against the use of tuning forks or other instruments held on the bones of the head, when the vibration may be only felt not heard, as tests of hearing.

### EDUCATION

In the early ages the deaf were regarded as idiots and were killed out of hand. They had no place in the social order of things and were regarded as mere encumbrances. Later on, isolated cases are on record of the deaf being taught. The Venerable Bede relates that in 700 St. John of Beverley taught a deaf mute to speak. But it was not until the 16th century that any serious attempt was made to instruct the deaf. At this time, Jerome Cardan, who was born in Pavia in 1501, stated that the deaf could be instructed by writing. This method was put into practice by a Spanish Benedictine monk, Pedro Ponce (b 1520). Another Spanish monk, Juan Paulo Bonet, taught the deaf to speak. He published a book on the subject in 1620.

**Great Britain.**—In England, Dr John Bulwer in 1648, and Dr William Holder in 1669, both wrote on the subject of teaching the deaf and dumb. In 1680, George Dalgarno, a Scotsman, wrote his *Deaf and Dumb Man's Tutor*. In 1760, a school for the deaf was opened in Edinburgh by Thomas Braidwood, and one in Paris at the same time by the Abbé de l'Épée. In 1783 Braidwood moved to London and in 1792 the London Asylum for the Deaf and Dumb was founded. This was the first British Institution for the deaf.

Up to nearly the end of the 19th century the education of the deaf was provided for mostly by charity. In 1893, the report of the Royal Commission which had been appointed to consider the condition of the blind and deaf, was published. As a result, the Elementary Education (Blind and Deaf Children) Act was passed. This provided for the compulsory attendance at school of deaf children between 7 and 16 years of age, and made it the

duty of Local Education Authorities to make suitable provision for the education of the deaf. In this way State action was established.

Although the compulsory age for attendance at school is 7 years, children are admitted much earlier. Deaf children receive their education in day schools and residential schools. The day schools are maintained by Local Education Authorities and, with the exception of eight which are maintained by local education authorities, the residential schools are provided by voluntary committees. For the year ended March 1927 there were 50 schools, day and residential, with an accommodation for 4,826 pupils in England and Wales. Children are mostly taught by the oral method, that is by means of speech and speech-reading, although a proportion do not benefit by this method. These are taught by means of writing and a manual alphabet. The curriculum in schools for the deaf includes besides speech and speech-reading, the ordinary elementary school subjects. Vocational training is given in boot-making, cabinet-making, dress-making, laundry-work, etc. The London County Council provides the following schools for its deaf children: (1) Six day schools for deaf children up to 13 years of age. (2) Five day schools for partially-deaf children. (3) One residential school for deaf boys from 13 to 16 years of age, with provision for vocational training. (4) One residential school for deaf girls from 13 to 16 years of age, with provision for vocational training. (5) One residential school for deaf boys and girls up to 16 years of age who have a defect other than deafness.

The National College of Teachers of the Deaf has for many years past advocated the scientific classification of deaf children for the purposes of instruction according to the history and degree of their deafness and their mental condition. Clearly, the partially deaf and those who lose their hearing after the habit of speech has been naturally acquired, stand in a different relation to education from the deaf born, whose minds have never been stimulated by heard speech. Up to comparatively recent times, both types were grouped together for instructional purposes. The movement to give these children the advantages of a hearing environment and to train them by methods adapted to children who hear is steadily growing, and schools for partially deaf children are increasing in number. This is only part of the classification necessary to ensure that such type and condition of deafness shall receive the special educational care it needs. The London County Council Institution for the defective deaf at Penn is another step in this direction.

The Board of Education is the official department which issues statistics relating to the deaf and these necessarily apply to children. The incidence of deafness in children as shown in the

terms of the local authorities in 1904 was 50 per cent. The number of deafness in school children varies very widely in different countries, as shown in the statistical part of the report to be given per 1,000 children in the Isles of Solay and St. Martin.

The first primary boarding school for the deaf in this country is the special branch of the Board of Education and all schools are open to inspection by the chief medical inspector and his staff. The British Deaf and Dumb Association is a national body consisting of deaf adults together with the leaders hearing and deaf of the local welfare societies.

The great advance in the education of the deaf during the 20th century established their fitness for higher educational and technical training. With this connection the leaders of the schools and welfare societies for the deaf initiated in 1903 a movement for the reconstitution of the then national bureau for promoting the general welfare of the deaf, established in 1911, which was reorganized as the National Institute for the Deaf and came into being in April 1905. The main attention of the Institute has been devoted to the industrial conditions of the deaf, the conditions of the deaf in poor-law institutions and mental hospitals, tender citizenship of the deaf.

The general objects of the Institute are — The prevention of deafness, the education of the deaf including the proper administration of the law effecting the attendance of deaf children at suitable schools, and the furtherance of their early training, the re-education of the partially deaf through speech-reading, the provision of efficient training in trades for children leaving school, and of opportunities for continued academic study; the adjustment of official and trade regulations where they operate harshly against the deaf worker, the provision of opportunities for the higher education of the deaf, the adequate care of the blind-deaf and the mentally defective deaf, the social elevation and fuller citizenship of the deaf; supplying information to and advising public departments, private bodies, and individuals needing assistance, and generally, by propaganda, whether in the way of local or national action, to influence the public in favour of the deaf, with a view to bringing about necessary reforms.

**International Action.**—At the International Conference of Teachers of the Deaf held in London in 1925, which was attended by leading experts from some 15 nations, recommendations were adopted urging the need for opportunities for the higher education and technical training of the deaf after school age; the establishment of classes for the partially deaf in connection with schools for hearing children, such classes to be taught by specialist teachers of the deaf; the enforcement of a compulsory hearing test in elementary schools in order to ensure the detection and treatment of deafness in its early stages; the appointment of national committees to enquire into, and report upon, all matters affecting the education, training industrial and social conditions of the deaf in the various countries represented; and the establishment in every country of a national organization to promote the general interests of the deaf throughout life. The Conference also decided to establish an international organization of teachers.

**Denmark.**—This was the first country in the world to introduce by royal decree in 1817 compulsory instruction for deaf children. The first school was opened at Copenhagen in 1807. The State provides for the education of all deaf children. The compulsory period of education is 8 years, children being admitted to school between the ages of 7 and 8. Classification is good and most of the children are taught orally. A proportion are taught by means of writing and spelling.

**Norway.**—As in Denmark the education of the deaf in Norway is undertaken by the State. For this purpose the country is divided into two districts, north and south, each having a school where pupils are admitted annually. There is a private agricultural and trade school in South Norway.

**Sweden.**—Up to 1926, unlike other Scandinavian countries, the education of the deaf in Sweden was undertaken by local authorities, the State only allowing a grant per head for this purpose. In 1927 there was a measure before Parliament providing for State control.

**Holland.**—Instruction for the deaf goes as far back as 1790 when an Institute for the Deaf and Dumb was founded at Groningen. Dutch schools for the deaf are all private and are subsidized by the state and municipal authorities. Children are taught on the oral method, and nearly all pupils learn a trade.

**France.**—The Act of 1852 made instruction for deaf children compulsory. Besides several state schools there are many schools which are controlled by religious and private bodies. The National Institution in Paris was founded in 1785. The one in Bordeaux in 1795, and the one in Chambéry in 1860. The age of admission of children is 6 years although children may be admitted earlier.

**Japan.**—The education of the deaf in Japan is of comparatively recent growth. The first special school was established in Kyoto in 1878. In 1903 a bill was passed by Parliament granting state aid to schools for the deaf. (C. SH.)

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## UNITED STATES

The increasing emphasis on oralism in the United States is breaking down the barriers that separated the totally or partially deaf from normal people when only signs were used. The teaching of speech and lip-reading is now generally prevalent so that the word "dumb" is stripped of its one-time significance in America. As the deaf are educated, they cease to be dumb. The latter word has been eliminated by law from titles of institutions. According to the 1920 census the deaf numbered 44,885 but an unofficial estimate of totally and partially deaf runs into millions.

**Education.**—The first attempt to teach a deaf-mute recorded in the United States was Philip Nelson's in Rowley, Mass., 1679. From 1773 to 1776 there was a deaf boy in John Harrower's school, Fredericksburg, Va., but not until the early 19th century was concerted action taken to educate deaf children. Francis Green, of Boston, whose deaf son was sent to Edinburgh to be educated at Thomas Braidwood's institution, became much interested in the problem. With some ministers, he attempted a census of Massachusetts, 1803 when 75 deaf were found. They then estimated 500 deaf in the United States and urged the creation of a special school. In 1810 in New York, the Rev. Dr. John Stanford found several deaf children in the city almshouses and tried to instruct them, efforts which later resulted in the founding of the New York institution. A grandson of Thomas Braidwood, John Braidwood, began to teach a family of deaf children in Virginia in 1812, later establishing a school. After six precarious years alternately in that State and New York, he died, and the first American oral school for the deaf ended. Meantime, the case of Alice Cogswell, the deaf daughter of a Hartford physician, interested a group of men. Their investigations, 1812 disclosed 84 deaf in the vicinity. They estimated 400 in New England and 2,000 in America. In 1815 they organized a society to instruct the deaf, raised \$2,378 and sent a young minister, the Rev. Thomas Hopkins Gallaudet, to Europe to learn methods of teaching the deaf. Gallaudet studied the sign language method at the Abbé Sicard's school in Paris, which influenced the whole course of the education of the deaf in America. When Gallaudet returned in 1816, he was accompanied by the celebrated Laurent Clerc, himself deaf, one of the Paris institution's teachers. On April 15, 1817, the Hartford school was opened with subscriptions from New York, Philadelphia, Albany, New Haven and other cities amounting to \$12,000 and an appropriation of \$5,000 from Connecticut, probably the first made in the United States for other than regular schools. It used the sign language of de l'Épée and Sicard, the manual alphabet and writing as the basis of instruction. In 1819 the Federal Government granted 23,000 ac of public land, the proceeds from which formed a fund of \$339,000. The New England States, Georgia and South Carolina (beginning 1854) sent deaf children to the school, renamed American asylum.

In May 1828 the New York Institution for the Deaf was

opened. Of the 62 attending 32 were "charity pupils" provided for by the city. Thirty-eight belonged to distant parts of New York State, 19 to the city, four to New Jersey and one to Connecticut. After an exhibition by the students in 1819 the State legislature appropriated \$10,000 and granted "a moiety of the tax on lotteries in the city of New York" which for 14 years formed a good income.

In Philadelphia, David Seixas began teaching deaf children in his home in 1819 or early in 1820. His work was noted by a group of citizens who, after an exhibition of results accomplished in 1821, helped to secure a charter and a *per caput* appropriation from the State of \$160. The Hartford school lent him Laurent Clerc. New Jersey began at once to send pupils to the Pennsylvania institution. Maryland followed in 1827 and Delaware, 1835. Kentucky in 1823 was the fourth State to establish a school for the deaf, the Kentucky asylum at Danville, which was the first school established distinctly as a State enterprise. Other States followed, interest in many cases in the South being aroused by tours of the educated deaf who exhibited what could be done for these hitherto neglected members of society. In 1863, there were 22 schools for the deaf with 2,012 pupils. Within 60 years of the first foundation they were established in 31 States, great areas of public land being granted in several instances as in Connecticut and Kentucky, for such purpose. In all the institutions, up to 1867, the manual system of instruction held sway, though the oral method had been tried at the New York institution.

In 1867 the Clarke school, Northampton, Mass., the first permanent oral school in the United States, was established. Gardner Hubbard, a Massachusetts senator, whose daughter lost her hearing when four and one-half years old, tried to establish an oral school and unsuccessfully applied for a charter in 1864. Then the work of Harriet B. Rogers with Fannie Cushing, a deaf-mute came to his notice. He and his friends financed a small, private oral school in 1865. An exhibition by these pupils of Miss Rogers in 1867 convinced the legislature that so-called deaf-mutes could be taught to converse. A great step forward in the education of the deaf was thus made. Massachusetts voted for the incorporation of "an Institution of Deaf-Mutes at Northampton"; for "primary instruction of younger pupils than were then received", and for "a longer term of instruction of pupils aided by the State." The Institution for the Improved Instruction of the Deaf, New York, also came into being in 1867 instituting oral instruction. Both schools exerted an influence on the early education of the deaf.

Educators of the deaf divided themselves into those who favoured the manual system supplemented by articulation and those who taught speech and lip-reading, vetoing the manual method. Manual teachers maintained that certain deaf-mutes would never learn to speak and to read lips, oral teachers considered it unjust to separate the deaf from the hearing because of lack of instruction in the use of vocal organs. Dr. Edward Hiner Gallaudet's stand for the teaching of speech to deaf children after his extended European tour of 1867 influenced many instructors. In 1886 tension had sufficiently modified to permit the convention of Instructors of the Deaf to pass noteworthy resolutions urging endeavours in the schools to teach every pupil to speak and read from the lips. The resulting "combined system" is defined in the *American Annals of the Deaf*, the instructor's official organ, as —

Speech and speech-reading are regarded as very important, but mental development and the acquisition of language are regarded as still more important. It is believed that in some cases mental development and the acquisition of language can be best promoted by the Manual or the Manual Alphabet method, and, so far as circumstances permit, such method is chosen for each pupil as seems best adapted for his individual case. Speech and lip-reading are taught where the measure of success seems likely to justify the effort, and in some of the classrooms of most of our schools the Oral or the Auricular method is used.

The combined and the oral systems came into increasing use. Yet even in 1904 the World's Congress of the Deaf at St. Louis ranked that champions of the oral method were not friends of the deaf and that every teacher of the deaf should be a lip-reading man.

Boston was the first, starting Nov. 10 1869 under Sarah Fuller, principal for 41 years, who gave Helen Keller her first lessons in speech. The number of day schools increased slowly up to 1894 when there were 15 and more rapidly thereafter. In 1901 for instance they numbered 49 with 835 pupils; in 1915 64 with 2,109 pupils and in 1926 101 with 2,972 pupils. Pupils from oral schools have passed on to high schools and colleges, holding their own with those who hear, and graduating successfully. New York State, to promote such higher education, provides a *per caput* sum of \$300 that a hearing note-taker may attend college lectures with the deaf student and take full notes for the latter's use.

The situation may be summed up in the conclusions of the 1924-25 survey made by a committee of the National Research Council financed by the Laura Spelman Rockefeller Memorial. The typical school does not prohibit the use of manual spelling. Pupils who after ample trial do not make satisfactory progress orally are transferred and taught in the manual classes. Of the three methods of education in practice the oral, manual and combined, no one method is superior to the others, taking into account the educational achievement of the pupils and their basic intelligence. The beginning of the 20th century saw a further development in educational methods. It was realized that the percentage of the totally deaf is small. The 1924-25 survey disclosed that but 3% of the children tested were without any hearing and the average had 25%. As early as 1836 attention had been drawn to auricular training by the commissioner of education commenting on the work of the Nebraska Institution for the Deaf to educate the brain to use the hearing so that speech might be gained. Increasingly, greater stress is being laid on the development of the remnant of hearing, known as residual hearing, really an integral part of the oral method, so that sounds and language ideas are associated. Audiometer tests have shown pupils to have from 5% to 85% of available hearing acuity. Auricular training by means of exercises teaches the child to perceive the sound of the human voice and to interpret it, giving a vocabulary, improving speech and increasing activity in the psychic acoustic centres.

Provision for the education of the deaf in local institutions is made by the different States as a general rule. Only in Delaware, New Hampshire, Nevada and Wyoming are deaf children sent at public expense to a school outside the State. Several of the southern States have at least two institutions, one for white children and the other for coloured. Only nine States have compulsory attendance laws for deaf children. Indiana, where the age is 7-18; Iowa, 12-19; Maryland, 6-18; Minnesota, 8-20; North Carolina, North Dakota, 7-21; Rhode Island, 7-18; West Virginia, 8-25; and Vermont.

**Higher Education.**—The United States is the only country with a college of accepted standard for the deaf, awarding the usual masters' and bachelors' degrees in art and science. It was established in Washington, D.C., in 1864 as the highest department of the institution of the deaf and dumb founded by Congress in 1857. First known as the National Deaf-Mute college, it was renamed Gallaudet college in 1893, and with the Kendall school (secondary) forms the Columbia Institution of the Deaf. In 1886-87 women were admitted to the college. Its graduates have successfully pursued special courses at Johns Hopkins, George Washington, McGill and the Universities of California and Pennsylvania. Of 353 graduates, 111 are teachers, 66 home managers, 36 printers and publishers, 24 farmers, 31 in business, 20 in chemistry, 17 in the ministry or training for it, and 11 acting as supervisors or in charge of athletics in the schools.

Teachers of the deaf are educated in the oral method at Clarke school; in the combined system at Gallaudet college; at the Central Institute, St. Louis, Mo.; and at the Institution for the Improved Instruction of Deaf-Mutes, New York. Several schools in Illinois, Indiana, Ohio, North Carolina, Pennsylvania, Oklahoma, New York, Virginia and other States have at different periods held normal classes.

The first school for the increase and diffusion of knowledge for the deaf was founded in 1887 by Alexander Graham Bell (1834-1922), who had taught his father's "visible speech" system

of the American Association to promote the teaching of speech to the deaf—the largest organization of teachers and friends of the deaf in the world.

Books of reference—*Annual Reports of the U.S. Commissioner of Education 1900-99*, Rudolf Patten and Donald G. Paterson, 'A Measure of the Language Ability of Deaf Children,' *Psychological Review* (1917), Dr. Percival Hall, *Etymology of the Deaf* (Bureau of Education 1921), Edward Whistler Scripture, *Stammering, Luring and Lip-reading of the Deaf* (1923), G. S. Bay Haycock, *The Education of the Deaf in America* (1926), Dr. Caroline A. Yale, *Special Teaching of Deaf Children*, *Johns Hopkins Review* (1926).

**DEAF-MUTISM, MEDICAL ASPECTS OF.** Mutism, or dumbness is almost always due to malformation or disease of the ear. Children learn to speak by imitating those about them who speak. Cases have occurred in which a child with normal hearing brought up by deaf and dumb guardians in an isolated cottage in the mountains did not learn to speak until it came into contact with speaking people in a town.

The air vibrations constituting sound are conducted through the outer ear passage to the tympanic membrane and from thence through a chain of three small bones in the middle-ear to the inner ear or labyrinth—the essential part of the organ of hearing. The inner ear itself consists of (1) the cochlea which is concerned in hearing, and (2) the vestibule and three semicircular canals which together are concerned with bony equilibrium (See EAR; HEARING). From the inner ear the cochlear and vestibular nerves pass to the corresponding centres in the brain.

Lesions of the ear producing deafness so great as to cause a child to become a mute are almost always situated in the inner ear. Deaf-mutes are usually classified into (A) congenital cases due to error in development of the ears and (B) acquired cases in which the ears normal at birth, become diseased in childhood. Less than half the cases of deaf-mutism are congenital.

(A) Congenital cases are of two kinds: (1) "endemic" deaf-mutism, peculiar to certain districts or countries, e.g., Switzerland, and associated with cretinism and goitre (see CRETINISM). Here the lesion is in the middle ear; the drum cavity, which should contain air, being more or less filled up by connective tissue or bone. Deafness may not be very marked and the mutism is due mainly to the poor mental development of the patient. (2) The great majority of cases of congenital deafness are due to faulty development of the inner ear. This condition is known as "sporadic" deaf-mutism and is not uncommon in Britain. In the most marked instances the bony and membranous labyrinths are absent, while in the least severe cases only the membranous cochlea is involved. Between these two extremes there are several degrees of maldevelopment. Many of these patients have considerable remains of hearing. The vestibular or balancing apparatus in these cases is usually free from any developmental defect.

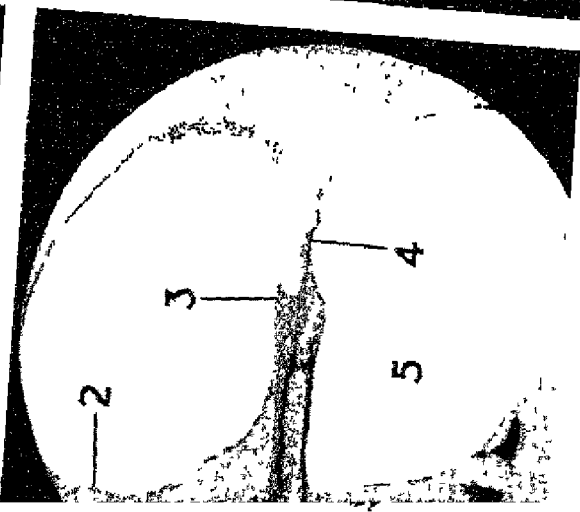
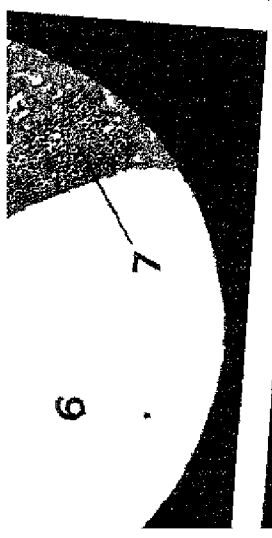
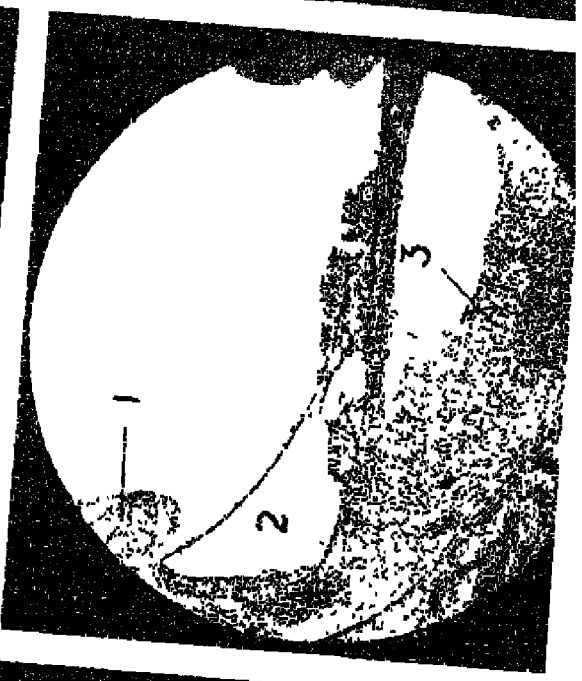
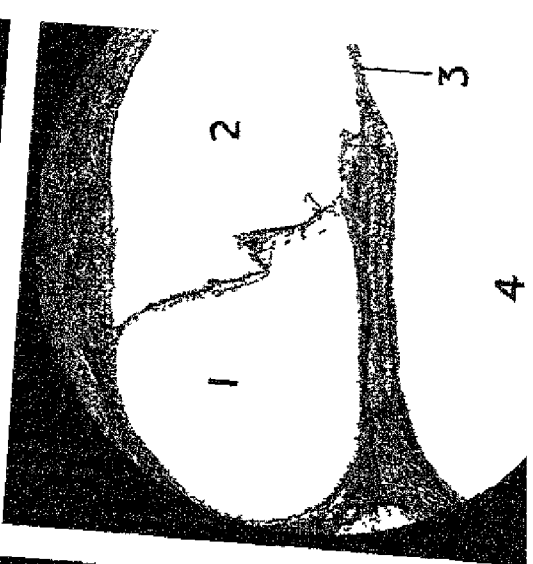
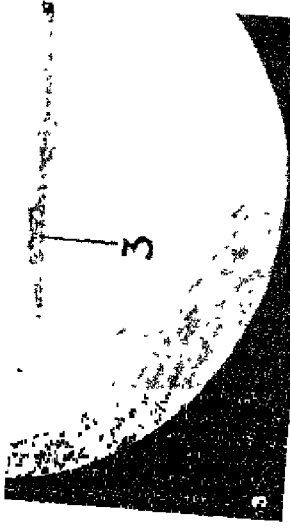
(B) Acquired deaf-mutism is due to injury to, or disease of, the inner ear. The deafness may only occur after the child has learnt to speak, but a child which has already acquired fluent speech may quickly become dumb if it loses its hearing, unless special training is begun at the earliest possible moment. The deafness may be produced by such conditions as (1) fracture of the base of the skull, which sometimes results in destruction of the organ of hearing on both sides; these cases are rare. (2) Suppurative disease in the middle and inner ears caused by severe attacks of scarlet fever, measles, or influenza. In these diseases the infection may pass from the nose and throat up the Eustachian tube to the drum cavity, and to the mastoid process which lies behind. (As long as the infection remains localized to the middle-ear spaces the deafness is seldom or never so severe as to give rise to deaf-mutism, though the children are often so "hard of hearing" that they cannot be educated efficiently in an ordinary school.) When the infection spreads from the middle to the inner ears, it gives rise to such severe changes that deaf-mutism results. Both the middle and inner ears on each side are filled with pus and, if the patient recovers, the inner ears are more or less obliterated by the formation of connective tissue and new bone, with consequent destruction of the nerve endings of the hearing and balancing apparatus. (3) Meningitis, the infective material

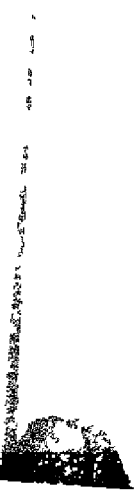
may pass upwards to the brain to the inner ear on each side along the sheath of the nerve of hearing. These children, and when they recover from meningitis, are not only deaf but have lost their power of balancing for a time and have to learn to walk again. (4) Inherited syphilis which, in Great Britain, is responsible for about 5% of cases of acquired deaf-mutism. In these patients deafness does not occur until the child has, as a rule, reached the age of nine or ten years—a period at which it has of course already learnt to speak. (5) Otosclerosis in which there is a formation of spongy bone in the normally dense bony capsule of the inner ear that impedes or prevents movement of the stapes. This disease is a common cause of deafness in early adult life, especially in young women, but rarely occurs so early as to render the patient a deaf-mute.

The clinical examination of a case of suspected deaf-mutism is not easy. The observer has little or no means of communicating with the child. If the parents are both congenital deaf-mutes and the child is one of a family of deaf-mutes, there can of course be no difficulty in making a diagnosis, but the case is not often so clear as that. We have to seek the aid of knowledge derived from Mendelism before we can explain many of the sporadic cases of deaf-mutism (See MENDELISM). The history as obtained from the child's parents is often far from accurate, as they are unwilling to acknowledge, in congenital cases, that the child has never heard, and adduce such facts as that "the child notices a door slamming or a band passing in the street" as proof of hearing. The deaf-mute of course feels the vibrations caused by such disturbances. Further, the mother often states that the child can say "Mamma" and considers that this shows that it can hear, whereas an intelligent congenital deaf-mute may pick up such a word by watching its mother's lips. Even with regard to cases of acquired deaf-mutism the history of the case is often at fault, the deaf-mutism being attributed to "vaccination," or "fright," when subsequent enquiry and examination show that it has really been due to meningitis, or to the results of middle-ear disease. If the tympanic membranes show the effects of middle-ear suppuration and if the deafness has only come on after the child has learnt to speak, one may be certain that the mutism has been acquired. In other cases where the deafness has only come on at the age of eight or nine years, examination may show that the upper central incisor teeth are peg-shaped and notched and that the cornea has become cloudy as the result of congenital syphilitic infection. Cases of acquired deaf-mutism due to meningitis in infancy are hard to diagnose, but as a rule a clear history is obtained if the meningitis occurred in later childhood. These children are totally deaf. The rare cases which are caused by fracture of the base of the skull are also not difficult to diagnose.

Considerable help in the clinical diagnosis of deaf-mutism may be obtained from examining the semicircular canal apparatus or balancing portion of the ear. A normal child, if turned round rapidly in a rotating chair, becomes very giddy and shows twitching movements of the eyes (nystagmus). Cases of congenital deaf-mutism, in which the maldevelopment is confined to the hearing portion of the ear, react like normal children but cases of acquired deaf-mutism due to destruction of the labyrinth from any of the causes described above almost invariably fail to become giddy on rotation. Another method of testing the balancing portion of the inner ear is to syringe the ear with cold water. In a normal person such syringing produces giddiness and twitching movements of the eye and, if too prolonged, induces vomiting. Here again congenital cases react like normal children, while the acquired cases are not disturbed even by the most prolonged cold syringing. Nevertheless, it is not possible in every case to classify the child as a congenital or as an acquired deaf-mute.

The hearing power of children who are suspected of being deaf-mutes may be tested in various ways, but it is impossible to be quite certain that a child has been born deaf before it reaches the age of one year. It is best to have the child seated on the knee of its mother or nurse and to attract its attention by showing it some small object. (In some cases the question arises whether the absence of response to sound is due to deafness or to idiocy. The true deaf-mute child is generally mentally alert and







at once takes notice of a coin or a watch shown to it. An assistant stands well behind the child and blows a whistle sounds a gong or taps his hands and the observer notes whether the child pays attention to the loud noise suddenly created behind it. The assistant must not stand too near, otherwise the child may feel the vibrations caused, for instance, by the clapping of hands (It is worthy of note that both normal and deaf-mute children can cry but that only the normal child can laugh). At a later age tuning-forks of varying pitch may be used to ascertain whether the child can hear them when vibrating close to but not touching the ear. Vowel sounds may also be spoken in a loud voice into the child's ear, but he must not be allowed to see the face of the examiner, as a good "lip-reader" may detect from the face or lips the particular vowel which is being used. Some deaf-mutes have a fair amount of hearing which may be used for educational purposes, indeed there are at the present time in deaf-mute schools many children who should really be educated in special schools for the hard-of-hearing. Such schools, however, exist in but few centres in Great Britain. For education and training of deaf-mutes, see DEAF AND DUMB.

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**DÉAK, FRANCIS** (FERENCZ) (1803-1876), Hungarian statesman, was born at Söjtör in the county of Zala on October 17, 1803. Of an ancient and distinguished family, he was educated for the law and practised first as an advocate and ultimately as a notary. His reputation in his own county was quickly established and when in 1833 his elder brother, Antal, was obliged by ill-health to relinquish his seat in the Hungarian parliament the electors chose Ferencz in his stead. No man owed less to external advantages. He was to all intents and purposes a simple country squire. His true greatness was never exhibited in debate. It was in friendly talk, generally with a pipe in his mouth and an anecdote on the tip of his tongue, that he exercised his extraordinary influence over his fellows. He convinced them from the first of his disinterestedness and sincerity, and impressed them by his instinctive faculty of always seizing the main point and sticking to it. Perhaps he is unique in history, for though neither soldier nor diplomatist, nor writer he became the leader of a great party by sheer force of intellect and moral superiority. This is all the more remarkable because he appealed to no passion but patriotism, and avoided power instead of seeking it.

During the struggle between Austria and Hungary for the preservation of the Hungarian constitution, Déak and Count Stephen Szechényi were the leaders of that party who wished all proceedings to be conducted in a strictly legal manner, and who therefore were opposed to the extreme revolutionary methods of Kossuth and his followers. In the diet of 1839-40 it was Déak who brought about an understanding between a reactionary government in need of money and recruits for the army and a Liberal opposition determined to vindicate Hungary's political rights. He did not sit in the diet of 1843-44 because his election was the occasion of bloodshed in the struggle between the Clericals who would have ousted him and the Liberals who brought him in. After the constitutional victory of 1848 he became minister of justice in the Batthyány ministry. All through the stormy days that followed, culminating in the War of Hungarian Independence, he never ceased to urge moderation and the adoption of a strictly legal position, but Kossuth and the extremists got the upper hand. "You cannot argue with a drunken man," he is reported to have said, "and at the moment the diet is drunk." When it became obvious that the Vienna Government did not intend to keep its promises to Hungary, Déak resigned with Batthyány, but without ceasing to be a member of the diet. He was one of the parliamentary deputation which waited in vain upon Prince Windischgrätz in his camp. (See HUNGARY. History.) He then retired to his estate at Kébidá. After the War of Independence he was tried by court-martial but acquitted.

After 1854 he spent the greater part of his time in Pest, where his room at the 'Queen of England' inn became the centre for those patriots who in the dark days of the Bach administration looked to his wisdom for guidance. He did all in his power to stimulate the moral strength of the nation and to keep its hopes alive. He considered armed resistance dangerous, but he was the immutable defender of the continuity of the Hungarian constitution on the basis of the reforms of 1848. The Kossuth faction looked for salvation to a second war with Austria engineered from abroad, while the followers of Szechényi adopted an attitude of resignation, equally repugnant to Déak.

The Italian war of 1859 convinced the Austrian Government of the necessity of a reconciliation with Hungary. Bach was replaced by Schmerling and an imperial patent of April 19, 1860 removed some of the chief grievances of the Magyars. The October diploma of the same year was intended to provide the empire with a federal system of government on constitutional lines. Déak rejected it, but at the request of the government he went to Vienna to set forth the national demands. He insisted on the re-establishment of the constitution in its integrity as a *sine qua non*. On February 16, 1861 the government withdrew the diploma and issued a patent which was a return to the former centralist and bureaucratic system. On April 6 the diet met at Pest. Déak rose to defend the national rights and traditions and on June 5 moved an address to the crown refusing to recognize the February patent, insisting on the laws of 1848 as the sole basis of accord, and reminding the Emperor that an uncrowned king was no true sovereign of Hungary. The speech of Déak on this occasion was his finest effort and he was acknowledged the leader of the nation by all parties. He next proposed to the emperor that he should break away from counselors who had sought to oppress Hungary, and restore the constitution as a personal act. The emperor thereupon dismissed Schmerling, suspended the February constitution and summoned the coronation diet. Of that diet Déak was the indispensable leader, and all parties left him to conduct the delicate negotiations with the emperor. The committee of which he was president had completed its work when the Austro-Prussian War broke out. The extreme party would have used the defeat of Königgrätz to extort still more favourable terms, but Déak made it easy for the emperor in the hour of his humiliation. To his question, "What does Hungary demand?" Déak answered, "Nothing more after Sadowa than before it." On Feb. 18, 1867 the restoration of the Hungarian constitution was publicly announced in the diet, and a responsible ministry was formed under the premiership of Count Julius Andrassy. Déak himself refused to take office. There was still one fierce parliamentary struggle in which Déak defended the compromise (*Ausgleich*) of 1867, both against the Kossuthites and against the Left-centre, which had detached itself from his own party under the leadership of Kálmán Tisza (*qv*). It was the wish of the diet that Déak should exercise the functions of a palatine at the coronation, but he refused the honour, just as he had refused every other reward and distinction. "It was beyond the king's power to give him anything but a clasp of the hand." His reward was the assurance of the prosperity and tranquillity of his country and the reconciliation of the nation and its sovereign. This service reconciled him to the loss of much of his popularity; for a large part of the Hungarian people looked upon the compromise of 1867 as a surrender and blamed Déak for it. He died at midnight of July 28-29, 1876, his funeral was celebrated with royal pomp on Feb. 3. A mausoleum was erected by national subscription and in 1887 a statue overlooking the Danube was erected to his memory.

See *Speeches* (Hung.) ed. by Manó Könyi (Budapest, 1882); Z. Ferencz, *Life of Déak* (Budapest, 1894); *Memorials of Ferencz Déak* (Budapest, 1889-90); Ferencz Pulszky, *Charakterskizze* (Leipzig, 1876); R. Springer, *Die Krise des Dualismus und das Ende der Déakistischen Episode in der Geschichte der Habsburgischen Monarchie* (Vienna and Leipzig, 1904); L. Eisenmann, *Le Compromis Austro-Hongrois de 1867* (1904).

**DEAKIN, ALFRED** (1856-1919), Australian statesman, was born at Melbourne on Aug. 3, 1856. Educated at Melbourne university, he was called to the Victorian bar in 1877. He entered the Victorian legislature in 1880, and from 1883 onwards held

... the ... on ...  
 ... was repeatedly offered to ... until 1900. In that year he came to London to discuss with Chamberlain more particularly the legal parts in the Australian Commonwealth Constitution Bill. In Victoria his public speeches he led on the Federation movement and in 1901, as attorney-general he was included in the first Federal cabinet of Sir Edmund Barton whom he succeeded as prime minister in 1903. During his legislative career in Victoria he was active in promoting social legislation and an eminent advocate of preference in favour of Great Britain. This fiscal policy he pursued during his three federal premierships (1901-04, 1905-07, 1909-10) and supported Australian co-operation in imperial defence being responsible for the inception of the measure authorizing Australian naval construction in 1909, and for the invitation to Lord Kitchener to visit Australia and report on the question of defence. After 1910 he led the Opposition in the Australian parliament until compelled to retire, owing to ill-health in 1912. He died at Melbourne on Oct. 7, 1919. Deakin had made a special study of the irrigation problem and wrote three books on irrigation in Western America (1885), in Egypt and Italy (1887) and in India (1892). The Irrigation Act of 1885 was largely his work.

See W. Murdoch, *Alfred Deakin* (1923); B. R. Wise, *Making of the Australian Commonwealth* (1913).

**DEAL**, a market town seaport and municipal borough in the Dover parliamentary division of Kent, England, 9 1/2 m N.E. by N of Dover on the Southern railway. Pop. (1921) 12,998. It consists of Lower Deal on the coast, Middle Deal and about a mile inland though formerly on the coast Upper Deal, which is the oldest part. Frequented as a seaside resort the town derives further importance from its vicinity to the Downs a fine natural road-track between the shore and the Goodwin Sands about 9 m. long and 6 m. wide, in which large fleets of windbound vessels may be protected against the north, west and easterly gales. The trade consists in the supply of provisions and naval stores, which are conveyed to the ships in need of them by "hovellers," as the boatmen are called along the Kentish coast. The Deal hovellers, pilots and lifeboatmen are famous for their skill. Boat-building and a few other industries are carried on. St Leonard's church in Upper Deal dates from the Norman period. The site of the old navy yard is occupied by villas. The esplanade, nearly four miles long extends through Walmer to the south, and north to the ruins of Sandown castle and is provided with a promenade pier owned by the corporation. The golf-links is well known. At the south end of the town is Deal castle, erected by Henry VIII. in 1539, together with the castles of Sandown, Walmer and Sandgate. They were built alike, and consisted of a central keep surrounded by four lunettes. Sandown castle was the prison in which Col. Hutchinson, the Puritan soldier, was confined, and is said to have died, September 1664. It was removed on becoming endangered by encroachments of the sea. The "captain" of Deal castle is appointed by the lord warden of the Cinque Ports. The town is governed by 3 mayors, 6 aldermen and 18 councillors.

Deal is one of the possible sites of the landing-place of Julius Caesar in Britain. Later in the period of Roman occupation the site was inhabited, but apparently was not a port. In the Domesday Survey, Deal (*Dole, Dale, Dele*) is mentioned among the possessions of the canons of St. Martin, Dover, as part of the hundreds of Bewshorough and Cornilo, it seems, however, from early times to have been within the liberty of the Cinque Ports as a member of Sandwich, but was not continuously reckoned as such. In the time of Henry VIII. Deal was merely a hamlet lying half-a-mile from the sea by the shore of the Downs and the increase of Deal (eight men's work and a hundred of ... in increased numbers in the ... Deal ... been built along the shore. ... the town under the name of ... Deal, and he also ... Deal with a total of ... The ...

Deal and Walmer until they were disenfranchised by the act of 1885.

**DEAL**. A British term commonly used to designate the soft woods derived from the Scotch pine (*Pinus sylvestris*) which is called yellow or red deal, and the spruce fir (*Abies excelsa*) which is called white deal. The former is by far the better timber. Deal is freely imported into the British Isles from Scandinavia and Russia and so widely used for building and other purposes that the world is threatened with a soft-wood famine.

The term deal (derived from Dan *doel*, plank) is also used as the name of a soft-wood measurement. A deal in England is a piece of pine wood sawn 2 in. wide and 2 to 4 in. thick, not less than 8 ft long. (See **TIMBER**.)

**DEALER**, one who sells at retail to the public. This term is used to cover nearly all retailers except department and chain stores and in the loose parlance of trade it is sometimes applied to the individual units of chain-store systems. The term 'dealer' formerly meant one who bought and sold primarily without a place to stock a quantity of merchandise, he was sometimes also referred to as a "curb dealer", i.e., one who transacted his business from the sidewalk.

**DEAL-FISH**, the name applied to marine fishes of the genus *Trachipterus*, which together with the oar-fish (*q.v.*), comprises the family *Trachipteridae*, or ribbon-fish. Deal-fish inhabit the middle waters, probably not below 200 fathoms, and are characterized by their long laterally compressed bodies, short head, narrow mouth and feeble dentition. The dorsal fin extends the length of the back, the anal is absent, and the caudal, when present, is reduced. The pectoral fins are small. In young deal-fish some of the fin-rays are prolonged in an extraordinary way. Deal-fish may reach a length of eight feet. They have a world-wide distribution. All the specimens found at the surface of the sea have been more or less mutilated by the release from the enormous pressure under which they are accustomed to live. The commonest species is *T. arcticus*.

**DEAN**, primarily one having authority over ten, the title of an ecclesiastical dignitary, or of a university or civil official (Lat. *decanus*, from Gr. *deka*, ten).

The original use of the word *decanus* was evidently to denote a military grade, it occurs in this sense in the *De Re Militari* of Vegetius (c. 386). Slightly later (c. 400) St. Jerome uses it in the Vulgate instead of the *decurio* of the Old Latin version, for the "rulers of tens" in Exod. xviii. 21, 25. It was also applied, from the late 4th century onwards, to the members of a guild, whose occupation was the burial of the dead, as well as to certain minor officials of the imperial household, and in later times of the empire to various civil functionaries. In the Visigothic and Lombardic codes it occurs as the title of a subordinate judge, having jurisdiction within a district called a deanery (*decanus*) or tithing. In the Anglo-Saxon system the corresponding official was entitled dean, tithing-man or head-borough.

In monastic life the term was used at an early period to denote a monk having charge of ten monks (St. Augustine, *De Mor. Eccl. Cath.*, i. 31, etc.); and it occurs in this sense in the Rule of St. Benedict (ch. 21). As monachism developed the title came to be applied to various special functionaries, e.g. *foris decanus*, the monk responsible for the external business of a monastery.

In its now most familiar use, as denoting the head of a cathedral or collegiate chapter, the title probably owes its origin to this monastic usage, since many of the cathedrals were in the charge of monks. In the 8th century the *decanus* as a cathedral official was subordinate to the *praepositus* or provost, who presided over the chapter as the bishop's vicerent; but during the next few centuries deans were almost everywhere substituted for provosts.

The office of rural dean, representing one type of the earlier archpriest (*q.v.*), is of great antiquity in the Western Church, going back to the time (at least as early as the 6th century) when the bishops of the large dioceses found it necessary to divide the diocese into districts called archdeaconries or deaneries, each with an archpriest (later entitled rural dean) at its head. The ...

always subordinate to the archdeacon. At the present day, in the Roman Catholic Church, the powers and duties of rural deans vary considerably from country to country, and even from diocese to diocese, being restricted in some cases to presiding at the monthly conference of the clergy. In the Church of England the office fell into practical abeyance at the Reformation, but was revived about the middle of the 19th century; rural deans may act as deputies to the bishop and archdeacon, and are supposed in particular to see that the churches and parsonages within their district are in proper repair.

The title "dean of the sacred college" is borne by the oldest (in standing, not in age) of the cardinal-bishops, who takes the title of bishop of Ostia and Velletri. Perhaps the use of the word 'dean,' as signifying the oldest member of any corporation or body of men may be derived from its application to dignity. The dean of the sacred college is in the ecclesiastical hierarchy second to the pope alone. A compendious account of his privileges and special functions may be found in the work of G. Moroni, vol. xix p 166.

There are four sorts of deans of whom the law of England takes notice (1) The dean and chapter are a council subordinate to the bishop, assistant to him in matters spiritual relating to religion and in matters temporal relating to the temporalities of the bishopric. The dean and chapter are a corporation, and the dean himself is a corporation sole. Deans are said to be either of the old or of the new foundation—the latter being those created and regulated after the dissolution of the monasteries by Henry VIII. The deans of the old foundations before the Ecclesiastical Commissioners Act, 1841, were elected by the chapter on the king's *congé d'élire*, those of the new foundation (and, since the act, of the old foundation also) are appointed by the king's letters patent. It was at one time held that a layman might be dean, but since 1662 priest's orders are a necessary qualification. By the act of 1841 the dean is required to be in residence eight months, and the canons three months, in every year. The bishop is visitor of the dean and chapter (2) A dean of peculiars is the chief of certain peculiar churches or chapels. He hath no chapter, yet is presentative, and hath cure of souls, he hath a *peculiar*, and is not subject to the visitation of the bishop of the diocese. The only instances of such deaneries are Battle (Sussex), Bocking (Essex) and Stamford (Rutland). The deans of Jersey and Guernsey have similar status. (3) The third dean hath no cure of souls, but hath a court and a *peculiar*, in which he holdeth plea and jurisdiction of all such ecclesiastical matters as come within his peculiar. Such is the dean of the arches, who is the judge of the court of the arches, the chief court and consistory of the archbishop of Canterbury, so called of Bow Church, where this court was ever wont to be held." (See ARCHES, COURT OF) The parish of Bow and twelve others were within the peculiar jurisdiction of the archbishop in spiritual causes and exempted out of the bishop of London's jurisdiction. They were in 1845 made part of the diocese of London. (4) Rural deans (see above) are clergymen whose duty is described as being "to execute the bishop's processes and to inspect the lives and manners of the clergy and people within their jurisdiction" (See Phillimore's *Ecclesiastical Law*)

The bishop of London is *ex officio* dean of the province of Canterbury, and in that capacity summons the bishops of the province to Convocation. In the colleges of the English universities one of the fellows usually holds the office of "dean," and is specially charged with the discipline, as distinguished from the teaching functions of the tutors. In some universities the head of a faculty is called "dean", and the president of the Scottish Faculty of Advocates is called the Dean of Faculty. In each of these cases the word is used in a non-ecclesiastical and purely titular sense.

**DEAN, FOREST OF**, a district in the west of Gloucestershire, England, between the Severn and the Wye. It is oval in form, 20 m. long and 10 m. wide, and still retains its true forest character. The surface is undulating, its elevation ranging from 100 to 200 ft. The forest was a royal forest of Charles I. the forest was granted it to Sir John

Wyntour for £10,000, and a tee farm rent of £2,000. The grant was cancelled by Cromwell, but at the Restoration only 30,000 trees were left and Wyntour having got another grant, destroyed most of these. In 1680 an Act was passed to enclose 11,000 acres and plant with oak and beech for supply of the dockyards, and the present forest has six 'walks' covered with timber in various stages of growth.

The forest is locally governed by two Crown-appointed deputy gavellers to superintend the woods and mines. There still remain quaint mining and forest laws. The forest laws were administered at the Speech house, a 17th century building in the forest, where the verderers' court is still held. The district contains coal and iron mines, and quarries of building stone, which fortunately hardly minimize its natural beauty. Near Coleford and Westbury pit workings of the Roman period have been discovered, and the Romans drew supplies of iron from this district. The scenery is especially fine in the high ground bordering the Wye (qv), opposite to Symond's Yat above Monmouth, and Tintern above Chepstow. St Briavel's castle, above Tintern, is a moated castle, of which the north-west front remains, standing in a magnificent position high above the Wye.

**DEANE, RICHARD** (1610-1653) British general-at-sea, major-general and regicide, was a younger son of Edward Deane of Temple Guiting or Guyting in Gloucestershire, where he was baptized July 8, 1610. In 1644 he held a command in the artillery under Essex in Cornwall and took part in the surrender after Lostwithiel. Essex (*Letter to Sir Philip Stapleton*, Rushworth Collection) calls him "an honest, judicious and stout man," an estimate of Deane borne out by Clarendon's "bold and excellent officer" (book xiv cap 27), and he was one of the few officers concerned in the surrender who were retained at the remodelling of the army. Appointed comptroller of the ordnance, he commanded the artillery at Naseby and during Fairfax's campaign in the west of England in 1645. In May of that year Deane was appointed lieutenant of artillery to Cromwell in Ireland. Cromwell refused thus to be put out of the way, and Deane followed his example. He commanded Cromwell's right wing at Preston (Aug 17-19 1648) and on the entry of the army into London accompanied him to the consultations as to the "settlement of the Kingdom" with Lenthall and Sir Thomas Widdrington, the keeper of the great seal. He was one of the commissioners for the trial of Charles I. and a member of the committee which examined the witnesses. He signed the death warrant.

In 1649 the office of lord high admiral was put into commission. The first commissioners were Edward Popham, Robert Blake and Deane, with the title of generals-at-sea. Deane's command at sea was interrupted in 1651, when as major-general he took part in the battle of Worcester, and then acted as president of the commission for the settlement of Scotland, with supreme command of the military and naval forces. In 1653 Deane was with Blake in command at the battle off Portland. At the outset of the battle off the North Foreland (June 1-3, 1653) Deane was killed. He was buried in Henry VII's chapel at Westminster Abbey, to be disinterred at the Restoration.

See J. Bathurst Deane, *The Life of Richard Deane* (1870)

**DEANE, SILAS** (1737-1789), American diplomat, was born in Groton, Conn., on Dec. 24, 1737. He graduated at Yale in 1758 and in 1761 was admitted to the bar. From 1774 to 1776 he was a delegate from Connecticut to the continental congress. Early in 1776 he was sent to France by Congress, as a secret agent to induce the French Government to lend its financial aid to the colonies. Subsequently he became, with Benjamin Franklin and Arthur Lee, one of the regularly accredited commissioners to France from Congress. On arriving in Paris, Deane secured the shipment of many vessel loads of arms and munitions of war to America. He also enlisted the services of a number of Continental soldiers of fortune, among whom were Lafayette, Baron Johann De Kalb and Thomas Conway. His carelessness in keeping account of his receipts and expenditures led, in 1777, to his recall to face charges. Before returning to America, however, he signed on Feb. 6, 1778 the treaties of amity and commerce and of alliance which he and the other commissioners had successfully

... was known to ... The publication of ... in *Rivington's Royal Gazette* in New York ... Dearborn declared his belief that the struggle for independence was hopeless and counseled a return to British allegiance ... He died on shipboard ... on Sep. 23, 1753, after having embarked for America on a Boston packet. No evidence of his dishonesty was ever discovered and Congress recognized the validity of his claims by voting \$5000 to his heirs in 1842. He published his defense in *An Address to the Free and Independent Citizens of the United States of North America* (Hartford, Conn., and London, 1754).

See *The Correspondence of Silas Deane* published in the Connecticut Historical Society's *Collections*, vol. 3, and *The Deane Papers in the New York Historical Society's Collections* (1937-50). See also Winsor's *Narrative and Critical History*, vol. vii, chap. 1; Wharton's *Revolutions: Diplomatic Correspondence of the United States* (1889), and G. L. Clark, *Silas Deane: A Connecticut Leader in the American Revolution* (1913).

**DEARBORN**, a city of Wayne county, Michigan, U.S.A., 10 m. W. of Detroit, on the Michigan Central railroad. The population was 1470 in 1900 and was estimated locally at 10,000 in 1928. It is a residential suburb, the Detroit terminus of the Ford car service, and the home of Henry Ford, who was born on a farm near the city. Ford restored the farm to its early appearance, and planned (1928) to build at Dearborn a "museum village" of old buildings collected from all parts of the United States and from England.

**DEATH**, the permanent cessation of the vital functions in the bodies of animals and plants, the end of life or act of dying. The word is the English representative of the substantive common to Teutonic languages, as "dead" is of the adjective, and "die" of the verb; the ultimate origin is the pre-Teutonic verbal stem *da-*; cf. Ger. *Tod*, Dutch *dood*, Swed. and Dan. *død*.

For the scientific aspects of the processes involved in life and its cessation see **BIOLOGY**, **PHYSIOLOGY**, **PATHOLOGY**, and allied articles, and for the consideration of the prolongation of life see **LONGEVITY**. Here it is only necessary to deal with the more primitive views of death and with certain legal aspects.

**Ethnology**.—To the savage, death from natural causes is inexplicable. At all times and in all lands, if he reflects upon death at all, he fails to understand it as a natural phenomenon. If a man dies without being wounded he is considered to be the victim of the sorcerers and the evil spirits with which they consort. Throughout Africa the death of anyone is ascribed to the magicians of some hostile tribe or to the malicious act of a neighbour. A culprit is easily discovered either by an appeal to a local diviner or by torturing some one into confession. In Australia whenever a native dies, no matter



FROM A WOODCUT BY HANS HOLBEIN THE YOUNGER  
SIXTEENTH CENTURY PORTRAYAL OF DEATH

how evident it may be that death has been the result of natural causes, it is at once set down that the defunct was bewitched. Even to-day the peasantry of many European countries believe that all disease is the work of demons. Sleep and trance are regarded as the temporary, death as the permanent, absence of the soul regarded as the vital principle, as the moral principle and as the intellectual principle. It may be diffused all through the body but can be concentrated in one part (e.g., the heart). It inheres in each individual and is not transmissible by clippings and for safety may

The soul is pictured as a man's breath (*anima*), and the word 'breath' has become a synonym for life itself. The phrase 'last breath' expresses the savage belief that there departs from the dying in the final expiration a something tangible capable of separate existence—the soul. Myths account for its origin. Sometimes it is a 'tabu' which has been broken and gives Death power over man. In India Yama, the god of Death, the first man, married his sister and thereby violated the fundamental law of exogamy, breach of which to this day in many cases still entails actual as well as civil death. In other myths men were destined by Divine Mercy to be immortal but the messenger of the glad tidings failed or erred.

See Sir J. G. Frazer, *The Belief in Immortality*, vol. 1 (1913), *The Golden Bough* (*Perils of the Soul*).

**REGISTRATION**

**Legal Requirements**.—The registration of burials in England goes back to the time of Thomas Cromwell, who in 1538 instituted the keeping of parish registers. Statutory measures were taken from time to time to ensure the preservation of registers of burials, but it was not until 1836 (the Births and Deaths Registration Act) that the registration of deaths became a national concern. The law for England was consolidated by the Births and Deaths Registration Acts 1874 and 1906. Under the former act the registration of every death and the cause of the death is compulsory. When a person dies in a house information of the death and the particulars required to be registered must be given within five days of the death to the registrar to the best of the person's knowledge and belief by one of the following persons—(1) The nearest relative of the deceased present at the death, or in attendance during the last illness of the deceased. If they fail, then (2) some other relative of the deceased in the same sub-district (registrar's) as the deceased. In default of relatives (3) some person present at the death, or the occupier of the house in which, to his knowledge, the death took place. If all the above fail, (4) some inmate of the house, or the person causing the body of the deceased to be buried. The person giving the information must sign the register. Similarly also, information must be given concerning death where the deceased dies not in a house.

Where written notice of the death, accompanied by a medical certificate of the cause of death, is sent to the registrar, information must nevertheless be given and the register signed within 14 days after the death by the person giving the notice or some other person as required by the act. Failure to give information of death, or to comply with the registrar's requisitions, entails a penalty not exceeding 40 shillings, and making false answers to any question put by the registrar relating to the particulars required to be registered, or making false statements with intent to have the same inserted in the register, is punishable either summarily with a penalty of £10, or, on indictment, with penal servitude for seven years, or with imprisonment for two years with or without hard labour.

The registrar, upon registering the death, must forthwith give to the person giving the information a certificate under his hand that he has registered the death, but where he has received written notice of the death, accompanied by a medical certificate of the cause of death he may, before registering the death and subject to such conditions as may be prescribed, give to the person sending the notice, if required to do so, a certificate under his hand that he has received notice of the death.

The body of the deceased cannot be disposed of before the certificate of the registrar, or order of the coroner, has been delivered to the person effecting the disposal, i.e. the person by whom the register of burials in which the disposal is to be registered is kept, or, in the case of a burial in a churchyard or graveyard of a parish or ecclesiastical district under the Burial Laws Amendment Act 1880, the relative friend, or legal representative who is responsible for the burial of the deceased. Where, however, the disposal is by burial, the person effecting the disposal may proceed with the burial if satisfied by a written declaration in written form by the person procuring the disposal that a certificate or order has been issued. The person effecting the dis

possession within 96 hours of the disposal, and the registrar in the prescribed manner as to the date, place and means of disposal. The registrar on the expiration of the prescribed period after the issue of a certificate by him or of a coroner's order, if no notification as aforesaid has been previously received by him, must make inquiry of the person to whom the certificate or order was given, and such person must give information to the best of his knowledge and belief as to the person having the custody of the certificate or order, the place where the body is lying, or, if disposed of, the person effecting the disposal.

It is the duty of the father or mother of a still-born child to give information to the registrar of the particulars required to be registered concerning the still-birth. Upon doing so, he or she must either (1) deliver to the registrar a written certificate that the child was not born alive, signed by a registered medical practitioner or certified midwife who was in attendance at the birth or who has examined the body, or (2) make a declaration in prescribed form to the effect that no such practitioner or midwife was present at the birth, or has examined the body, or that his or her certificate cannot be obtained and that the child was not born alive.

The registration of deaths at sea is regulated by the Births and Deaths Registration Act 1874 together with the Merchant Shipping Act 1894.

Death can be proved by the production of a certified copy of the entry in the register of birth and deaths, which is evidence not only of the fact of death, but also of the date of death, the sex, rank or profession of the dead person, and the cause of death.

**Presumption of Death.**—The fact of death may, in English law, be proved not only by direct but by presumptive evidence. When a person disappears and is not heard of for seven years, the presumption of law arises that he is dead (*Nepean v. Doe*, 1837, 2 M. & W. 894). In Scotland by the Presumption of Life (Scotland) Act 1891, the presumption is statutory. In those cases where people disappear under circumstances which create a strong probability of death, the court may, for the purpose of probate or administration, presume the death before the lapse of seven years (see *In the Goods of Matthews*, 1898, p. 17). The question of survivorship, where several persons are shown to have perished by the same calamity, has been much discussed. It was at one time thought that there might be a presumption of survivorship in favour of the stronger party. But it is now clear that there is no such presumption, the question is one of fact depending wholly on evidence, and, if the evidence does not establish the survivorship of any one, all must be taken to have died at the same moment (*Wing v. Angrave*, 1800, 8 H. L. Cas. 183). This rule has been applied by the court of probate where husband and wife were both killed in a railway accident, and the bodies were found two hours afterwards, and administration was granted to their respective next of kin (*In the Goods of Wheeler*, 1861, 31 L. J. P. M. & A., 40), so also where husband and wife were proved to have been on board a ship which was supposed to have been lost at sea (*In the Goods of Alston*, 1892, p. 142).

**Civil Death** is an expression used in law in contradistinction to natural death. Formerly, a man was said to be dead in law (1) when he entered a monastery and became professed in religion, (2) when he abjured the realm; (3) when he was attainted of treason or felony. Since the suppression of the monasteries there has been no legal establishment for professed persons in England, and the first distinction has therefore disappeared, though for long after the original reason had ceased to make it necessary grants of life estates were usually made for the terms of a man's natural life. The act abolishing sanctuaries (1623) did away with civil death by abjuration; and the Forfeiture Act 1870, that on attainder for treason or felony.

For the statistics of the death-rate of Great Britain as compared with that of the various European countries see GREAT BRITAIN. See also ANNUITY, CAPITAL PUNISHMENT, CREMATION; INSURANCE, ARTICLES ON; MEDICAL JURISPRUDENCE, etc.

#### THE UNITED STATES

**Legal Registration.**—It is generally provided that the State department of health shall have charge of the registration of

deaths shall provide the necessary forms and blanks for obtaining and preserving such records, and shall procure the faithful registration of each death. For this purpose the States are as a general rule divided into registration districts sometimes called vital statistics registration districts, in each of which there is a registrar charged with the registration of births and deaths. In Massachusetts and in some other States this duty is imposed upon each town clerk.

It is provided by statute in most States that the body of any person whose death occurs in the State shall not be buried, cremated, deposited in a vault or otherwise disposed of or removed from or into any registration district, or be temporarily held pending further disposition, more than 72 hours after death unless a permit for burial, removal or other disposition shall have been properly issued by the registrar of the district. Whenever it is practicable, no such burial or removal permit shall be issued by any registrar until a complete and satisfactory certificate of death has been filed with him. If, however, a dead body is transported from one State into a district in another State, the transit or removal permit issued in accordance with the law of the place of death has the force of a burial permit. It is frequently required that the certificate of death shall be of the standard form recommended by the United States Bureau of the Census and adopted by the American Public Health Association and shall contain—(1) the place of death, including the State, county, township, village or city, (2) the full name of the decedent. If an unnamed child, the surname preceded by "unnamed", (3) sex and colour or race—as white, black, mulatto, Indian, Chinese, Japanese, etc.; (4) conjugal condition whether single, married, widowed or divorced; (5) place and date of birth, including year, month and day; (6) age in years, months and days; (7) name of father and maiden name of mother; (8) birth-place of mother; (9) occupation; (10) signature and address of informant, (11) date of death year, month and day; (12) statement of medical attendance on decedent, fact and time of death, including time last seen alive, (13) cause of death, (14) signature and address of physician or official making medical certificate, (15) place and date of burial or removal; (16) signature and address of undertaker, (17) official signature of registration with date when certificate was filed and registered number.

The personal statistical particulars should be authenticated by the signature of the informant, who should be the nearest of kin or other competent person acquainted with the facts. The statement of the facts relating to the disposition of the body shall be signed by the undertaker. The medical certificate shall be made and signed by the legally qualified physician if any, last in attendance on the deceased. The cause of the death must generally be stated so as to show the disease or sequence of causes resulting in the death.

In regard to the registration of still-born children, in some jurisdictions the law provides that the child shall be registered as a birth and also as a death, and separate certificates of birth and death shall be filed with the registrar; in others, the still-born child is merely registered as a death. A certificate is not required for a child that has not advanced to the fifth month of inter-gestation.

If a death occur without medical attendance, it is the duty either of the undertaker or other person who learns of the death to notify the local health officer. The latter immediately investigates and certifies the cause of death. If however, he has reason to believe that the death may have been due to unlawful act or neglect, he refers the case to the coroner for his investigation and certification. The undertaker must file the certificate of death with the local registrar, and obtain a burial or removal permit prior to any disposition of the body, which he delivers to the person in charge of the place of burial.

**Presumption of Death.**—The fact of death may, as a general rule, be proved by presumptive evidence. An unexplained absence of seven years at common law raised a presumption of death. This is still the period in most jurisdictions in this country, though a few have by statute adopted a shorter period, e.g., five years in Arkansas, and five years in Indiana for the sole purpose of

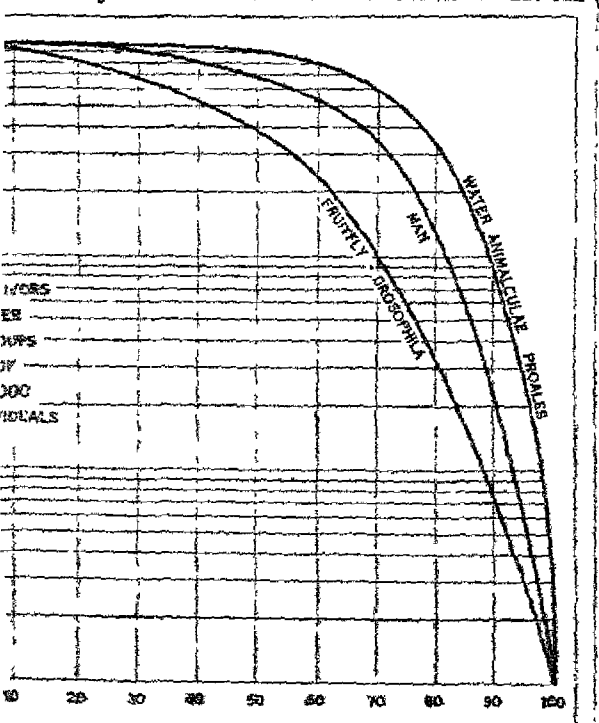
# DEATH

The Cycle of Life In the cycle of individual life as outlined, the most significant phases biologically are obviously (b) growth and (d) senescence. Phases (a) and (e) (fertilization and death) are the terminal events of the important periods (L) and (N). Phase (c) is transitional between (b) and (d), and may be wholly absent as when obvious senescent changes follow immediately upon the cessation of obvious growth. Indeed it is doubtful if phase (c) has theoretically any place in the life-cycle at all. Perhaps in cases where a stable adult plateau in the middle of the cycle seems to exist it merely means that the changes of growth or of senescence are proceeding at too slow a rate to be observable by the relatively crude methods available.

**Senescence and Death.**—The special problem of the biology of death is the analysis and elucidation of phases (d) and (e) of the life-cycle, senescence and death. As a result of investigations in this special field of general biology certain broad generalizations are now possible. The more important of these will now be discussed.

**Time Duration.**—The time duration of the entire individual life-cycle varies enormously, both between different forms of life, species, genera, families, etc. and also between different individuals belonging to the same species. Thus the maximum duration of life of the rotifer, *Procladius decipiens*, is eight days (Noyes). At the other extreme there are other authentic records of individual reptiles living to as much as 175 years, and of individual birds and mammals living to well over 100 years.

**Zoological Groups.**—The differences between distinct groups of animals (species, genera, families, etc.) in respect to the length of the life-span stand in no generally valid, orderly relationship to any other broad fact now known in their structure or life-history. In spite of many attempts to establish such relationships every one so far suggested has been upset by well-known facts of natural history. Thus it has been contended that the duration of an animal's life is correlated with its size, in the sense that the larger the animal the longer its life. But plainly this has no general validity. Men and parrots are smaller than horses, but have life-spans of much greater length.



**SURVIVAL RATES FOR MAN, A FRUIT FLY (DROSOPHILA) AND MALCULLA (PROCLADIUS) AT CORRESPONDING AGES**

Figures are the biologically equivalent life spans represented as divided into 100 units.

It is to be noted definitely in the next phase of the cycle, the period of senescence. The intensity of senescence is relative and varies in the different forms of life. The duration of the life-cycle varies greatly, but the rate of senescence is relatively constant in the terminal phase of the life-cycle, which is estimated the same for all.

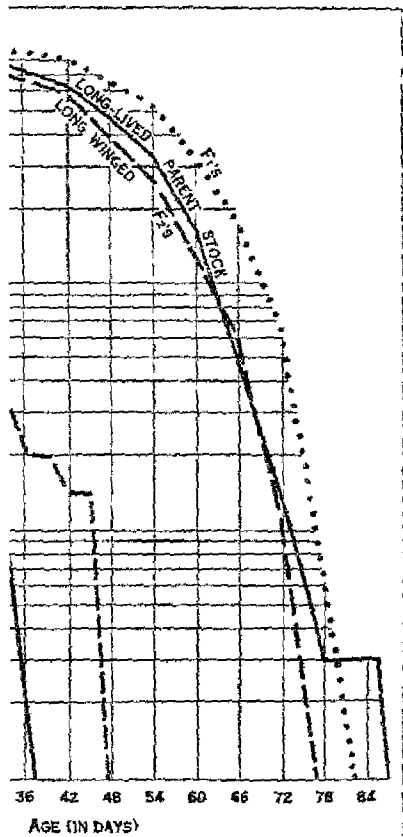
**Individual Differences.**—The differences between individuals of the same species in the duration of their lives are distributed in a lawful and orderly manner in marked contrast to the apparently haphazard character of the inter-group variation in length of life-span just discussed. The individual variation in the duration of life is capable of exact mathematical description and, indeed, its treatment constitutes a special branch of mathematics, known as actuarial science. It has been shown by R. Pearl and his students that if the life of different animals, such as the rotifer, *Procladius*, the fly, *Drosophila*, various other insects and man, be measured not in absolute time-units of years or days, but in terms of a relative unit, namely a hundredth part of the biologically equivalent portions of the life-span in the several cases, then the distribution of individual variation in duration of life or the distribution of mortality in respect to age, or, in short, the life-curve, is quantitatively similar in these widely different forms of life almost to the point of identity. This is illustrated in fig. 1.

These facts suggest that the observed differences between individuals in duration of life are primarily the result of inborn differences in their biological constitutions (their structural and functional organizations) and only secondarily to a much smaller degree the result of the environmental circumstances in which their lives are passed.

**Inheritance.**—This inference is supported by the further fact that the differences between individuals which find expression in varying degrees of longevity, or duration of life, are definitely inherited. This has been demonstrated statistically for man by Karl Pearson, Alexander Graham Bell, R. Pearl and others. It has been proved experimentally by cross-breeding long-lived and short-lived strains of the fruit fly *Drosophila melanogaster* (Hyde, Pearl and his students, Parker and González). The results of such an experiment are shown in fig. 2.

In the first generation (F<sub>1</sub>) from such a cross the progeny exhibit a life-curve essentially like that of the long-lived parent stock, but with a slightly greater average duration. If now these

er *inter se* there are produced in the ( $F_2$ ) two kinds of individuals, one of life-curve like the original long-lived (short-winged) resembles in duration of parent stock. In addition to these lines it has been shown that there is a population of wild *Drosophila* in-



VITALITY IS INHERITED AMONG FRUIT FLIES REPRODUCED WITH A SHORT-LIVED STOCK. The dotted line,  $F_1$ 's, is longer lived than either parent and produces progeny of two kinds ( $F_2$ 's), a long-lived and a long-winged, which is long-lived and thus seen to hold, in the case of these flies, the inheritance to behave like a definitely inheritable

and permanent innate differences in conclusion that individual differences in vitality are an expression of hereditary differences firmly established.

**Hereditary Immortality.**—Neither senescence nor natural death is a necessary consequence or attribute of life, but a relatively new thing, which made its appearance among organisms had advanced a long way. The evidence supporting this conclusion may be considered under several heads. (1) Protozoa, *q. v.* prove, under various conditions, to be, in a certain sense, immortal. (2) In the case of simple fission of the body, one individual is always leaving behind in the process nothing. The brilliant work of Woodruff and his associates demonstrated that this process may be interrupted by permanent slacking of the rate of senescence, and without the intervention of such a process as conjugation or encystment of the cells is kept favourable. (3) In sexually differentiated organisms are, in fact, reduced to a formula we may say that the germ cells produce a soma and more or less eventually dies. Some of the germ cells are somata and germ cells, and so on in fact is never yet ended since the appearance of man on the earth. (4) In some of the

most lowly-organized groups of many-celled animals or Metazoa, the power of multiplication by simple fission, or budding off of a portion of the body which reproduces the whole, is retained. This asexual, or agamic, mode of reproduction occurs as the usual but not exclusive method in the three lowest groups of multicellular animals, the sponges, flatworms and coelenterates. More rarely it may occur in other of the lower invertebrates.

So long as reproduction goes on in this way in these multicellular forms there is no place for death. In the passage from one generation to the next no residue is left behind. Agamic reproduction and its associated absence of death also occur commonly in plants. Budding and propagation by cuttings are the usual forms in which it is seen. The somatic cells have the capacity of continuing multiplication and life for an indefinite duration of time, so long as they are not accidentally caught in the breakdown and death of the whole individual in which they are at the moment located. (d) There is some evidence that in certain fish there is no occurrence of senility or natural death, but that instead the animal keeps on growing indefinitely, and would be immortal except for accidental death. The animal soma in such cases behaves like the root stock of a perennial plant. (For further discussion of this line of evidence see interesting correspondence by Geo. P. Bidder in *Nature*, vol. cxv, 1925, *passim* and M. A. C. Hinton's monograph of the *Voles and Lemmings* (British Museum 1926), in which it is concluded that voles of the genus *Arvicola* "are animals that never stop growing and never grow old."

(e) The successful cultivation *in vitro* of the tissues of higher vertebrates, even including man himself, over an indefinitely long period of time, demonstrates that senescence and natural death are in no sense necessary concomitants of cellular life. Carrel and Ebeling by transferring the culture at frequent intervals into fresh nutrient medium, have kept alive and in perfectly normal and healthy condition a culture of tissue (see *Tissue Culture*) from the heart of a chick embryo for more than 15 years, *i. e.*, for much longer than the normal life-span of the fowl. There is every reason to suppose that, by the continuation of the same technique, the culture can be kept alive indefinitely. The experimental culture of cells and tissues *in vitro* has now covered practically all of the essential tissue elements of the metazoan body, even including some of the most highly differentiated of those tissues. Nerve cells, muscle cells, heart muscle cells, spleen cells, connective tissue cells, epithelial cells from various locations in the body, kidney cells and others have all been successfully cultivated *in vitro*.

**Potential Immortality.**—It may fairly be said that the potential immortality of all essential cellular elements of the body either has been fully demonstrated, or has been carried far enough to make the probability very great, that properly conducted experiments would demonstrate the continuance of the life of these cells in culture to any indefinite extent. It is not to be expected, of course that such tissues as hair or nails would be capable of independent life, but these are essentially unimportant tissues in the animal economy, as compared with those of the heart, the nervous system, the kidneys, etc. Generalizing from results of tissue culture work of the last two decades, it is highly probable that all the essential tissues of the metazoan body are potentially immortal, when placed separately under such conditions as to supply appropriate food in the right amount, and to remove promptly the deleterious products of metabolism.

**Death Among Multicellular Animals.**—A fundamental reason why the higher multicellular animals do not live forever appears to be that in the differentiation and specialization of function of cells and tissues in the body as a whole, any individual part does not find the conditions necessary for its continued existence. In the body any part is dependent for the necessities of its existence, as for example nutritive material, upon other parts, or put in another way, upon the organization of the body as a whole. It is the differentiation and specialization of function of the mutually dependent aggregate of cells and tissues which constitute the metazoan body that brings about death, and not any inherent or inevitable mortality in the cells.

When cells show characteristic

changes it is perhaps

... progressive process inherent in heredity. In other words, in the light of present knowledge it seems necessary to regard senescence in part at least as a phenomenon of the multicellular body as a whole resulting from the fact that it is a differentiated and integrated protoplasmic and dynamic organization. This phenomenon is reflected invariance in the component cells. But it apparently does not primarily originate in any particular cell because of the fact that the cell is old in time or because that cell in and of itself has been older for ages it occurs in the cells when they are removed from the mutually dependent relationship of the organized body as a whole and given appropriate physico-chemical conditions. In short, senescence appears, in the present state of knowledge not to be a primary or necessary attribute to the physiological economy of individual cells as such, but rather of the body as a whole.

**Times of Death.**—The different organ-systems of the body have characteristic times of breaking down and leading to death. These differences probably represent in considerable part different innate degrees of organic fitness of the different tissues and organs, and also in part the degree of exposure of the different organ systems to environmental stresses and strains. The following table based upon mortality returns of the United States Registrar Area in 1920 illustrates these differences. The figures tabulated are (a) the mean or average age at death, and (b) the median age at death that is, the age so chosen that the same number of deaths occur below this age as the number occurring above it.

Deaths due primarily to organ breakdown or failure of	Mean age at death (years)		Median age at death (years)	
	Male	Female	Male	Female
1. Alimentary tract and associated organs of digestion	23.54 ± .06	28.24 ± .07	4.98 ± .08	14.93 ± .09
2. Respiratory system	32.14 ± .05	34.57 ± .06	37.80 ± .07	28.24 ± .08
3. Skeletal and muscular system	35.09 ± .20	37.05 ± .32	35.02 ± .36	35.06 ± .41
4. Endocrinal system	44.17 ± .82	44.15 ± .30	45.45 ± 1.03	43.42 ± .46
5. Skin	46.72 ± .34	42.45 ± .46	53.47 ± .43	48.06 ± .58
6. Sexual system	47.37 ± .32	42.47 ± .08	57.96 ± .40	40.88 ± .11
7. Nervous system	40.11 ± .08	51.56 ± .09	54.64 ± .10	60.29 ± .12
8. Circulatory system and blood	54.50 ± .07	51.25 ± .08	62.04 ± .09	62.14 ± .09
9. Excretory system (kidneys and associated organs)	57.64 ± .07	54.24 ± .09	61.37 ± .09	57.50 ± .11

There are thus wide differences in the time of breakdown of the different organ-systems, as reflected in mortality. The alimentary tract, on the average, "wears" rather less than half as long as the excretory system. The two organ systems which stand at the head of the list as leading earliest to death by their breakdown are the two (alimentary tract and respiratory system) which are in direct contact with external environmental agents (food and air) throughout life. The two which stand at the bottom of the list (the circulatory and excretory systems) practically never come into direct contact with the external environment.

**Rejuvenation.**—In recent years numerous attempts have been made to achieve "rejuvenation" (g.v.) of the aging body and to lengthen the span of life by various surgical alterations of certain endocrinal organs, particularly the essential organs of sex. Nevertheless, whatever may be the immediate physical and psychological effects of such procedures, there is as yet no convincing evidence that they alter the expectation of life of the individual.

**Senescence.**—Many theories of senescence have been advanced. No one of them can be regarded as entirely satisfactory, or as

being based by the dependence of the phenomenon from the general direction of setting up some particular observed attribute or element of the phenomenon of senescence itself such as protoplasmic hysteresis, slowing rate of metabolism (meaning essentially only reduced activity) etc., as the cause of the whole. More experimental work on the problem is essential, in particular in the direction of producing at will, and under control the objective phenomenon of senility irrespective of the age of the organism and conversely preventing the appearance of these phenomena in old animals.

**BIBLIOGRAPHY.**—The literature on the subjects treated in this article is widely scattered in biological, medical and statistical journals and separate treatises. The following books summarize the field, and will serve to introduce the reader to the detailed literature: C. M. Child, *Senescence and Rejuvenescence* (1918); E. Korschelt, *Lebensdauer, Alter und Tod* (1922); R. Pearl, *The Biology of Death* (1922); T. Bradisford Robertson, *The Chemical Basis of Growth and Senescence* (1923); R. Pearl, *Studies in Human Biology* (1924); *The Rate of Living* (1928) (R. Pl.)

**DEATH-RATE.** This rate is usually expressed in terms of the number of deaths occurring annually in each 1,000 of the population under review. Thus if, in a given year the deaths in a population of one million numbered 14,700, the death rate for that year would be 14.7.

**Crude Death-rate.**—The rate thus obtained is known as the crude death-rate, and is a positive measure of the forces of mortality which are actually operative at the time in the particular population to which it relates. The incidence of mortality is not however, equally distributed over the whole span of human life. It is highest at the two extremes in infancy and in old age, and further, in many countries the mortality of males is greater than that of females. It will be seen, therefore, that a population having an excessive number of the very young or of the very old would naturally have a higher crude death-rate than one more favourably constituted as to age. The crude death-rate is, therefore, not a sound basis for comparing the relative mortality of a given area with that of other areas, or even with its own if, in the course of time, changes in its age constitution have come about.

**Standardized Death-rate.**—To enable such comparisons to be made, what are termed standardized death-rates are largely used. These are obtained by working out what the death-rate would have been if the population under review had been constituted as to age and sex on some fixed proportions. Thus in England and Wales the standard population used for this purpose is that which was actually recorded at the Census of 1901. The standardized death-rate thus obtained gives us a better standard for comparison than does the crude death-rate. It is, however, not free from objection, for the rate will vary according to the constitution of the standard population used, as with the ratios between any two standardized death-rates. For the comparison of death-rates the one and only safe method to employ is to use the rates for the different age and sex groups.

**Incidence.**—The incidence of mortality is affected in varying degrees by age, sex, climatic conditions, race and occupation. It is exceptionally high at the beginning of life, the mortality among newly-born infants in England and Wales being almost as heavy in the first four weeks as in the following 11 months. The following were the death-rates for persons in England and Wales at various age-groups in 1926—

Under 5	5-10	10-15	15-20	20-25	25-35
21.1	2.4	1.5	2.4	3.0	3.5
35-45	45-55	55-65	65-75	75-85	over 85
5.3	9.5	20.2	49.7	117.7	263.4

From this it will be seen that, while at the ages 10 to 15 only 15 out of every 10,000 died in 1926, the deaths among 10,000 aged 85 and upwards were 2,634. In most countries the male death-rate exceeds that of females. The latter survive the initial shock of birth better and are endowed with a more persistent vitality. Moreover, the fact that the dangerous occupations are pursued mainly by men, tends to increase the mortality of the latter. In 1926 the death-rates for males in England and Wales were higher than those for females at every age group except that from 10 to 15 years at which the rates were equal. In the first



# DEATH-RATE

England and Wales	Scotland	France	Germany	Italy	Netherlands	Norway	Sweden	Switzerland	Australia	New Zealand
10.0	17.9	20.1	26.3	28.8	13.5	15.0	10.6	24.3	17.6	12.2
13.8	15.5	17.7	15.0	18.7	12.4	13.2	13.6	14.3	10.8	9.4
11.6	13.0	17.5	11.9*	16.8*	9.8	10.6	11.8	11.7	9.4	

\*(1925)

under 5 years) the male mortality was 24% higher than in the United States; then up to the age of 35 the difference was reduced; from 35 to 45 it was about 33%, falling slightly over 75. Other countries show similar results, as the death rates will illustrate.

Germany	Japan	Netherlands	U.S.A.
1925	1919	1925	1924
12.4	20.0	9.9	12.7
11.5	22.6	0.6	11.1

is dealt with more fully below.

Deaths are higher in tropical or semi-tropical countries than in the more temperate zones. Thus in 1926 the death-rate was 8.7 in New Zealand, 9.4 in Australia, 9.8 in the United States, 10.6 in Norway, 11.6 in England and Wales to 30.6 in Egypt (1925), 21.5 in Jamaica and 21.2 in the United States in influence of climatic conditions may be seen within a single country. For example, in England and Wales the death rates by quarters during the decennium 1911-20

Quarter ended	March 31	June 30	Sept 30	Dec 31
	17.2	13.6	11.8	15.0

for the first quarter being nearly 50% above that for the last. This seasonal incidence varies, of course, from country to country. In Egypt and Brazil, for example, the death-rate for the first quarter of the year and highest in the tropics. Taking the geographical divisions of the same country, it is found that in 1926 the death-rate in the northern part of England and Wales was 12.3, in the southern 11.6, in the midlands 11.1, in the governate of Cairo in Egypt 37.2, in the district of El Behra in Lower Egypt 17.2, in Rio de Janeiro in 1921 it was 19.6, in Recife 31.9. The death-rate is generally higher among non-European than among European races, as will be seen from the rates already given. This holds good where the races are living under similar climatic conditions. Thus in the United States while the death-rate in 1924 was 11.8, for the negro population it was 17.1, for Indians 25.0.

Statistics for occupational mortality must be accepted with reserve, owing to transference from one occupation to another and to the differing proportions at ages in them; but the differences in incidence are very marked. Taking the death-rates of all males in England and Wales, aged 15-65, whether employed or not, in the years 1920-22 as 100, that for clergymen was 56.1; for agricultural labourers 74; for Service officials and clerks 74; for other clerks 102; for miners (hewers and getters) it was 93.8 and for tin miners 32.7.

There is a marked variation between urban and rural mortality, but this is not the advantage being with the countryman in one country and with the townsman in another. In England and

Wales in 1926 the death-rate for the County Boroughs was 11.3; for the Rural Districts 11.3; but for Wales alone it was 11.3 for the County Boroughs and 12.1 in the Rural Districts. In the Netherlands the death-rate decreases with urbanization, while in towns, etc., with less than 5,000 inhabitants the death-rate in 1924 was 10.06 in those of from 5 to 20,000 it was 10.06, from 20 to 100,000 only 9.12; while in those with over 100,000 it fell to 8.79. In Sweden the urban death-rate in 1926 was 12.12. In Denmark on the other hand while the death-rate in Copenhagen in 1925 was 11.6 that for the rural area was 8.9. In Japan the rural is well above the urban rate.

**Decline of the Death-rate.**—One of the most striking features in the vital history of the European peoples has been the great decline in the death-rate, particularly during the last century. From such reliable statistics as are available, the recorded death-rates were those at the beginning of the century, but they are too sparse for purposes of comparison. However, an inquiry confined to the last 50 years will show what progress has been made. The table above shows the death-rates in a number of countries for the years 1876, 1913 and 1926.

Each country exhibits the same phenomenon in greater or lesser degree. For the United States the nearest comparable figures are for the years 1880 (19.8), 1900 (17.6), 1910 (15.0) and 1920 (11.8). During the last half century therefore the fall in the actual death-rate in these countries has been.

Country	1876	1913	1926
Germany	14.4	13.7	11.6
Netherlands	13.7	12.4	9.8
Switzerland	12.6	12.4	11.7
Italy	12.0	12.4	16.8
England & Wales	9.3	10.4	11.3
Australia	8.2	10.6	12.2
Scotland	7.0	11.1	13.8
New Zealand	7.8	11.1	13.2
Norway			12.2
France			10.8

It is obvious that a country like New Zealand with a death-rate of only 11.8 at the beginning of the period under consideration could not show so great a fall as the other countries. The percentage decline in the rate shows the following figures:

Country	Percentage Decline
Netherlands	58.3%
Germany	54.8%
Switzerland	51.8%
Australia	46.9%
England & Wales	44.4%
Italy	41.7%
Norway	41.0%
Sweden	40.4%
Scotland	39.6%
New Zealand	39.0%
France	38.9%

In the United States during 44 years the rate fell 80% from 19.8 to 11.8, a decline of 40.4%.

In three of the 12 countries here dealt with, the death-rate has fallen by over 50%, in five by over 40%, in two by over 30% and in the remaining two by over 20%. In each of these countries the decline during this century has been more marked than in the last century. There has been a remarkable levelling of the death-rate. In 1876 it ranged from 11.8 in New Zealand to 28.8 in Italy, a difference of 17.0, while in 1926 the rate ranged from 8.7 in New Zealand to 17.5 in France, a difference of 8.8. This notable decline, although not confined to Europe, does not appear to be universal. In Japan the death-rate in

### Males.

Under 5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75-85
68.1	6.4	3.6	5.4	7.4	9.3	14.0	10.4	34.4	66.3	143.1
59.0	4.0	2.3	3.5	4.7	6.2	10.6	18.0	33.5	67.8	139.8
23.3	2.5	1.5	2.5	3.1	3.7	6.1	11.1	23.3	56.8	132.7

### Females

Under 5	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75-85
57.0	6.0	3.7	5.3	6.8	8.3	11.7	15.2	28.3	58.4	127.4
49.5	4.1	2.4	3.2	3.8	5.3	8.7	13.8	26.5	56.5	122.6
18.8	2.3	1.5	2.4	2.9	3.3	4.6	8.2	17.4	43.9	108.0

DEATH VALLEY--DE BARY

Year	Percentage decrease of 1876															
	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	Over 80
1876	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1901	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
1926	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72	72
Total	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86

Year	Percentage increase of 1876															
	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	Over 80
1901	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112	112
1926	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138	138
Total	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125

\*Rates higher than in 1876

30-1 in 1924 21-1 in Jamaica in 1901 it was 11-1, in 1925 2-3, in Chile for the quinquennium 1901-05 it was 30-1, for 1910-20 it was 30-1. On the other hand for the period 1872-76 Rio de Janeiro had a death-rate of 40-1, while for 1917-21 it had fallen to 15-1.

Some idea of what these reductions in the death-rates mean may be gathered from the fact that, while the total deaths in England and Wales in 1921 were under 25,000, they would have been over 200,000 if the rate for 1876 had been maintained.

The decline has not been equally spread over the whole of life, nor has it been identical in the two sexes. The respective rates for males and females at age groups in England and Wales for the years 1876, 1901 and 1926 were as in table on p. 113.

The significance of these figures may be more easily apprehended by taking the 1876 rates and showing the percentage decrease in the 180 following quarter centuries. (See table above.)

From these tables several very interesting points emerge. In the first place, though the greatest gain has been in the first age-group it is over 50% for both sexes in every age group up to 35-45, and is quite considerable up to 55-65. It is rather greater for females than for males in every age-group except from 20 to 35, and is considerably greater at ages beyond 65. At ages 5 to 35 the gain was greater in the first period of 25 years, at ages 0-5 and 35 to 65 it was greater in the second period. In the first age-group the gain in the later period was nearly four times as great, and was almost equally marked at the age-groups 45 to 75.

How much further this arrest of mortality can be carried is a matter of conjecture but it is clear that the existing rates from 5 to 35 years leave little margin for diminution. (S. DE J.)

**DEATH VALLEY**, a depressed basin in Inyo county Calif. The name commemorates the fate of a party of "forty-niners" who perished here, by thirst or by starvation and exposure. The exceedingly arid Death Valley region lies immediately north of the Mojave desert and then stretches east from the Sierra Nevada mountains, covering a large part of Inyo county and extending into Nevada. The valley proper, which is some 50 m. long and on an average 30 to 25 m. broad from the crests of the enclosing mountain ranges, is below sea-level (276 ft.). This is the lowest point on the continent and in a direct line it is less than 80 m. E. of Mt. Whitney, 14,502 ft. high, the highest peak in the United States. The mountains about it are high and bare, and brilliant with varied colours. The Amargosa river, entering the valley through a deep canyon at the south disappears in the basin, leaving the surface crusted with white salts. The fact that this limited region is the final area of concentration for a very extensive drainage system is thought to explain the extent and supposed depth of the deposits of salt, borax and nitrate of soda found in the basin. Death Valley is one of the hottest regions in the world. The minimum daily temperature in summer is rarely below 70° F (in the shade), the maximum may, for days in succession, be as high as 120°, and the U.S. Weather Bureau has recorded an extreme of 134°.

See W. C. Mendelhall, "Some Desert Watering Places in South-eastern California and Southwestern Nevada," U.S. Geological Survey, 1904.

**DEATH-WARNING**, a term used in psychical research for an indication of the death of another person received by the subject through ordinary channels, i.e., by (1) a sensory impression, or (2) a direct intuition, both being of telepathic

origin. (See TELLPATHY.) Both among civilized and uncivilized peoples there is a widespread belief that the apparition of a living person is an omen of death, but until the Society of Psychical Research undertook the statistical examination of the question, there were no data for estimating the value of the belief. (See HALLUCINATION.)

**DEATH-WATCH**, a popular name given to insects of two distinct families which burrow and live in old furniture, and produce a mysterious ticking sound vulgarly supposed to foretell the death of an inmate of the house. The name is often applied to two small beetles *Xestobium rufovillosum* and *Anobium punctatum* (fam. Anobiidae) but belongs more properly to the former insect. The sound is a sexual call, and is produced by the beetle striking the front of the head upon the surface upon which it is standing. Certain book-lice (order Psocoptera) are sometimes known as lesser 'death-watches,' but the ability of such minute soft insects to produce audible sound is doubtful. The names *Atropis pulsatoria* and *T. actes divinatorius*, given to two of the common species, bear witness to the superstition regarding the fateful significance of the sound.

**DE BARY, HEINRICH ANTON** (1831-1888), German botanist, was born on Jan. 26, 1831, at Frankfurt-on-Main. He studied medicine at Heidelberg, Marburg and Berlin, and in 1853 settled at Frankfurt as a surgeon. In 1854 he became privat-docent for botany in Tubingen and professor at Freiburg in 1855, migrating to Halle in 1867, and in 1872 to Strasbourg, where he was the first rector of the University, and where he died on Jan. 29, 1888.

De Bary will be remembered as the founder of modern mycology, a science which he revolutionized by his celebrated *Morphologie und Physiologie d. Pilze*, etc., of 1866. His appreciation of the real significance of symbiosis and the dual nature of lichens is one of his most striking achievements. It is as an investigator of the then mysterious Fungi, however, that de Bary stands out. He not only laid bare the complex facts of the life-history of many forms; e.g., the Ustilagineae, Peronosporae, Uredineae and many Ascomycetes, but insisted on the necessity of tracing the evolution of each organism from spore to spore. One of his most fruitful discoveries was the true meaning of infection as a morphological and physiological process, which he traced in *Phytophthora*, *Cystopus*, *Puccinia* and other Fungi, and thereby demonstrated the significance of parasitism. He showed wherein lay the essential differences between a parasite and a saprophyte.

These researches led to the explanation of epidemic diseases, de Bary's contributions to which are well seen in his classical work on the potato disease in 1861. They also led to his discovery of *heterocystism* (or *metacystism*) in the Uredineae, the truth of which he demonstrated in wheat rust experimentally (1863). He described the phenomena of sexuality in Peronosporae and Ascomycetes—*Eurotium*, *Erysiphe*, *Pecis*, etc., and established the existence of parthenogenesis and apogamy on a firm basis. He did much work on the Chytridiae, Ustilagineae, Exoasceae and Phalloideae, as well as on the Myxomycetes; he contributed to algalogy in his monograph on the Conjugatae (1853), and investigated Nostocaceae (1863), *Chara* (1871), *Acetabularia* (1869), etc. In 1877 appeared his *Comparative Anatomy of Ferns and Phanerogams*, and in 1885 his *Lectures on Bacteria* (Eng. trans. 1887).

Memoirs of de Bary fe li be ound in Bo Cen abbl 888  
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 Re each th a i o hl yoris Bo Zet g 1889 o. xlvii  
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**DEBENTURES AND DEBENTURE STOCK:** see  
 COMPANY LAW; MORTGAGE

**DEBORAH**, the name of two women mentioned in the Old Testament (Heb for "bee"). (1) Foster-mother of Rebecca, buried under the 'Oak of Weeping' below Bethel (Gen xxxv 8). It has been suggested that this tree is connected with the "palmtree of Deborah," between Bethel and Ramah (Judges iv 5), the home of Deborah. (2) This latter is the famous prophetess and 'judge' who, in company with Barak, son of Abinoam, delivered Israel from a Canaanite oppression.

Two narratives of this exploit have been preserved, an account in prose in Judges v, and a descriptive poem in Judges vi. They differ in one or two important details. The most obvious contrast is in the identity of the enemy overthrown. The prose narrative makes the enemy Jabin, king of Hazor, though a prominent part is played by his commander-in-chief, Sisera, who lived at Harosheth-haggoyim. In the poem Jabin does not appear, and Sisera is an independent king. It is possible that the introduction of Jabin is due to the conflation of two traditions, one of which referred to Sisera, while the other was parallel to the story of the defeat of Jabin, king of Hazor, by Joshua (Josh xi 1-9) at the Waters of Merom. Another contradiction is to be found in the manner of Sisera's death. In Judges ch iv he is murdered in his sleep in ch v he is struck down from behind whilst drinking a bowl of milk.

Assuming that the tradition preserved in ch v is the older, we can do something to reconstruct the actual history of the events. Israel holds the wilder parts of the country, the hills and the forests, but their settlements in the central range are cut off from those in the northern hills by a chain of Canaanite (Egyptian?) fortresses down the plain of Esdraelon. For the time the plain dominates the hills; the Israelites are disarmed and their communications are cut. At the instigation of the prophetic Deborah, and possibly aided by her spells, Barak raises the clans of Ephraim, Benjamin, Machir (Manasseh), Zebulun, Issachar and Naphtali. Asher, Dan, Gilead (Gad) and Reuben hold aloof. Judah and Simeon are not mentioned. The Israelite clans fall on the enemy at Taanach; a thunderstorm, in which Israel sees the coming of Yahweh, strikes terror into the Canaanites, their chariots are useless on the sodden ground, and the Kishon, swollen by torrential rains, sweeps away the fugitives. Sisera escapes on foot, pursued by Barak, but, taking refuge in the tent of Heber the Kenite, is treacherously slaughtered as he drinks.

The poem is one of the most important documents of ancient times. It is contemporary with the events to which it refers and is therefore invaluable as a picture of the life of Israel in the early days of the settlement. Further it is in itself a magnificent lyric outburst, and proves a very high standard of poetic skill in ancient Israel.

**BIBLIOGRAPHY**—For fuller details see G. A. Cooke, *History and Song of Deborah* (1892), the commentaries on Judges and the histories of Israel. Patou (*Syria and Palestine*, pp. 158 sqq.) suggests that the battle was against the Hittites (Sisera, a successor of Shamgar). See also L. W. Batten, *Journ. Bibl. Lit.* pp. 31-40 (1905), who regards Judges v. and Josh xi. as duplicates. Winckler, *Gesch. Israels*, ii. 125-135, *Keilmschr. u. d. Alte Teste* 3rd ed., p. 218; and Ed. Meyer, *Israeliten*, pp. 272 sqq., 487 sqq.; also Burney, *Judges*, ad loc. Eissfeldt, *Die Quellen des Richterbuches*, pp. 22, 23. (T. H. R.)

**DE BOSIS, ADOLFO** (1863-1924). Italian poet and man of letters, was born at Ancona. He studied at the University of Rome, where he graduated in law and practised for a few years, but was always more interested in literature. In 1895 he became editor of *Il Convato*. Although he became manager of the Italian Carbide Company, he continued his literary activities. He translated Shelley's "Prometheus Unbound" (1922) and Homer into Italian verse. He collected his own poems in a volume entitled *Amorì ac silentio sacrum* (1900, rep. 1914, 1923). De Bosis exercised considerable influence on the younger authors of his time, many of whom were inspired by his deep love of the classics and keen sense of beauty. He died near Ancona on Aug. 29, 1924.

**DEBRECZEN** one of the largest towns in Hungary (pop. 100,000), situated at the junction of three contrasted regions, viz.—the extensive Hortobagy pastures or *puszta*, the Nyirseg sandy plateau and the marshes of the Berettyo. In early times it commanded two important routes, the salt way from Szalmar to western Europe and the road from Bohemia to Transylvania, both traversed by important trade movements in the mediaeval period, it is still an important railway junction. It developed as a market centre with special interests in cattle and grain and as a walled town attracted numerous refugees from surrounding plundered villages during the Turkish advance in the 15th century. Partly as a result of this the municipality acquired large areas of territory and now owns nearly four hundred square miles. Much of this was cultivated by farmers who maintained houses and often worked in the town during the winter season but of recent years villages known as *tanyas* have grown up in the surrounding district. The town tends more and more to function as the centre of economic and intellectual inspiration for its region through its fairs, its agricultural academy, its well-equipped university and its long tradition of spiritual independence which has made it the focus of Protestant ideals in Hungary and gained for it the name of "Calvinistic Rome." This outlook first determined in the 16th century has caused a stormy history but strengthened its position in the national structure.

Apart from its agricultural activities many varied industries have developed upon a small and local scale, notably the manufacture of soap, prepared foodstuffs and tobacco.

**DEBS, EUGENE VICTOR** (1855-1926), American Socialist leader, was born at Terre Haute, Ind., on Nov. 5, 1855. On leaving the public schools he became in 1871 a locomotive fireman. In 1879 he was elected city clerk of Terre Haute and in 1881 was re-elected. During 1885 he was a member of the Indiana legislature. Previous to this, in 1880, he was elected secretary and treasurer of the Brotherhood of Locomotive Firemen and was appointed editor of *The Locomotive Firemen's Magazine*. In 1895 he organized the American Railway Union and was elected president of the union, serving four years. In 1894 he led the strike which, beginning in the Pullman-car plants, soon involved the railways leading into Chicago.

Debs was arrested on a charge of conspiracy to kill, and acquitted, but was later convicted of contempt of court for violating an injunction, and sent to gaol for six months (May-Nov. 1895). In 1897 he joined the Socialist movement. He was Socialist candidate for the Presidency of the United States in 1900, 1904, 1908, 1912 but declined the nomination in 1916. In 1907 he was on the editorial staff of the *Appeal to Reason*, and in 1914 became editor-in-chief of the *National Rip-Saw*, a Socialist paper published at St. Louis. He was an advocate of industrial unionism, though he eventually dissociated himself from the I.W.W. (*q.v.*), and was one of the chief opponents of Samuel Gompers (*q.v.*).

He was a pacifist and in Sept. 1918 was convicted of violating the Espionage Act and sentenced to ten years in the penitentiary. In 1920, while in prison, he was again nominated presidential candidate by the Socialists and received 915,302 votes. His sentence was commuted by President Harding in Dec. 1921. He died at Elmhurst, Ill., Oct. 19, 1926. He was one of the foremost figures in American Socialism.

He was the author of *Liberty* (1895), *Unionism and Socialism, a Plea for Both* (1904); *The American Movement* (1904); *Industrial Unionism* (1905), *The Growth of Socialism* (1910); *The Children of the Poor* (1911); and *Walls and Bars* (1927). Also see Stephen Marion Reynolds, *Life of Eugene V. Debs* (1910); Max Eastman, *The Trial of Eugene V. Debs* (1919); Walter Hurt, *Eugene V. Debs: an Introduction* (1919); David Karsner, *Debs: His Authorized Life and Letters* (1919); and Scott Nearing, *The Debs' Decision* (1919). Consult also *Debs' Magazine*.

**DEBT**, a definite sum due by one person to another. Putting aside those created by statute, recoverable by civil process, debts may be divided into three classes: (1) judgment debts (see JUDGMENT DEBTOR), (2) specialty debts, (3) simple contract debts. As to judgment debts it is sufficient to say that, when by the judgment of a court of jurisdiction an order is made

... were an ordinary debt. A specialty debt is created by deed or instrument under seal. Until these specialty debts had preference under English law over simple contract debts in the event of the bankruptcy or death of the debtor but this was abolished by the Administration of Estates Act of 1925. The main difference now is that a specialty debt may in general be created without consideration as for example by a bond under seal and that a right of action arising out of a specialty debt is not barred if exercised by time within 20 years whereas a right of action arising out of a simple contract debt is barred unless exercised within six years. (See LIMITATION, STATUTE OF.) Any other debt than a judgment or specialty debt whether evidenced by writing or not is a simple contract debt. There are also certain liabilities or debts which arise from tacit or implied contracts to pay.

At English common law debts and other choses in action were not assignable (*in re Chose*) but by the Judicature Act 1873 any assignable assignment of any debt or other legal chose in action, of which express notice in writing is given to the debtor trustee or other person from whom the assignor would have been entitled to receive or claim such debt is effectual in law. The discharge of a debt may take place either by payment of the amount due, by accord and satisfaction, i.e. acceptance of something else in discharge of the liability, by set-off (q.v.) by release, or under the law of bankruptcy (q.v.). It is the duty of a debtor to pay a debt without waiting for any demand, and unless there is a place appointed either by custom or agreement, he must seek out his creditor for the purpose of paying him unless he is "beyond the seas." Payment by a third person to the creditor is no discharge of a debt as a general rule, unless the debtor subsequently ratifies the payment.

Imprisonment for debt, the evils of which have been so graphically described by Dickens, was abolished in England by the Debtors Act, 1869, except in cases of default of payment of penalties, default by trustees or solicitors and certain other cases. But in cases where a debt or instalment is in arrear and it is proved to the satisfaction of the court that the person making default either has or has had since the date of the order or judgment the means to pay the sum in respect of which he has made default and has refused or neglected to pay, he may be committed to prison at the discretion of the judge for a period of not more than 42 days. In practice, a period of 21 days is usually the maximum period ordered. Such an imprisonment does not operate as a satisfaction or extinguishment of the debt, and no second order of commitment can be made against him for the same debt, although where the court has made an order or judgment for the payment of the debt by instalments a power of commitment arises on default of payment of each instalment. In Ireland imprisonment for debt was abolished by the Debtors Act (Ireland) 1872, and in Scotland by the Debtors (Scotland) Act, 1880. In France it was abolished in 1867, in Belgium in 1871, in Switzerland and Norway in 1874 and in Italy in 1877. In the United States imprisonment for debt was universal under the common law but it has been abolished in every State, except in certain cases, as where there is any suspicion of fraud or where the debtor has an intention of removing out of the State to avoid his debts. (See also CONTRACT; BANKRUPTCY, PAYMENT; NATIONAL DEBT.)

In the United States the law is in general as stated above. But the effect of a seal to make consideration unnecessary to the creation of a debt has been very generally abolished by statute; even where not abolished, the effect has commonly been reduced to raising a *prima facie* presumption of consideration. Yet the seal commonly retains its effect of lengthening the period of limitation. The notice of an assignment need not, in the United States, be given to the debtor in writing. And the English rule that payment by a third person will not discharge has either been abolished or rendered substantially null by liberality in construing the slenderest of evidence into "ratification" by the debtor.

... the equal counterpart of the economic concept "credit" (q.v.), and where liquidity of credit is important debts are commonly put in the form of negotiable instruments to facilitate transfer (See BILL OF EXCHANGE). There is however some financing done by merchants transferring their book accounts—though at a heavy discount. (See ASSIGNMENT.)

**DEBT CONVERSION.** Conversion is the term applied to the exchange of any form of security for another form of security. Though the exchange is usually connected with a decrease in cost to the borrower of the security in question, this is not always the case. It is sometimes necessary more particularly in time of war when a series of loan operations is probable to assure subscribers to an earlier issue that they will be entitled to "convert" it to any later issue made on more favourable terms. Such a provision was a common feature of British war loans, for instance, holders of 3½% War Loan were entitled to convert into 5% War Loan, and holders of National War Bonds of the first three series retained a right to convert at any time on favourable terms into 5% War Loan. Similarly in the United States holders of the 3½% First Liberty Loan were entitled to convert into the 4% Second Liberty Loan and holders of the Second Liberty Loan into the 4½% Third Liberty Loan.

But the more frequent and more interesting cases of conversion arise in connection with debt reduction. Public debt, other than the relatively limited amount created for revenue producing purposes usually results from a period of financial emergency in which revenue has not covered expenditure and the State has accordingly had to pledge its credit in circumstances least favourable to itself. It has therefore always been the natural object of financial statesmanship, as soon as normal financial conditions return to reduce the burden of debts created under duress—after an earthquake, a famine or a war. This course is dictated by the consideration that *ex hypothesi*, the debt is raised at a price higher than the credit of the State in normal circumstances would justify. It is also desirable because as a rule the great public debts such as war debts, justified and even inevitable as they may have been, do not leave behind them any concrete object from which posterity can see that it draws tangible benefit.

**Methods of Debt Reduction.**—The burden of debt may be reduced in various technically distinguishable ways. In the first place, debt may be redeemed either out of budget surpluses (in Great Britain called "old sinking fund") or out of a sinking fund provided within the normal budget (in Great Britain called "new sinking fund"), these resources being applied either to paying off debt as it falls due or to the purchase of public stock or bonds on the Stock Exchange at current market prices or, where the loan contract so permits, to drawings of individual bonds by lot for payment at a fixed price usually not necessarily at par. These latter redemptions can be effected irrespective of the date on which the debt holder is entitled to claim repayment from the State as a right. In the second place, maturing debt, that is to say, debt for which the repayment date as fixed by the loan contract has arrived, may be repaid out of money raised by new borrowing on more favourable terms. This operation, which is properly a form of redemption, is frequently, though inaccurately, described as conversion. In the third place holders of the debt which has not yet reached its maturity date may be persuaded to exchange their holdings into some other form of debt. This is debt conversion proper, its essential feature being the exchange of one obligation for another. Conversion is normally a voluntary process. Forced conversion, such as for instance the Italian "Factor" Loan of 1926, is a practical operation in certain cases. Whether it is a wise operation depends on such factors as the financial position and traditions of the country concerned; the nature of the crisis with which it is faced; and its probable needs for further credit. Obviously, when a particular class of persons have lent money to the community on agreed contractual terms, it requires very exceptional circumstances to justify subsequent compulsion to accept other terms presumably less advantageous to themselves.

These three methods of debt reduction are frequently practised in combination. Indeed with a large volume of debt no one

of them can be successful relation each contributes a condition of the success of the others. Large real surpluses appeared on debt redemption in Great Britain and the United States of America in the years immediately following 1918 were the essential preliminary to that appreciation of the national credit of the two countries which caused their public securities to rise in price and consequently enabled the two Treasuries to replace old debt by new debt on cheaper interest terms. Where the total debt is large, the maintenance of a substantial sinking fund provided out of revenue is primarily required for this purpose. A reduction in the supply of any commodity tends to intensify the demand for that commodity and thus to increase the price which the seller can obtain. A reduction in the volume of debt has precisely the same effect. The borrowing Government can sell its wares at a better price by reducing the amount in supply. A sinking fund which removes stock or bonds from the market and cancels them enhances the price of what remains and enables maturing debt in excess of what can actually be paid off to be replaced at a lower interest rate. Similarly, the reduction in the volume and the increase in the value of Government securities enables conversion schemes to be launched with success.

It is futile to single out any one method of debt reduction as a success or a failure. The general result usually flows from the combined use of all methods; and the attribution of specific portions of that result to any single method tends to be misleading. Redemption and conversion go together. Thus, in Great Britain the interest charge for the debt was reduced by £19,000,000 per annum in the period between 1920-21 and 1925-26. It, to compare like with like, allowance is made for the fact that in the former year only £180,000 was paid on the debt due to the United States Government while in 1925-26 the full interest charge of over £28,000,000 was paid, the real reduction in interest charge is seen to be more than £47,000,000 per annum. Of this reduction it may be said that £29,500,000 was due to the repayment of debt from revenue, £16,000,000 to the replacement of short-term floating debt by cheaper floating debt, and £1,500,000 to strictly identifiable long-term conversions. It is however, impossible to say what would have been the result of any one of these three methods without the concomitant of the other two.

**Conditions of Conversion.**—It is usually held that for successful conversion certain preliminary conditions must be fulfilled. The problem is to persuade the holder of a given security that it is in his interest to accept instead another security subject to different terms as regards interest, redemption date and possibly other privileges. The holder will probably be affected in the first place by his belief in the political stability of the borrowing Government. He will not wish to extend in time his commitment to a State which is politically insecure or which for any reason is likely in the visible future to depreciate its credit. He will require to be convinced that his new commitment if he accepts conversion, is not likely to fall in value. The first condition is therefore the prospect of general stability as regards both external and internal politics. In the next place the investor will need to be persuaded that general financial conditions are such that the new security which he is offered is likely to represent as much as he can expect to receive if he waits until his existing security is paid off and he has to seek a new investment. The normal type of conversion would be somewhat as follows: A security is due for repayment or can be called by the borrower for repayment, say five years hence. The borrower wishes to replace that security now by a conversion issue carrying a lower rate of interest and repayable, say 30 years hence. His chance of persuading the holder to accept such a proposal will therefore depend on the holder's estimation of the relative advantages of making certain of a lower rate of interest for the longer period of 30 years, and of retaining for another five years his original (higher) rate of interest subject to the risk that when paid off in five years time he will not be able to reinvest his money so profitably as if he had accepted the conversion offer. The second condition of successful conversion is therefore a general belief that financial tendencies are such that future interest rates are likely to decline. The outward sign of such a belief is usually that the security to be

conferred quoted in the market at or over its redemption rate or that means that the market thinks that the interest payable on that security is above the normal current rate. Thus for the 14 months previous to the Goschen conversion in 1888 Consolidated 3% Stock had averaged £101 9s 9d in spite of the fact that the Government could call the stock for repayment at £100. Finally much depends on the amount of the issue to be converted. A very large issue is physically difficult to handle: the number of holders who from ignorance or inertia will not respond to a conversion offer even if advantageous to them, may in the aggregate be great; and for both reasons the amount of the issue not converted may remain considerable. It may almost be said that in normal circumstances a third condition of successful conversion is that not too much is attempted at any one time. In many cases there is a special feature which emphasizes the importance of this condition. It is frequently necessary in order to bring holders into a conversion scheme to announce that such holders as do not convert will be paid off by the borrowing Government. The unwillingness of the holder to be paid off is a motive to induce him to convert. But a Government can only make such an announcement if it can feel sure that it can readily raise the amount of cash it will require to pay off those who do not convert. This will depend partly on the size of the issue and therefore of the probable unconverted remnant to be paid off, and partly on the position of the Government's short-term debt. The Government will probably have to have recourse to short-term borrowing to meet the remnant, and the cost and possibility of such borrowing will depend entirely on the amount of short Government paper already in existence. At the time of the Goschen conversion the unfunded debt (treasury bills, exchequer bills and exchequer bonds) was only £17,385,100, and the Government had consequently no difficulty in raising at reasonable rates the £19,817,952 it temporarily required to redeem non-converted stock.

**British Conversions.**—The more important conversions of British Government debt have been as follows.—

(a) *Before the World War.*

1749 Pelham offered holders of £57,703,475 4% stocks then standing above par a new stock bearing 4% interest till 1750, 3½% interest till 1757 and thereafter 3% interest. £54,413,433 stock was converted at an annual saving of £272,067 for five years and then of £550,101; and the balance was paid off at par.

1822 Vansittart offered holders of Navy 5% and Irish 5% then standing at 108½ to an amount of £152,422,143, a 4% stock at 105, £149,627,867 was converted at an annual interest saving of £1,197,025, and the balance of £2,794,276 paid off in cash. This conversion owing to the issue at 105 added £7,281,350 to the nominal total of the National Debt.

1824 Robinson offered holders of £76,248,180 4% annuities then standing at 101½ and new 3½% stock at par. £68,000,000 was converted at an interest saving of £381,242 per annum.

1830 Goulburn offered holders of the £153,561,091 4% stock (remaining from Vansittart's operation in 1822) now standing at 102½, either 3½% stock at par or 5% stock at 70. £150,790,179 was converted, all but £670,567 into 3½% stock, with an annual interest saving of £753,952.

1844 Goulburn offered holders of the £248,860,663 3½% stock resulting from the 1824 and 1830 conversions now standing at 101½ conversion at par into a stock carrying 3¼% for ten years and then 3%. £248,757,311 was converted at an annual saving of £621,893 per annum for the first ten years, and £1,243,786 per annum thereafter.

1884 Childers endeavoured to convert £612,761,061 3% stock standing at 101½ into either 2½% stock at 102 or 2½% stock at 108. But only £22,362,595 was converted, at a saving in interest of £62,303 per annum, and an increase of £1,515,604 on the nominal total of the debt.

1888 Goschen offered the holders of £557,992,508 new 3% (Goulburn) Reduced Three per cents (Pelham) and 3% Consols, then standing at 103½, a new stock at par ("Consols") bearing 2½% interest, to be reduced after 25 years to 2½%. £514,314,702 was converted (over 92%) at an annual saving of £1,411,943 for 25 years and of £2,823,886 thereafter. (It is interesting to

... were offered ... Treasury bonds at an increase in interest of £305,000

Down to 1928 the net result of conversions on the annual interest charge was not great. Their importance lay in providing by postponement for the heavy maturities of debt and in clearing the way for future conversions, more particularly that of the large 5% War Loan which can be repaid by the State at its option after a date in 1929.

**United States Conversions.**—After the Civil War the Federal debt amounted to about \$3,000,000,000 of which \$500,000,000 was short-term debt. Secretary Hugh McCulloch commenced in 1865 by turning this short debt into 30-year 6% Notes. By 1858 he had repaid out of surplus \$519,000,000; and he then while maintaining a high annual debt redemption, converted these 30-year Notes into 20-year Notes (with a right to pay them off in five years). His successor Secretary Boutwell, having further reduced the debt outstanding was able in 1870 to convert the 6% Notes into \$200,000,000 5%, \$300,000,000 4½% and \$1,000,000,000 4% Notes.

After the World War the United States had the advantage of a debt two-thirds the size of that of Great Britain very much larger resources on which to draw; and surpluses for debt reduction amounting in the last eight years to over \$5,000,000,000 (approximately £600,000,000) in addition to sinking fund proper of about another \$3,500,000,000. The main conversion operations of the U.S. Treasury department have been as follows.

Dec. 1904. Holders of Third Liberty 4½% bonds due in 1928 were offered 4% bonds 1944-54 at par. \$532,420,300 were converted at an annual interest saving of \$1,389,231.

Feb. 1927. Holders of \$3,083,671,700 Second Liberty Converted 4½% bonds 1942 callable in Nov. 1927, were offered 3½% Treasury Notes 1930-32 at par \$1,360,456,450 were converted. A further \$368,973,700 were converted into similar 3½% Notes in Sept. 1927 and \$245,256,450 were converted in June into 3½% Treasury bonds 1943-47. The annual interest saving resulting from these operations was about \$15,000,000.

Jan. 1928. Holders of Third Liberty 4½% Bonds were offered 3½% Treasury Notes 1930-32 at par \$603,626,550 were converted, at an annual interest saving of \$4,527,198.

**BRALIOGRAPHY.**—For British conversions, particularly Goschen's conversion of 1883, E. W. Hamilton, *Conversion and Redemption* (1889); and *Report of Committee on National Debt and Taxation* (1926), for United States Conversions, *Annual Reports of the Secretary of the Treasury* for 1924, 1927, 1928 (O. E. N.)

**DEBT INSURANCE:** see CREDIT INSOLVENCY and BAD DEBT INSURANCE.

**DEBTS, INTER-ALLIED:** see INTER-ALLIED DEBTS.

**DEBUSSY, CLAUDE ACHILLE** (1862-1918). French composer, was born at St. Germain-en-Laye on Aug. 23, 1862, and died in Paris on March 26, 1918. His musical training he received at the Paris Conservatoire under Marmontel, Lavignac, Massenet and Guraud. There, between 1874 and 1884, he gained many prizes for solfège, pianoforte playing, accompanying, counterpoint and fugue, and, in the last-named year, the coveted Grand Prix de Rome by means of his cantata *L'Enfant prodigue*. In this composition germs of unusual and new talent were already latent, though, in the light of later developments, it is not very easy to discern them, for then Debussy had not come under the influence which ultimately turned his mind to the system which he afterwards used in so remarkable a manner.

**Early Tendencies.**—It was not long, however, before these highly-individual tendencies revealed themselves. For in order to fulfil that condition of the Prix de Rome which entails the submitting periodically of compositions to the judges, Debussy sent to them his symphonic suite, *Printemps*, to which exception was immediately taken by the judges on the ground of its formlessness and other unacademic qualities. Following in the wake of *Printemps* came *La demoiselle élue* for female voices (solo and chorus) and orchestra—a setting of a French version of Rossetti's "The Blessed"—which, in the eyes of the judges was even more unorthodox than its predecessor, though he it said

... were offered ... Treasury bonds at an increase in interest of £305,000

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both were denied he could have performed

The Rome period over Debussy returned to Paris whence he then went to Russia where he came directly under the influence already referred to. That is to say, he absorbed here the native music especially that of Moussorgsky who recently deceased, had left behind him the reputation of a musical nihilist, and on his return to Paris the results became speedily apparent. At the same time the effect of this Russian visit should not be overrated, and there is no reason to suppose that it did more than confirm and strengthen tendencies which were already deeply implanted, and would have quite certainly revealed themselves in due course in any event.

**Recognition Tardy.**—Public recognition was rather slow in coming to Debussy but in 1893 the Société Nationale de Musique performed his *La Camoselle bleue*, in 1894 the Ysaye quartet introduced the string quartet (one of his greatest achievements), while in the same year was heard another of his most remarkable and individual creations the now world-famous prelude *L'Après-midi d'un faune*, which could no longer leave room for doubt as to the originality of its composer. Concurrently also, his piano-forte pieces were being performed more and more. The works named were followed in due course by his only opera, *Pelléas et Mélisande*, first heard at the Opéra Comique on April 30 1902. Then it was little understood, but understanding came in due course, and it was recognized as one of the most notable contributions to the repertory of the lyric stage since Wagner.

In an Apologia which he subsequently published, Debussy declared that in composing *Pelléas* he had wanted to dispense with "parasitic musical phrases." "Melody," he observed, "is, if I may say so, almost anti-lyric and powerless to express the constant change of emotion and life. Melody is suitable only for the chanson, which confirms a fixed sentiment. I have never been willing that my music should hinder, through technical exigencies, the change of sentiment and passion felt by my characters. It is effaced as soon as it is necessary that these should have perfect liberty in their gestures or in their cries, in their joy and in their sorrow." And these principles found exquisite expression in the work as carried out, of which Dr. Ernest Walker has happily observed—"It is one of the great landmarks in the history of opera, it is the summit of musical impressionism, catching every faint nuance of the words, always suggesting rather than saying, but always tense and direct and full of throbbing beauty."

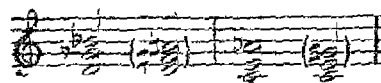
**Works for Piano and Orchestra.**—But, outstanding as is *Pelléas et Mélisande*, it is surpassed even in importance by Debussy's contributions to piano literature, in which by the novelty of his methods he was responsible for the greatest development which had been effected in the technique since Chopin. In such things as *La Soirée dans Grenade*, *Jardin sous la pluie*, *L'Isle joyeuse*, *Reflets dans l'eau*, *Bruyères* and *La Cathédrale engloutie*, he revealed possibilities which had previously been entirely unsuspected in the best known and most exhaustively studied of all instruments. Such music might not be of the highest order, indeed it made no pretensions to bigness or grandeur, but in its delicacy, subtlety and refinement, in its exquisite adaptation of the most novel means to the purposes of the most sensitive musical impressionism, it possessed a fascination all its own, and may be said to have opened a new chapter in the history of the art.

Debussy's work for the orchestra was, as a whole, of less significance in the technical sense, he did many fine things also, besides the consummate *L'Après-Midi*, in this field. Such are the exquisite nocturnes *Nuages*, *Fêtes* and *Svènes*, one and all the last word in delicate impressionism. Neither should mention be omitted of his songs, all characterized by the same individuality of style and perfection of workmanship distinguishing his music as a whole and including such examples as "Mandoline," "Requiem," "Fantoche," "La Flûte de Pan" and "La Chevelure," things which have long since won universal favour.

**Musical System.**—As to the theories so much debated of this remarkable musician, probably in the whole range of musical history there has not appeared a more difficult theorist to "place." Unquestionably Debussy has introduced a new system of colour into music, which has begun already to exert widespread influence.

Rouge Debussy's system may be summarized thus:

First, a scale basis is of six whole tones (enharmonic), as middle C, D E, G $\flat$  A $\flat$ , B $\flat$ , which are of excellent sound when super-imposed in the form of two augmented unrelated triads:



used frequently incomplete (i.e., by the omission of one note) by Debussy.

Now, upon the basis of an augmented triad a tune may be played above it provided that it be based upon the six-tone scale and a fugue may be written, the re-entry of the subject of which may be made upon any note of the scale, and the harmony will be complete.

Secondly, a free use of the chord of the 7th 9th, 11th and 13th upon every degree of the scale instead of (as in the conventional theory) only upon the tonic, super-tonic and dominant, in conjunction with melodies constructed upon the ordinary diatonic scale. These two methods have an interesting connection which can be shown, i.e., let a major 9th be taken:



one may conventionally flatten or sharpen the fifth of this (A becoming  $\sharp$  or  $\flat$  as desired): if both the flattened and sharpened fifths be taken in the one chord this chord is arrived at,



which is composed of the notes of the aforesaid scale whole-tone. It will be noticed that chords of the 9th in sequence and in all forms occur in Debussy's music as well as the augmented triad harmonics, where the melodic line is based on the tonal scale. This, in all likelihood is the outcome of Debussy's instinctive feeling for the association of his so-called discovery with the ordinary scale.

But the appearance of a whole-tone scale as a by-product of two ordinary chords a tritone apart (as in a Neapolitan cadence) decorated by passing notes:

$$\left\{ \begin{array}{l} CDE F\sharp G\sharp A\sharp \\ C \quad F\sharp \end{array} \right\}$$

must not be confused with the conscientious avoidance of classical key-relation which Debussy intends. As is shown in the article HARMONY, even Debussy's whole-tone scale really falls into the classical scheme, with much more various results. Debussy himself becomes eclectic in his later works, though he would never have allowed the whole-tone chord to resolve in a classical polyphony.

(R. H. L.: X)

**DECAEN, CHARLES MATHIEU ISIDORE**, COUNT (1769-1832), French soldier, was born at Caen on April 13, 1769. He made his name during the wars of the French Revolution under Kléber, Marceau and Jourdan, in the Rhenish campaigns. In 1799 he became general of division, and fought at Hohenlinden (Dec. 1800). Selected by Napoleon early in the year 1802 for the command of the French possessions in the East Indies, he set sail with Admiral Linois early in March 1803 with a small expeditionary force, touched at the Cape of Good Hope (then in Dutch hands), and noted the condition of the fortifications there. On arriving at Pondicherry he found matters in a very critical condition. Though the renewal of war in Europe had not yet been heard of, the hostile preparations adopted by the Marquis Wellesley caused Decaen to withdraw promptly to the Isle of France (Mauritius), where, for eight years, he sought to harass British trade and prepare for plans of alliance with the Mahratta princes of India. They all came to naught. Linois was captured by a British squadron, and ultimately, in 1811, Mauritius itself fell to the British. Decaen then received the news of the French troops in Catalonia. He died of the cholera in 1832.

See M. E. Gaster, *Etymology of the Hebrew Word 'Ezer'*, *Journal of the American Oriental Society*, vol. 1, p. 10. Also see *Journal of the American Oriental Society*, vol. 1, p. 10.

**DECALIN**, a chemical substance obtained by reduction of decaldehyde.

**DECALOGUE**, a term used for the public Ten Commandments in Hebrew in the Torah (Deut. 5: 1-17; Exod. 20: 1-17) written by God on the two tables of stone (Exod. 24: 12-18) the so-called Tables of the Testimony (EV) or Tables of Testimony (Exod. 24: 12) or Tablets of the Covenant (Deut. 10: 1-5) in Greek, or Tablets of the Decalogue or Tablets of the Law. The tables were broken by Moses (Exod. 31: 19) and the new ones were given (Exod. 31: 18) and upon them were written the words of the covenant by Moses (Exod. 31: 18) or, according to another law, by God himself (Deut. 10: 1-5). They were deposited in the ark (Exod. 25: 16; 1 Ki. 8: 9). In Deuteronomy the inscription on these tables, which is briefly called the covenant (Deut. 10: 1), is expressly identified with the words spoken by Jehovah (Yahweh) out of the midst of the fire at Mt. Sinai or Horeb (according to the Deuteronomic tradition), in the ears of the whole people on the "day of the assembly" and rehearsed (Deut. 5: 6-21). The order of the commandments varies in some ancient texts (Varcan ms. of the LXX, Nash Papyrus) and there are differences in detail between the form in which the Decalogue appears in Exodus and in Deuteronomy. Further, the term 'Ten Words' does not occur in Exod. 20, but is found in Exod. 24: 28, in a context which seems to imply that the words mentioned had immediately preceded this passage. Accordingly some scholars would find another Decalogue embedded in Exod. 24: 10-26.

**The Decalogue of Exod. 20, Deut. 5.**—Comparison between the two texts, especially in the law of the Sabbath, strongly suggests that neither form is original both having been expanded from a rather shorter common source. It seems that in the earlier commandments even this common source has been extended from a much more concise primitive form and that the commands first took the form of simple injunctions and prohibitions of the same type as 'Thou shalt not steal.'

Different views have been held as to the actual divisions of the Decalogue. Thus Philo regarded Exod. 20: 2-3 as the first commandment while the Talmud made vv. 2 the first and vv. 3-6 the second thus identifying the sins of apostasy and idolatry. In Christian circles the Roman and Lutheran Churches make the first commandment extend from v. 2 to v. 6, and distinguish the covering of a wife from the coveting of property (This last is only possible on the basis of the text in Deuteronomy). The arrangement of the Orthodox Eastern, Calvinistic and Anglican Churches takes Exod. 20: 2 as an introduction, separates the prohibition of apostasy from that of the making of images, and unites the clauses prohibiting covetousness into a single commandment. Different opinions obtain as to the date of the Decalogue. The general tendency is to place it late rather than early, though the view that the whole is Mosiac has been revived by some modern scholars (e.g., McFadyen and Volz).

**The Decalogue of Exod. xxxiv. 12-26.**—This passage contains a number of precepts and if we are to see here the original "Ten Words" referred to in v. 28, it is clear that we have them in a greatly expanded form. It is, moreover, far from certain as to how we are to apportion the "Ten Words" among the precepts contained in these verses. We may, perhaps, find the best arrangement as follows: (1) prohibition of worship paid to other gods, (2) prohibition of molten images, (3) observance of the feast of unleavened bread, (4) the feast of weeks (5) the feast of the ingathering at the beginning of the year, (6) the seventh day rest, (7) firstlings and firstfruits (separated in the text as it stands), (8) prohibition of leaven with sacrificial blood, (9) sacrificial fat must not be left over till the morning, (10) a kid must not be scolded in its mother's milk.

It goes without saying that other arrangements are possible, and none is wholly satisfactory. But on any identification of the individual precepts, two features stand out clearly. In the first place the provisions are all ritual rather than ethical, and in the second place while some of them are equally adapted to a nomad

people in the wilderness and to a settled agricultural community, others could only have applied to the conditions of the latter. It is worth noting that most of the precepts are found also in the 'Book of the Covenant' (Exod. 21-23) where they occur unnumbered with one another. This fact together with the very simple type of ritual enjoined has suggested a Judaean rather than an Ebraimite origin for Exod. xxxiv. 12-26.

**The Decalogue in Christian Theology.**—Following the New Testament in which the 'commandments' summed up in the law of love are identified with the precepts of the Decalogue (Mark 7: 19; Rom. xii. 9; cf. Mark xii. 28 ff.), the ancient Church emphasized the permanent obligation of the ten commandments as a summary of natural law in contradistinction to ceremonial precepts, though the observance of the Sabbath was to be taken in a spiritual sense (Augustine *De spiritu et littera*, xiv, Jerome *De celebratione Paschae*). The mediaeval theologians followed in the same line, recognizing all the precepts of the Decalogue as moral precepts *de lege naturae*, though the law of the Sabbath is not of the law of nature in so far as it prescribes a determinate day of rest (Thomas, *summa I<sup>ae</sup> II<sup>ae</sup> qu. c. art. 3*, Duns. *Super sententias*, lib. iii. dist. 37). The most important mediaeval exposition of the Decalogue is that of Nicolaus de Lyra, and the 15th century, in which the Decalogue acquired special importance in the confessional, was prolific in treatises on the subject (Antoninus of Florence, Gerson, etc.).

Important theological controversies on the Decalogue began with the Reformation. The question between the Lutheran (Augustinian) and Reformed (Philonic) division of the ten commandments was mixed up with controversy as to the legitimacy of sacred images not designed to be worshipped. The Reformed theologians took the stricter view. The identity of the Decalogue with the eternal law of nature was maintained in both churches but it was an open question whether the Decalogue, as such (that is, as a law given by Moses to the Israelites), is of perpetual obligation. The Socinians on the other hand, regarded the Decalogue as abrogated by the more perfect law of Christ, and this view, especially in the shape that the Decalogue is a civil and not a moral law (J. D. Michaelis), was the current one in the period of the 18th century rationalism. The distinction of a permanent and a transitory element in the law of the Sabbath is found not only in Luther and Melancthon but in Calvin and other theologians of the Reformed church. The main controversy which arose on the basis of this distinction was whether the prescription of one day in seven is of permanent obligation. It was admitted that such obligation must be not natural but positive; but it was argued by the stricter Calvinistic divines that the proportion of one in seven is agreeable to nature based on the order of creation in six days, and in no way specially connected with anything Jewish. Hence it was regarded as a *universal positive* law of God. But those who maintained the opposite view were not excluded from the number of the orthodox. The laxer conception found a place in the Cocceian school.

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**DECAMPS, ALEXANDRE GABRIEL** (1803-1860), French painter, was born in Paris on March 3, 1803, and died at Barbizon on Aug. 22, 1860. In his youth he travelled in the East, and reproduced oriental life and scenery with a bold fidelity to nature that made his works the puzzle of conventional critics. He died in consequence of being thrown from a vicious horse while hunting at Fontainebleau. He was probably the first of European painters to represent scenes from Scripture history with their true and natural local background. Of this class were his "Joseph sold by his Brethren," "Moses taken from the Nile," and his scenes from the life of Samson, nine vigorous sketches in charcoal and white. Decamps produced a number of genre pic-



ur s ch eiv of enes from French and Algerne dom s l e  
Probably the best known o all hi woras s The Mo kev Con  
no sse r<sup>s</sup> a ce er sa re of he jury of the French Academy  
of Pa.n.ing, which haq rejected several of his earlier works on  
account of their divergence from any known standard

See Moreau's *Decamps et son oeuvre* (1860)

**DE CANDOLLE, ALPHONSE:** see (s r) CANDOLLE  
AGUSTIN PRYAME DE

**DECAPOLIS**, a league of ten cities situated with one excep-  
tion on the eastern side of the upper Jordan and the sea of  
Tiberias. The names of the ten cities are Damascus, Philadelphia,  
Raphana, Scythopolis (= Beth-Schan, now *Beisan*, W. of Jordan),  
Gadara, Hippos, Dion, Pella, Gerasa and Kanatha. Of these  
Damascus alone retains its importance. Scythopolis (as repre-  
sented by the village of Beisan) is still inhabited; the ruins of  
Pella, Gerasa and Kanatha survive. Scythopolis, in command of  
the communications with the sea and the Greek cities on the  
coast was a very important member of the league. The purpose  
of the league was mutual defence against the marauding Bedouin  
tribes that surrounded them.

It was soon after Pompey's campaign in 64-63 B.C. that the  
Decapolis league took shape. The cities comprising it were united  
by the main roads on which they lay, their respective spheres of  
influence touching one another. A constant communication was  
maintained with the Mediterranean ports and with Greece. The  
cities were subject to the governor of Syria and taxed for imper-  
ial purposes.

The best account is in G. A. Smith's *Historical Geography of the  
Holy Land*, chap. xxvii.

**DECASTYLE**, the architectural term given to a portico that  
has ten columns, as in the temple of Apollo Didymaeus at Miletus.  
also applied to a building with such a portico (see **TEMPLE**).

**DECATUR, STEPHEN** (1770-1820), American naval com-  
mander, was born at Sinepuxent (Md.) on Jan. 5, 1779, and  
entered the U.S. Navy as a midshipman in 1798. He was promoted  
lieutenant and saw service in the short naval war with France  
(1798-1800). In 1803 he commanded the "Enterprise," a part of  
Commodore Preble's squadron in the Mediterranean, and in Feb.  
1804 led an expedition into the harbour of Tripoli to burn the  
U.S. frigate "Philadelphia," which had fallen into Tripolitan  
hands. He succeeded and made his escape under battery fire with  
only one man wounded. This exploit earned him his captain's com-  
mission and a sword of honour from Congress. He was engaged  
in all the attacks on Tripoli during 1804 and 1805.

In the War of 1812 his ship the "United States" captured H.M.S.  
"Macedonian." In 1813 he was appointed commodore to command  
a squadron in New York harbour soon blockaded by the British.  
In an attempt to break out in Jan. 1815 his flagship the "Pres-  
ident" was forced to surrender to a superior force. Subsequently  
he commanded in the Mediterranean against the corsairs of Al-  
giers, Tunis and Tripoli with great success. He was made a Navy  
commissioner (Nov. 1815), an office which he held until killed in  
a duel with Commodore James Barron at Bladensburg (Md.) on  
March 22, 1820. A toast of his has become famous—"Our coun-  
try! In her intercourse with foreign nations may she always be in  
the right, but our country, right or wrong."

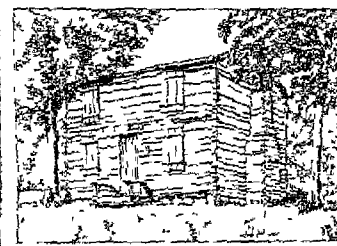
See A. S. Mackenzie, *Life of Decatur* (Boston, 1846).

**DECATUR**, a city of northern Alabama, U.S.A., on the  
Tennessee river, 75 m. N. of Birmingham, served by the Louisville  
and Nashville and the Southern railways, the county seat of Mor-  
gan county. It was formed in 1927 by the consolidation of Albany,  
formerly called New Decatur (pop. 7,652 in 1920) and Decatur  
(pop. 4,752 in 1920) and its population was estimated locally at  
over 20,000 in 1928. The city has many important manufacturing  
industries, including a large cotton-mill, steel works, lumber-mills  
and wood-working plants, cotton gins and compresses, cotton-seed  
oil mills, silk and hosiery factories, tanneries, iron foundries and  
railroad shops.

**DECATUR**, a town of Georgia, on the Georgia railroad, 1 m.  
E. of the city limits of Atlanta, at an altitude of 1,000 ft.; the  
county seat of DeKalb county. The population was 6,150 in 1920  
(21% negroes) and was estimated locally at 13,500 in 1928. It is

re d n al u a d he eat of Columbia Theological seminary  
Pr by.eran, and of Agnes Scott college for women (Presby-  
terian), founded in 1889 as a "female seminary" and named after  
the mother of a generous benefactor, Col. George W. Scott.  
Decatur was incorporated in 1823.

**DECATUR**, a city in the central part of Illinois, U.S.A., on  
the Sangamon river, the county seat of Macon county. It is on  
Federal highways 36 and 51, and is served by the Baltimore and  
Ohio, the Illinois Central, the Illinois Traction (electric), the  
Pennsylvania and the Wabash railways. The area is 6,100 acres.  
The population was 43,818 in 1920 (91.4% native white), and was  
estimated by the census bureau at 56,000 in 1927. Decatur is a  
pleasant city of diversified manufacturing industries, in a rich  
agricultural region underlain with coal. It has a commission form  
of government. The assessed valuation of property in 1927 was  
\$19,639,953. Bank debts in 1926 amounted to \$240,327,000.  
There are parks in and near the city covering 729 ac., in one of  
which the original county court-house (of logs) is preserved. Lake  
Decatur (12 m. long), constructed in 1922-23 to assure an ample



BY COURTESY OF C. R. WILLIS, DECATUR,  
ILL.  
**COURT-HOUSE IN MACON COUNTY,  
ILLINOIS, ERRECTED 1829, WHERE  
ABRAHAM LINCOLN PRACTISED LAW  
WHILE ON THE EIGHTH JUDICIAL  
CIRCUIT**

and dependable supply of water,  
provides fishing, boating and  
bathing. There are two coal  
mines within the city. The fac-  
tory output in 1927 was valued  
at \$51,797,095. Corn products  
(starch, syrup, hominy, meal,  
flour, oil, feed, sugar, gums and  
soap) are the most important  
manufactures, and the corn-  
milling plants have a grinding  
capacity of over 50,000 bushels  
a day. Others of importance  
are brass plumbing goods, soda-  
fountain and office fixtures, mal-  
teable iron, grey iron, structural  
steel and sheet steel. The Wabash  
has its principal repair shops here,  
also its hospital for employes. The  
James Millikin university (opened  
1903) has an endowment of over  
\$1,250,000. Decatur was founded  
in 1829 and incorporated in 1836,  
and was named after Stephen  
Decatur, one of the first settlers.  
It was the first Illinois home of  
Abraham Lincoln, and the Grand  
Army of the Republic was organized  
here on April 6, 1866.

**DECATUR**, a city of eastern Indiana, U.S.A., on St. Mary's  
river, 100 m. N.E. of Indianapolis, the county seat of Adams  
county. It is on Federal highway 27, and is served by the Erie,  
the Nickel Plate and the Pennsylvania railways. The population  
was 4,762 in 1920 (97% native white) and was estimated locally  
at 5,500 in 1928. It is surrounded by a farming and lumbering  
region, and has various factories. Decatur was settled about 1836  
and incorporated in 1882.

**DECAZES, ÉLIE, DUC** (1780-1860), French statesman, was  
born at Saint Martin de Laye (Gironde) on Sept. 28, 1780. He  
studied law, became a judge in the tribunal of the Seine in 1806,  
was attached to the cabinet of Louis Bonaparte in 1807, and was  
counsel to the court of appeal at Paris in 1811. Immediately upon  
the fall of the empire he declared himself a royalist, and remained  
faithful to the Bourbons through the Hundred Days. He made  
the personal acquaintance of Louis XVIII, who appointed him  
prefect of police at Paris in July 1815. His marked success in  
that difficult position won for him the ministry of police, in suc-  
cession to Fouché, on Sept. 24. In the interval he had been  
elected deputy for the Seine (Aug. 1815) and both as deputy  
and as minister he led the moderate royalists. His formula was  
"to royalize France and to nationalize the monarchy." The  
Moderates were in a minority in the chamber of 1815, but Decazes  
persuaded Louis XVIII to dissolve the house, and the elections  
of Oct. 1816 gave them a majority. As minister of police he had  
to suppress the insurrections provoked by the ultra-royalists (the  
White Terror), then, after the resignation of the duc de Richelieu,  
he took the actual direction of the ministry, although the nominal  
president was General J. J. P. A. Dessolle (1767-1828). He held  
at the same time the portfolio of the interior. The cabinet n

... the ministry of public instruction... Decazes... was inopportune with the regime of Berry. His reforms met with the strong hostility of the chamber of peers where the ultra-royalists were in a majority and to overcome it he got the king to create 50 new Liberal peers. He then passed the laws on the press suppressing the censorship. By reorganization of the finances the protection of industry and the carrying out of great public works France regained its economic prosperity, and the ministry became popular. But the powers of the Grand Alliance had been watching the growth of Liberalism in France with an anxiety that was increased by the election of the celebrated Abbe Grégoire. A threat of foreign intervention rather than the clamour of the Ultras, forced Louis XVIII to urge a change in the electoral law that should render such a scandal as Grégoire's election impossible for the future. Desseigne and Louis, refusing to embark on this policy, now resigned, and Decazes became head of the new ministry, as president of the council (Nov. 1819). But the exclusion of Grégoire from the chamber and the changes in the franchise embittered the Radicals without conciliating the "Ultras." The news of the revolution in Spain in Jan 1820 added fuel to their fury, and when, on Feb 13 the duke of Berry was murdered clamorous tongues loudly accused Decazes of being an accomplice in the crime. Decazes indeed foreseeing the storm at once placed his resignation in the king's hands. Louis at first refused. But in the end he was forced to yield to the importunity of his family (Feb 17th), and Decazes raised to the rank of duke passed into honourable exile as ambassador to Great Britain.

In Dec 1821 he returned to sit in the house of peers, when he continued to maintain his Liberal opinions. After 1830 he adhered to the monarchy of July, but after 1848 he remained in retirement. He had organized in 1826 a society to develop the coal and iron of the Aveyron, and the name of Decazeville was given in 1829 to the principal centre of the industry. He died on Oct 24, 1860.

His son, LOUIS CHARLES ELIE DECAZES, duc de Glücksberg (1819-1886), was born at Paris, and became minister plenipotentiary at Madrid and at Lisbon. In 1871 he was elected deputy to the National Assembly by the Gironde, and was chosen by the duc de Broglie as minister of foreign affairs in Nov 1873. He voted with the Orleanists the "constitutional laws" of 1875, and approved of MacMahon's parliamentary coup d'état on May 16, 1877. He died on Sept. 16, 1886.

On the Duc Decazes see E. Daudet, *Louis XVIII. et le duc Decazes* (1899) and his "L'ambassade du duc Decazes" in the *Revue des deux mondes* for 1899.

**DECAZEVILLE**, a town of south-central France, in the department of Aveyron, 34 m. N.W. of Rodez by the Orleans railway. Pop. (1926) 13,560. It possesses iron mines and is the industrial centre of the coal- and iron-fields of the Aveyron, which supply the iron-works established by the Duc Decazes, minister of Louis XVIII. A statue commemorates the founder.

**DECCAN** (Sans. *Dakshina*, 'the South'), a name applied, according to Hindu geographers, to the whole of India situated south of the river Nerbudda. It is sometimes understood as the country between that river and the Kistna, the latter having long formed the southern boundary of the Mohammedan empire of Delhi. In the more extended meaning it comprehends the whole Indian peninsula, and in this view the Eastern and Western Ghats constitute the most striking feature. These two ranges unite in the north with the Vindhya mountains... form a vast... to the... Kistna and... base of the... of Bengal... Eastern Ghats.

**History**—The... only begins... (for the early... see *INDIA*... *Indian*)

... emperor of Delhi in a ed he Deccan... reduced the Yadava rajahs of Maharashtra to the position of tributary princes (see DAULATABAD), then proceeding southward overran Telungana and Carnata (1204-1300). In 1307 owing to non-payment of tribute, a fresh series of Muslim incursions began under Malik Kafur, ending in the final ruin of the Yadava power; and in 1338 the reduction of the Deccan was completed by Mohammed ben Tughlak. The imperial sway was however, of brief duration. Telungana and Carnata speedily reverted to their former masters, and this defection on the part of the Hindu states was followed by a general revolt of the Muslim governors, resulting in the establishment in 1347 of the independent Mohammedan dynasty of Bahmani, and the consequent withdrawal of the power of Delhi from the territory south of the Nerbudda. On the dissolution of the Bahmani empire (1480), its dominions were distributed into the five Mohammedan states of Golconda, Bijapur, Ahmadnagar, Bidar and Berar. To the south of these the great Hindu state of Carnata or Vijayanagar (1700) still survived, but this too, was destroyed, at the battle of Talikota (1565) by a league of the Mohammedan powers, who also in their turn soon disappeared before the victories of the Delhi emperors. Their rule was of short duration. In 1706 the Mahrattas acquired the right of levying tribute in southern India and their principal chief the Peshwa of Poona, became a practically independent sovereign. A few years later the emperor's viceroy in Ahmadnagar, the nizam-al-mulk, threw off his allegiance and established the seat of an independent government at Hyderabad (1724). The remainder of the imperial possessions in the peninsula were held by chieftains acknowledging the supremacy of one or other of these two potentates. In the sequel, Mysore became the prize of the Mohammedan usurper Hyder Ali. Mysore formed one of the earliest British conquests in the Deccan. Tanjore and the Carnatic were shortly after annexed. In 1818 the forfeited possessions of the Peshwa added to their extent, and these acquisitions, with others which have more recently fallen to the paramount power by cession, conquest or failure of heirs, form a continuous territory stretching from the Nerbudda to Cape Comorin.

See J. D. B. Gribble, *History of the Deccan* (1896), Prof. Bhandarkar, "Early History of the Dekkan" (*Bombay Gazetteer*); Vincent A. Smith, *Early History of India* revised by S. M. Edwards (1914).

**DECELEIA** (Gr. *Δεκελεια*), an Attic deme, on the pass which led over the east end of Mt. Parnes towards Oropus and Chalcis, commanding the Athenian plain. Its eponymous hero Decelus was said to have indicated to the Tyndaridae, Castor and Pollux, the place where Theseus had hidden their sister Helen at Aphidnae; and hence there was a traditional friendship between the Decelians and the Spartans (Herodotus ix. 73). This tradition, together with the advice of Alcibiades, led the Spartans to fortify Deceleia as a basis for permanent occupation in Attica during the later years of the Peloponnesian War, from 413-404 B.C. Its position enabled them to harass the Athenians frequently and to form a centre for fugitive slaves and other deserters. The royal palace of Tatoi has been built on the site.

See PELOPONNESIAN WAR; also Judeich in Pauly-Wissowa, *Realencyklopaedie*.

**DE CELLES, ALFRED DUCLOS** (1843- ), Canadian writer was born at St. Laurent, and educated at Quebec seminary and Laval university. He edited successively the newspapers *Le Journal de Quebec*, *La Minerve* and *L'Opinion Publique* before becoming librarian of the Dominion parliament in 1880. Thenceforth he devoted himself to history, producing *La crise du régime parlementaire* (1888); *A la conquête de la liberté en France et au Canada* (1890); *Les constitutions du Canada* (1890); *Les États-Unis* (1896), *Papineau, Cartier* (1905), *Cartier et son temps* (1907); papers in vol. xv. of *Canada and its Provinces* on "The Province of Quebec" (1914); and *The "Partisanes" of 1837* (1920).

**DECEMBER** (Lat. *decem*, ten), the last month of the year. In the earliest Roman calendar, the year was divided into ten months the last of which was called December, or the tenth month, and this name was retained for the last or 10th month

of the year as now divided Julius Caesar gave the month its present length The *Saturnalia* occurred in December, which explains the phrase of Horace "libertate Decembri utere" Martial applies to the month the epithet *canus* (hoary), and Ovid styles it *gelidus* (frosty) and *junosus* (smoky) The Saxons called it *winter-monath*, winter month and *heligh-monath*, holy month, from the fact that Christmas fell within it Thus the modern Germans call it *Christmonat* In December is the date of the winter solstice, when the sun reaches the tropic of Capricorn

**DECEMVIRI**, "the ten men," the name applied by the Romans to any official commission of ten, followed by a statement of the purpose for which the commission was appointed, e.g. *Yvri stitibus iudicandis, sacris faciundis*, etc

I Usually, it signified the temporary commission which superseded all the ordinary magistrates from 451 to 449 B.C. for the purpose of drawing up a code of laws In 462 B.C. a tribune proposed the appointment of a commission to draw up a code to secure for the *plebs* a defence against magisterial caprice. In 452 B.C. decemvirs were appointed to draw up a code; during their tenure of office all other magistracies were in abeyance, but they were bound to maintain the rights of the *plebs* The first board of decemvirs (wholly patrician) held office during 451 B.C., the chief man among them was Appius Claudius (see **CLAUDIUS**) The decemvirs ruled with singular moderation, and submitted to the *Comitia Centuriata* a code of laws in ten headings So popular were the decemvirs that another board of ten was appointed for the following year, some of whom, if the extant list of names is correct, were plebeians These added two more to the ten laws of their predecessors, thus completing the Laws of the Twelve Tables (see **ROMAN LAW**) But their rule then became violent and tyrannical They were forced to abdicate (449 B.C.).

II The judicial board of decemvirs (*stitibus iudicandis*) formed a civil court concerned mainly with the status of individuals They were originally a body of jurors under the presidency of the praetor (*q.v.*), but eventually became minor magistrates of the republic, elected by the *Comitia Tributa*

III The priestly board of decemvirs (*sacris faciundis*) was half patrician and half plebeian. They were first appointed in 367 B.C., instead of the patrician *duumviri* who had hitherto performed religious duties Their chief function was the care of the Sibylline books, and the celebration of the games of Apollo and the Secular Games

IV Decemvirs were also appointed from time to time to control the distribution of the public land (*agris dandis assignandis*, see **AGRARIAN LAWS**).

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**DECEPTION TEST**, a name given to the measurement of certain bodily changes caused by the effort of lying, or by fear due to a sense of guilt. Working at Graz, Austria, in 1914, Vittorio Benussi devised a test based on the idea that the rate of breathing is affected by the effort of telling a lie, and that this change could be accurately measured Three years later Harold Burrif further developed this method in the Harvard Psychological Laboratory In 1915 W. M. Marston, working in the same laboratory, had tested the relation of blood pressure to the effort of lying, but found that all persons examined showed blood pressure higher than normal whether they lied or told the truth

A psychological deception test, based on association of words, was devised in Austria by Wertheimer and Klein in 1904, and developed by Carl Jung in Switzerland in 1905 Jung read a list of words to three nurses suspected of stealing a purse. Some of these words referred to objects which would have been seen when the theft was committed, and the suspects were asked to give associated words In Jung's view the guilty nurse gave words which would not have been in the mind of an innocent person and further revealed guilt by delay in answering

The vegetable alkali d was used by a Texas physician R. E. House with the idea that it produced a

semi-intoxication in which the truth was likely to be blurted out Another test depends on the variation in electrical conductivity of the skin caused by the secretion of sweat under pressure of emotion The objection to these forms of trial by ordeal is that they are considered too uncertain to be used with assurance in criminal trials

See C. T. McCormick, "Deception Test and the Law of Evidence," *California Law Review* (Sept. 1927).

**DECEREBRATE RIGIDITY:** see **EQUILIBRIUM, ANIMAL**

**DE CESARE, CARLO** (1824-1882), Italian political economist and legislator, was born at Spinazzola He studied at Naples and was successively inspector-general of the banks of issue, secretary-general of agriculture, industry and commerce in 1868, and counsellor of the "cour des comptes" In his chief work, *Manuale di Economia pubblica* (2 vols., 1862), he advocated the doctrines of Ricardo Of his numerous other works the most important are *Il mondo civile e industriale nel secolo XIX* (1857), *Del potere temporale del Papa* (2nd ed., 1861), *Il primo unitario italiano* (2nd ed., 1861); *La Politica, L'Economia e la Morale due moderni Italiani* (1869), and *La Germania Moderna* (2nd ed., 1874) De Cesare died at Rome in 1882

**DECHAMPS, ADOLPHE** (1807-1875), Belgian statesman, born on June 17, 1807, at Melle, in 1842 became governor of Luxembourg, in 1843 minister of public works, during his office working for the opening up of railways, and in 1845 minister of foreign affairs His intimate knowledge of contemporary politics is exhibited in his *La Second Empire* (1859), *L'Empire et L'Angleterre* (1860), *La France et L'Allemagne* (1865) and *Le Prince de Bismarck et l'entrevue des trois empereurs* (1873) He died on July 19, 1875

See E. de Moreau, *A. Dechamps* (Brussels, 1911).

**DECHEN, HEINRICH VON** (1800-1889), German geologist, was born in Berlin on March 25, 1800, and was educated in the university in that city He was in the service of the mining department of the Prussian State for 44 years in all, being its director from 1841 to 1864 He paid special attention to the coal-formation of Westphalia and northern Europe generally and wrote some important works on the mineralogy of the Rhineland, but his main work was a geological map of Rhenish Prussia and Westphalia in 35 sheets on the scale of 1:80,000, issued with two volumes of explanatory text (1855-82) He published also a small geological map of Germany (1869) He died at Bonn on Feb. 15, 1889.

**DECIDUOUS**, a botanical and zoological term for "falling in season," as of petals after flowering, leaves in autumn, the teeth or horns of animals, or the wings of insects.

**DECIMAL:** see **ARITHMETIC, FRACTION; NUMERALS.**

**DECIMAL COINAGE**, any currency in which the various denominations of coin are arranged in multiples or submultiples of ten (Lat. *decem*) with reference to a standard unit Thus if the standard unit be 1 the higher coins will be 10, 100, 1,000, etc., the lower .1, .01, .001, etc. In a perfect system there would be no breaks or interpolations, but the actual currencies described as "decimal" do not show this rigid symmetry In France the standard unit—the franc—has the 10 franc and the 100 franc pieces above it, the 10 centime below it, there are also, however, 50 franc, 20 franc, 5 franc, 2 franc pieces as well as 50 and 20 centime and other denominations. Similar irregularities occur in the German and United States coinages

Subject to these practical modifications the leading countries of the world (Great Britain and India are the chief exceptions) have adopted decimal coinage. The United States led the way (1786 and 1792) with the dollar as the unit, and France soon followed (1799 and 1803), her system being extended to the countries of the Latin Union (1865) Germany (1873), the Scandinavian States (1875), Austria-Hungary (1870, developed in 1892) and Russia (1839 and 1897) are further adherents to the decimal system The Latin-American countries and Japan (1871) have also adopted it.

In Great Britain proposals for the have often been Besides the e of altering the

established currency, the difficulty of choosing between the different schemes propounded had been a considerable obstacle. One plan took the farthing as a base, then 10 farthings = 1 cent = 10 cents = 1 florin (10 = 10 florins = 1 pound (100 = 100). The advantages claimed for this scheme were the preservation of the small coins and the avoidance of interference with the smaller retail prices. Its great disadvantage was the destruction of the existing unit of value. Another proposal would retain the pound as unit and the florin, but would subdivide the latter into 100 units (100 farthings reduced to 1) and introduce a new coin = 10 units (10 pence). By this unit of account would remain as a 10-unit, and the shilling as 50 units would continue in use. The abolition of the bronze and several silver coins, and the need of manufacturing all values and prices expressed in pence, formed the principal difficulties.

A third scheme, which was connected with the assimilation of English to French and American money, proposed the establishment of an 8s. gold coin as unit, with the tenpenny or franc and the penny (reduced by 4%) as subdivisions. The new coin would be equivalent to 10 francs or, by an anticipated reduction of the dollar, 1 dollar.

A fourth scheme was put forward by the Decimal Association to meet the objections raised by the Royal Commission on Coinage of 1828-30 to the proposed £-mill system (= £ divided into 1,000 parts). This scheme left all the silver coins unchanged but proposed to increase the value of the copper coins by 20%, so that the shilling would consist of ten instead of 12 pence.

For the general question of monetary scales see MONEY and for the decima. system in reference to weights and measures see METRIC SYSTEM AND WEIGHTS AND MEASURES (C. F. B.)

**DECIN**, a town on the right bank of the Elbe in Czechoslovakia. It owes its chief importance past and present to the fact that it shares with the sister-town of Podmokly (q.v.) the guardianship of the entrance to Bohemia from Saxony. In addition to being a customs town and port and a great centre of trade it has a varied development of industry, its products comprising chemicals, confectionery, dyes, plaster of Paris, cotton goods, cellulose, flour and beer. The town is dominated by a rocky height crowned by an old 17th century chateau and the frontier position is evident in the fact that its control has alternated between Saxony and Bohemia and in the composition of the present population, 11,244 of whom 9,289 are German. The town has road and rail connection with Podmokly by bridges.

**DECIUS, GAIVS MESSIVS QVINTVS TRAIANVS** (A.D. 201-251). Roman emperor, was born at Budalia near Sirmium in lower Pannonia in 201. About 245 the emperor Philip the Arabian entrusted him with a command on the Danube and in 249 (or end of 248), having been sent to put down a military rising in Moesia and Pannonia, he was proclaimed emperor, against his will. Philip advanced against him and was slain near Verona. Decius had to take the field at once against the Goths, who crossed the Danube and overran Moesia and Thrace. The details of the campaign are obscure. The Goths were surprised by the emperor while besieging Nicopolis on the Danube, at his approach they crossed the Balkans, and attacked Philippopolis. Decius followed but was defeated near Beroë. Philippopolis fell and its commander, Priscus, declared himself emperor under Gothic protection. The siege had so exhausted the Goths, that they offered to surrender their booty and prisoners on condition of being allowed to retire unmolested. But Decius, who had succeeded in surrounding them, refused their offer. The final engagement took place on swampy ground in the Dobrudja near Abritum (Abrittus) or Forum Trebonii and ended in the defeat and death of Decius and his son. Decius was a capable soldier and administrator. The chief blot on his reign was the systematic and authorized persecution of the Christians, which had for its object the restoration of the religion and institutions of ancient Rome. Decius tried to revive the separate office and authority of the censor. The choice was left to the senate, who unanimously selected Valerian (afterwards emperor) who declined the responsibility. The invasion of the Goths and the death of Decius put an end to the abortive attempt.

See Aurelius Victor *De Caesaribus*, 29, Epit. 29, Jordanes *De rebus Geticis*, 18, fragments of Dexippus, in C. W. Müller *Frag. Hist. Graec.* li. 18, 201, Gibbon *Decline and Fall*, chap. 10, H. Schiller *Geschichte der römischen Kaiserzeit* i. (pt. 2) 1883.

**DECIUS MUS, PUBLIVS**: see MUS

**DECIZE**, a town of central France in the department of Nièvre, on an island in the Loire 24 m. S.E. of Nevers by the Paris-Lyon railway. Pop. (1906) 3,477. Julius Caesar mentions it as Decetia, stronghold of the Aedui and in 52 B.C. held there a meeting of the senate to settle the leadership of the tribe and to reply to his demand for aid against Vercingetorix. Later the counts of Nevers owned it and granted it a charter of franchise in 1226. The church of Saint Aré dates in part from the 11th and 12th centuries, there are also ruins of a castle of the counts of Nevers. Decize is the starting-point of the Nivernais canal. The coal mine of La Machine which belongs to the Schneider Company of Le Creusot lies 4 m. to the north. The industries of Decize and its suburbs on both banks of the Loire include the working of gypsum and lime, and the manufacture of ceramic products and glass. Trade is in horses from the Morvan, cattle, coal, iron, wood and stone.

**DECKEN, KARL KLAUS VON DER** (1833-1865), German explorer, was born on Aug. 8, 1833, at Kotzen. He left the military service of Hanover in 1860 to explore East Africa. He reached the volcanic mountain Kilima-Njaro which he ascended to the height of 15,000 ft., and then explored the East African coast. In 1865 he attempted to navigate the Juba river, but with three others was murdered in Bardera by the Somali, the rest of the party escaping to Zanzibar.

See O. Kersten, *K. K. v. der Deckens Reisen in Ostafrika* (4 vols., 1869-79).

**DECKER, SIR MATTHEW, BART** (1679-1749), British merchant and writer on trade, born in Amsterdam in 1679, came to London in 1702 and established himself there as a merchant. He was a director of the East India Company, sat in parliament for four years as member for Bishops Castle, and was high sheriff of Surrey in 1729. He was created a baronet by George I in 1716. Decker's fame as a writer on trade rests on two tracts. The first, *Serious considerations on the several high duties which the Nation in general as well as Trade in particular, labours under, with a proposal for preventing the removal of goods, discharging the trader from any search, and raising all the Publick Supplies by one single Tax* (1743, name affixed to 7th ed., 1756), proposed to do away with customs duties and substitute a tax upon houses. He also suggested taking the duty off tea and putting instead a licence duty on households wishing to consume it. The second, an *Essay on the Causes of the Decline of the Foreign Trade, consequently of the value of the lands in Britain and on the means to restore both* (1744), has been attributed to W. Richardson, but internal evidence is strongly in favour of Decker's authorship. He advocates the licence plan in an extended form, urges the repeal of import duties and the abolition of bounties and, in general, shows himself such a strong supporter of the doctrine of free trade as to rank as one of the most important forerunners of Adam Smith. Decker died on March 18, 1749.

See the exhaustive article by Prof. E. C. K. Gonner in Palgrave's *Dict. Pol. Econ.*

**DECLARATION**, formerly, in an action at English law a precise statement of the cause of action. Under the system of pleading established by the Judicature act 1875, the declaration has been superseded by a statement of claim setting forth the facts on which the plaintiff relies. Declarations are now in use only in certain local courts of record, and in those of the United States and some British colonies in which the Common Law system of pleading survives. In the United States a declaration is termed a "complaint," which is the first pleading in an action. It is divided into parts—the *title* of the court and term; the *venue* or county in which the facts are alleged to have occurred, the *commencement*, which contains a statement of the names of the parties and the character in which they appear; the *statement* of the cause of action, and the *conclusion* or claim for relief. (See PRACTICE AND PROCEDURE.)

The term is also used in other English legal connections; e.g.,

the Declaration of Insolvency (*see* BANKRUPTCY) the Declaration of Title for which when a person apprehends an invasion of his title to land he may by the Declaration of Title act 1862 petition the Court of Chancery (*see* LAND REGISTRATION), or the Declaration of Trust (*see* TRUSTS) By the Statutory Declarations act 1835 a solemn declaration may be substituted for an affidavit In nearly all civilized countries an affirmation is now permitted to those who object to take an oath or upon whose conscience an oath is not binding (*See* AFFIDAVIT; OATH)

An exceptional position in law is accorded to a Dying or Death-bed Declaration Where the charge is one of homicide it is the practice to admit dying declarations of the deceased with respect to the cause of his death Unsworn declarations as to family matters, *e g*, as to pedigree may also be admitted as evidence, as well as declarations made by deceased persons in the course of their duty (*See* EVIDENCE)

In the United States the declaration survives in such States as still follow common law pleading It is a statement of all material facts constituting the plaintiff's cause of action in a methodical and legal form filed appropriately Where code pleading has been adopted, the complaint supersedes the old declaration

In the United States, the declaration of intention is that statement of an alien that he intends to renounce his or her citizenship and acquire that of the United States Popularly it is known as "first papers" It may be filed at any time in a court competent in naturalization matters, even though the alien may not be naturalized until he has been a resident for five years A declaration expires if the alien fails to file his application for naturalization or "second papers" within a period of seven years thereafter If subsequently he desires to take out naturalization papers, he must file a new declaration of intention Two years must elapse between the filing of the declaration of intention and the application for naturalization.

**DECLARATION OF INDEPENDENCE** in United States history, the act (or document) by which the 13 original States of the Union broke their colonial allegiance to Great Britain in 1776 The controversy preceding the war (*see* AMERICAN REVOLUTION) gradually shifted from one primarily upon economic policy to one upon issues of pure politics and sovereignty, and the acts of Congress, as viewed to-day, seem to have been carrying it from the beginning, inevitably into revolution, but there was apparently no general and conscious drift toward independence until near the close of 1775 The first colony to give official countenance to separation as a solution of colonial grievances was North Carolina, which, on April 12, 1776, authorized its delegates in Congress to join with others in a declaration to that end. The first Colony to instruct its delegates to take the actual initiative was Virginia, in accordance with whose instructions—voted on May 15—Richard Henry Lee, on June 7, moved a resolution "that these United Colonies are, and of right ought to be, free and independent States" John Adams of Massachusetts seconded the motion The conservatives could only plead the unpreparedness of public opinion, and the radicals conceded delay on condition that a committee be meanwhile at work on a declaration "to the effect of the said . . . resolution," to serve as a preamble thereto when adopted This committee consisted of Thomas Jefferson, John Adams, Benjamin Franklin, Roger Sherman and Robert R. Livingston To Jefferson the committee entrusted the actual preparation of the paper On July 2, by a vote of 12 States—10 voting unanimously, New York not voting, and Pennsylvania and Delaware casting divided ballots (3 votes in the negative)—Congress adopted the resolution of independence; and on the 4th, Jefferson's "Declaration" The 4th has always been the day celebrated, the decisive act of the 2nd being quite forgotten in the memory of the day on which that act was published to the world "Independence Day" is a holiday in all the States and Territories of the United States. It should also be noted that as Congress had already, on Dec 6, 1775, formally disavowed allegiance to parliament, the Declaration recites its array of grievances against the crown, and breaks allegiance to the crown Moreover, on May 10, 1776, Congress had recommended to the people of the Colonies that they form such new gov as their

should deem desirable, and in the accompanying statement of causes, formulated on May 15, had declared it to be 'absolute,' irreconcilable to reason and good conscience for the people of these colonies now to take the oaths and affirmations necessary for the support of any government under the crown of Great Britain," whose authority ought to be "totally suppressed" and taken over by the people—a determination which as John Adams said, inevitably involved a struggle for absolute independence, involving as it did the extinguishment of all authority, whether of crown, parliament or nation.

Though the Declaration reads as "In Congress, July 4, 1776 The unanimous Declaration of the thirteen united States of America," New York's adhesion was in fact not voted until the 9th nor announced to Congress until the 15th—the Declaration being unanimous, however, when it was ordered, on the 19th, to be engrossed and signed under the above title. As read before the army meanwhile, it was headed "In Congress, July 4, 1776 A Declaration by the representatives of the United States of America in General Congress assembled" Contrary to the inference naturally to be drawn from the form of the document no signatures were attached on the 4th. As adopted by Congress, the Declaration differs only in details from the draft prepared by Jefferson, censures of the British *people* and a noble denunciation of slavery were omitted, appeals to Providence were inserted, and verbal improvements made for the sake of terseness and measured statement The document is full of Jefferson's fervent spirit and personality, and its ideals were those to which his life was consecrated It is the best known and the noblest of American State papers. Though open to controversy on some issues of historical fact, not flawless in logic, necessarily partisan in tone and purpose, it is a justificatory preamble, a party manifesto and appeal, reasoned enough to carry conviction, fervent enough to inspire enthusiasm It mingles—as in all the controversy of the time but with a literary skill and political address elsewhere unrivalled—stale disputation with philosophy The rights of man lend dignity to the rights of Englishmen, and the broad outlook of a world wide appeal, and the elevation of noble principles, relieve minute criticisms of an administrative system

Jefferson's political theory was that of Locke, whose words the Declaration echoes Both Locke and Jefferson wrote simply of political equality, political freedom Even within this limitation the idealistic formulae of both were at variance with the actual conditions of their time The variance would have been greater had their phrases been applied as humanitarian formulae to industrial and social conditions. The Lockian theory fitted beautifully the question of colonial dependence, and was applied to that by America with inexorable logic, it fitted the question of individual political rights, and was applied to them in 1776, but not in 1690; it did not apply to non-political conditions of individual liberty, a fact realized by many at the time—and it is true that such an application would have been more inconsistent in America in 1776 as regards the negroes, than in England in 1690 as regarded freemen The Declaration's influence upon American legal and constitutional development has been profound Locke says Leshe Stephen, popularized "a convenient formula for enforcing the responsibility of governors"—but his theories were those of an individual philosopher—while by the Declaration a State, for the first time in history, founded its life on democratic idealism, pronouncing governments to exist for securing the happiness of the people, and to derive their just powers from the consent of the governed It was a democratic instrument, and the revolution a democratic movement, in South Carolina and the Middle Colonies particularly, the cause of independence was bound up with popular movements against aristocratic elements Congress was fond of appealing to "the purest maxims of representation"; it sedulously measured public opinion; took no great step without an explanatory address to the country, cast its influence with the people in local struggles as far as it could, appealed to them directly over the heads of conservative assemblies and in general stirred up democracy The Declaration gave the people recognition equivalent to promises, which, as fast as new governments were instituted converted by written constitutions into



MAGNETISM TERRESTRIAL

In astronomy the declination is the angular distance as seen from the earth of a heavenly body from the celestial equator, thus corresponding with terrestrial latitude (See ASTRONOMY)

**DECOLORIZING**, in practical chemistry and chemical technology the removal of coloured impurities from a substance Charcoal, preferably prepared from blood, is frequently used; when shaken with a coloured solution it often retains the coloured substances, leaving the solution clear Thus the red colour of wines may be removed by filtering the wine through charcoal, the removal of the dark-coloured impurities of crude sugar may be similarly effected Other "decolorisers" acting through purely chemical reactions are sulphurous acid, permanganates and manganates all of which have received application in the sugar industry. (See CHARCOAL and ADSORPTION)

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**DECORAH**, a city of north-eastern Iowa U.S.A., on the Upper Iowa river, the county seat of Winneshiek county It is on Federal highway 55 and is served by the Chicago, Milwaukee, St. Paul and Pacific and the Rock Island railways The population in 1925 (State census) was 4,141. It is the seat of Luther college (established 1851), is a market for thoroughbred horses and cattle, and has several manufacturing industries There is a famous ice cave near by. Decorah was founded about 1849 and was incorporated as a city in 1871

**DECORATED PERIOD**, in architecture, the name of the second of the three periods into which the English Gothic was usually divided, generally embracing the first three quarters of the 14th century It may itself be divided into two, the earlier half being known as the Geometric period, and the later as the Curvilinear, although no definite date separates these two parts The Geometric Decorated style is characterized by window tracery based on the arch, the circle and the quatrefoil and trefoil, frequently much cusped (See CUSP) Windows of great width and height were thus treated with two, four, six or even eight lights, or main subdivisions In the later, or curvilinear style, the ogee curve, or curve of double curvature, controls tracery design. Two main types thus developed, one, in which the tracery bars form a net, the other in which flame-like, or flowing forms predominate. (See TRACERY) In the entire decorated period moulding profiles are heavy and complex; carved ornament is intricate and of great naturalism. The most famous examples are the east end of Lincoln cathedral and the crossing and western part of the choir of Ely. During the decorated period, church vaulting became much complicated and subdivided by the addition, first of tiercerons, which are additional vaulting ribs springing from the capital, and rising to the ridge; toward the end of the period there also appeared liernes, which are smaller ribs of little structural value, connecting the more important ribs, and so forming star or network patterns. (T. F. H.)

**DECORATION DAY**, a holiday, known also as Memorial Day, observed in the northern States of the United States on May 30, originally in honour of soldiers killed in the American Civil War, but subsequently also in honour of those who fell in later wars Before the close of the Civil War May 30 was thus celebrated in several of the Southern States, in the North there was no fixed celebration until 1868, when (on May 5) Commander-in-Chief John A Logan, of the Grand Army of the Republic, issued a general order designating May 30, 1868, "for the purpose of strewing with flowers or otherwise decorating the graves of comrades who died in defense of their country during the late rebellion", Logan did this "with the hope that it will be kept up from year to year." In 1882 the Grand Army urged that the "proper designation of May 30 is Memorial Day"—not Decoration Day. Rhode Island made it a legal holiday in 1874, Vermont in 1876 and New Hampshire in 1877; and by 1910 it was a legal holiday in all the States and Territories save Alabama, Alaska, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina and Texas In Virginia May 30 is observed as a Confederate Memorial Day June 3 (the birthday of Jefferson Davis) is observed as Memorial Day in Louisiana and Tennessee; April 26, in Alabama, Florida, Georgia and

Mississippi and May 10 in North Carolina and South Carolina.

**DECORATIVE ART**, that art which is concerned with the decoration of objects which in themselves are not necessarily beautiful, hence practically the same meaning as applied art or the arts and crafts Decorative art may concern itself with the treatment of architectural units, furniture, textiles or any other object which the human being feels should not only be useful but beautiful. If the object has no use other than that of its aesthetic appeal the art is no longer decorative but falls into what is known as fine art.

Good decorative art is appropriate in its adaptation and seems to be a part of the object upon which it is executed, as though it had sprung from within, rather than as though it had been applied on the surface In days past the craftsman who made an object decorated it so that this principle was more closely adhered to, but the modern method sometimes leads to the execution of a decoration which has little or nothing to do with the structure, material or feeling of the object. (See PAINTING DRAWING, SCULPTURE; ARTS AND CRAFTS, etc.) (W E Cx.)

**DE CORT, FRANS** (1834-1878), Flemish poet, was born on June 21, 1834, at Antwerp, and died on Jan 18, 1878, at Elsenne He edited the *Scheide* from 1858, and from 1861 to his death was secretary to the general auditor of the Brussels military court His *Leideren* (2 vols, 1857) his *Zwggang* (1866) and his *Leideren* of 1868 show great tenderness and feeling His translation of poems from Burns appeared in 1862 He also made many fine translations from Jasmijn, the Provençal poet, and from the German

**DECOY**, a contrivance for the capture or enticing of duck and other wild fowl within range of a gun, hence any trap or enticement into a place or situation of danger Decoys are usually made on the following plan long tunnels leading from the sea, channel or estuary into a pool or pond are covered with an arched net, which gradually narrows in width; the ducks are enticed into this by a tame trained bird, also known as a "decoy" or "decoy-duck." In America the "decoy" is an artificial bird, placed in the water as if it were feeding, which attracts the wild fowl within range of the concealed sportsman The word "decoy" has, etymologically, a complicated history It appears in English first in the 17th century in these senses as "coy" and "coy-duck," from the Dutch *koor*, a word which is ultimately connected with Latin *cavea*, hollow place, "cage"



BY COURTESY OF VON LENSBERG AND DETMOLD, INC

ARTIFICIAL DUCK DECOYS USED TO LURE LIVE DUCKS WITHIN RANGE

**DECREE**, in earlier form *Decret*, an authoritative decision having in some places the force of law; also the judgment of a court of justice. In Roman law, a decree (*decretum*) was the decision of the emperor, as the supreme judicial officer, settling a case which had been referred to him In ecclesiastical law the term was given to a decision of an ecclesiastical council settling a doubtful point of doctrine or discipline (cf. also DECRETALS). In English law decree was more particularly the judgment of a court of equity, but since the Judicature acts the expression "judgment" (*q v*) is employed in reference to the decisions of all the divisions of the supreme court A "decree nisi," now "order nisi," is the conditional order for a dissolution of marriage made by the divorce court (see DIVORCE). *Decree arbitral* is a Scottish phrase for the award of an arbitrator. In some foreign countries, e.g. in Spain, royal decrees may amount to legislation, while in some the subsequent ratification by the legislature is required. In the United States, a decree is the judgment given in courts of admiralty and equity In addition to the decree nisi, courts of equity sometimes issue decrees of nullity, for annulment of marriages.

**DECRESCENDO** (It.), abbr. *decresc*, lit "decreasing," i.e., as used in the familiar musical direction, diminishing in loudness. The sign  $\text{—}$  conveys the same meaning

**DECRETALS** (*Epistolae decretales*), the name (see DECREE above), which is given in Canon Law to those letters of the pope which formulate d m tical law they are generally

the greater part of the *Corpus Iuris*. In this connection they are dealt with in the article on Canon Law.

**The False Decretals.**—A special interest however attaches to the celebrated collection known as the False Decretals. This collection indeed comprises at least as many canons of councils as decretals and the decretals contained in it are not all forgeries. It is an amplification and interpolation by means of spurious letters of a canonical collection in use in the church in Spain in the 8th century, all the documents in which are perfectly authentic. With these amplifications the collection dates from the middle of the 9th century.

The author assumes the name of Isidore, evidently the archbishop of Seville, who was credited with a preponderating part in the compilation of the *Hispania de CANON LAW*. He takes in addition the surname of Mercator, perhaps because he has made use of two passages of Marcellus Mercator. Hence the custom of alluding to the author of the collection under the name of the pseudo-Isidore.

The collection is divided into three parts. The first which is entirely spurious contains after the preface and various introductory sections, 70 letters attributed to the popes of the first three centuries up to the council of Nicaea, *i. e.* up to but not including St. Silvester, all these are a fabrication of the pseudo-Isidore except two spurious letters of Clement which were already known. The second part is the collection of councils classified according to their regions, as it figures in the *Hispania*: the few spurious pieces which are added and notably the famous Donation of Constantine (911) were already in existence. In the third part the author continues the series of decretals which he had interpolated at the council of Nicaea. But as the collection of authentic decretals does not begin till Siricius (385), the pseudo-Isidore first forges 30 letters, which he attributes to the popes from Silvester to Damasus; after this he includes the authentic decretals, with 25 apocryphal ones, generally given under the name of those popes not represented in the authentic collection but sometimes also under the names of the others, for example Damasus, St. Leo, Vigilius and St. Gregory, with one or two exceptions he does not interpolate genuine decretals. The series stops at St. Gregory the Great (d. 604), except for one letter of Gregory II. (715-731). The forged letters are not, for the most part, entirely composed of fresh material, the author draws his inspiration from the notices on each of the popes given in the *Liber Pontificalis*; he inserts whole passages from ecclesiastical writers; and he antedates the evidences of a discipline which actually existed; so it is by no means all invented.

Thus the authentic elements were calculated to serve as a passport for the forgeries which were, moreover, skilfully composed; and the collection thus blended was passed from hand to hand without meeting with any opposition. At most all that was asked was whether those decretals which did not appear in the *Liber canonum* (the collection of Dionysius Exiguus, accepted in France) had the force of law, but Pope Nicholas having answered that all the pontifical letters had the same authority, they were henceforward accepted, and passed in turn into the later canonical collections. No doubts found expression until the 15th century, when Cardinal Nicholas of Cusa (d. 1464) and Juan Torquemada (d. 1468) freely expressed their suspicions. More than one scholar of the 16th century, George Cassander, Erasmus, and the two editors of the *Decretum* of Gratian, Dumoalin (d. 1568) and Le Conte (d. 1577), decisively rejected the False Decretals. This contention was again upheld, in the form of a violent polemic against the papacy, by the Centuriators of Magdeburg (*Ecclesiastica historia*, Basle, 1559-74); the attempt at refutation by the Jesuit Torres (*Adversus Centur. Magdeburg libri quinque*, Florence, 1573) provoked a violent rejoinder from the Protestant minister David Blondel (*Pseudo-Isidorus et Turrianus rapulantes*, Geneva, 1620). Since then, the conclusion has been accepted, and all researches have been of an almost exclusively historical character.

**Date.** The author himself acquainted with the false decretals, three books of capitularies of the Frankish kings (mostly spurious) purporting to have been written by a certain Benedict a deacon of Mainz. These are for civil legislation what the False Decretals are for ecclesiastical, and their date 347 gives the earliest possible date for the latter, on the other hand in a letter of Lupus abbot of Fernères, written in 858, and in the synodical letter of the council of Quercy in 857 are to be found quotations which are certainly from these false decretals, and further an unaccounted allusion occurs in the statutes of Hincmar to his diocese on Nov. 1 852. The composition of the collection may then be dated approximately at 850.

**Aim of the Forger.**—This is clearly stated in his preface; the reform of the canon law or rather its better application. But in what particular respects he wishes it to be reformed can be best deduced from certain preponderant ideas which make themselves felt in the apocryphal documents. He constantly harps upon accusations brought against bishops and the way they were judged, his wish is to prevent them from being unjustly accused, deposed or deprived of their sees; to this end he multiplies the safeguards of procedure and secures the right of appeal to the pope and the possibility of restoring bishops to their sees. His object, too, was to protect the property as well as the persons, of the clergy against the encroachments of the temporal power. In the second place Isidore wishes to increase the strength and cohesion of the churches; he tries to give absolute stability to the diocese and the ecclesiastical province, he reinforces the rights of the bishop and his comprovincials, while he initiates a determined campaign against the *chorepiscopi*; finally, as the keystone of the arch he places the papacy. These aims are most laudable and in no way subversive.

**Canonical Influence.**—It is certain that in 864 Rothad of Soissons took with him to Rome if not the collection, at least important extracts from the pseudo-Isidore. M. Fournier has pointed out in the letters of the pope of that time, "a literary influence which is shown in the choice of expressions and metaphors," notably in those passages relating to the *restitutio spolii*, but he concludes by affirming that the ideas and acts of Nicholas I were not modified by the new collection; even before 864 he acted in affairs concerning bishops, *e. g.* in the case of the Breton bishops or the adversaries of Photius patriarch of Constantinople exactly as he acted later; all that can be said is that the False Decretals though not expressly cited by the pope, "led him to accentuate still further the arguments which he drew from the decrees of his predecessors," notably with regard to the *exceptio spolii*. In the papal letters of the end of the 9th and the whole of the 10th century, only two or three insignificant creations of the pseudo-Isidore have been pointed out, the use of the pseudo-Isidorian forged documents did not become prevalent at Rome till about the middle of the 11th century, in consequence of the circulation of the canonical collections in which they figured; but nobody then thought of casting any doubts on their authenticity. One thing only is established and this may be said to have been the real effect of the False Decretals, namely, they gave a powerful impulse in the Frankish territories to the movement towards centralization round the see of Rome, and opposed legal obstacles to unjust proceedings against the bishops.

**BIBLIOGRAPHY.**—The best edition is that of P. Hinschius, *Decretales pseudo-Isidorianae et capitula Angilramni* (Leipzig, 1863). In it the authentic texts are printed in two columns, the forgeries across the whole width of the page, an important preface of ccxxviii pages contains, besides the classification of the mss., a profound study of the sources and other questions bearing on the collection. The nationality and place of composition has been the subject of much discussion. The view that they originated at Rome has long been abandoned. Hinschius and others argue that they were composed in the province of Reims; see for instance Hinschius, Preface, p. ccviii; Tardif *Histoire des sources du droit canonique* (1887); Schneider, *Die Lehre der Kirchenrechtsquellen* (1892). The latter afterwards inclined to place them in the Province of Tours and at Le Mans, a conclusion defended by Simson, *Die Entstehung der pseudoisidorianischen Fälschungen* (1886) and by Fournier, "La Question des fausses decretales" in the *Nouvelle Revue historique de droit français et étranger* (1887-1888) and in the *Revue d'histoire e* (1906-1907).



**DECURIO**, a Roman official title used in three connections: (1) A member of the senatorial order in the Italian towns and provincial towns organized on the Italian mode. The number of *decuriones* was usually 100. The qualifications for the office were fixed in each town by a special law (*lex municipalis*). Cicero alludes to an age limit, to a property qualification, and to certain conditions of rank. The method of appointment varied. Cicero speaks of the senate in the Sicilian towns as appointed by a vote of the township. But in most towns the chief magistrate drew up a list (*album*) of the senators every five years. The *decuriones* held office for life. They were convened by the magistrate who presided as in the Roman Senate. Their powers were extensive. In all matters the magistrates were obliged to act according to their direction, and in some towns they heard cases of appeal against judicial sentences passed by the magistrate. By the time of Julius Caesar (45 B.C.) special privileges were conferred on the *decuriones*, including the right to appeal to Rome for trial in criminal cases. Under the principate their status underwent a marked decline. The office was no longer coveted and means were devised to compel members of the towns to undertake it. By the time of the jurists it had become hereditary and compulsory. This change was largely due to the heavy financial burdens which the Roman Government laid on the municipal senates.

(2) The president of a *decuria*, a subdivision of the *curia*. (q.v.)

(3) An officer in the Roman cavalry, commanding a troop of ten men (*decuria*).

**BIBLIOGRAPHY**—W. Liebenam, *Stadtverwaltung im römischen Kaiserreiche* (1900); Pauly-Wissowa, *Realencyklopädie* (1901); A. H. J. Greenidge, *Roman Public Life* (1901); J. E. Sandys, *Constitution to Latin Studies* (1921), with useful bibliography; W. E. Heitland, *The Roman Republic* (1923).

**DÉDÉAGATCH**, officially known as Alexandroupolis, a seaport of Western Thrace in the Hebros province, 10 m. N.W. of the Maritsa estuary, on the Gulf of Enos, an inlet of the Aegean sea. Pop. about 3,000 Greeks and Armenians. A monastic community of Derwishes of the Dede sect, which was established here in the 15th century, shortly after the Turkish conquest, gave to the place its name. Until 1871 Dédéagatch was a mere cluster of fishermen's huts. Then settlers attracted by the possibilities of trade in the products of the valonia oak forest nearby gathered here. In 1884 it was made a sanjak. In 1889 the Greek archbishopric of Enos was transferred to Dédéagatch. On the opening, in 1896, of the Constantinople-Salonica railway, a large proportion of the transit trade which Enos, situated at the mouth of the Maritsa, had acquired, was diverted to Dédéagatch, and an era of unprecedented prosperity began, but when the railway connecting Burgas on the Black sea with the interior was opened, in 1898, Dédéagatch lost all it had won from Enos. Owing to the lack of shelter in its open roadstead, the port has not become the great commercial centre which its position otherwise qualifies it to be. It is, however, one of the chief outlets for the grain trade of the Adrianople, Demotica and Xanthi districts. In the Balkan War of 1913 the town was occupied for a time by Greeks but later handed to Bulgaria. In 1915 when Bulgaria annexed the coastal plains from the Maritsa to the Struma, Dédéagatch became permanently Bulgarian until 1918. After the collapse of Bulgarian opposition in 1918 the town was used for the concentration of British troops against the Turkish frontier. When the Peace Treaty drew the Bulgarian frontier along the mountains north of the coastal plains Dédéagatch fell to Greece. After the treaty of Lausanne the Greek frontier was withdrawn from the *Chatzija* lines to the Maritsa river. Dédéagatch became a frontier town and Enos fell to Turkey.

See *Admiralty Handbook of Macedonia*, pp. 463-464 (1920); *Survey of International Affairs*, 1920-23, pp. 338-340 (1925).

**DEDEKIND, JULIUS WILHELM RICHARD** (1831-1916), German mathematician, was born at Brunswick on Oct. 6, 1831. He studied at Göttingen, where he obtained his doctorate in 1852. After holding various minor posts he became professor of mathematics at the Technische Hochschule at Brunswick in 1894. He died at Brunswick on Feb. 12, 1916. Dedekind's most important work, *Stetigkeit und irrationale Zahlen* (1872), deals with

the theory of real numbers. He wrote a preface to the collected works of Riemann (1876), and edited Dirichlet's researches on the theory of numbers. The later editions of this work have an appendix containing Dedekind's own work on ideal primes. He was also the author of a memoir on the vibrations of a liquid ellipsoid.

**DEDHAM**, a town of Massachusetts, U.S.A., on the Charles river, 10 m. S.W. of Boston, the county seat of Norfolk county. It is served by the New York, New Haven and Hartford railroad. The population was 10,792 in 1900 (26% foreign-born white) and 13,918 in 1905. The principal manufactures are woollens, carpets and pottery (a variety of true crackleware). Dedham was one of the first two inland settlements of the colony, "planted" in 1635 and incorporated in 1636. A free public school, supported by direct taxation, was established in 1645.

**DEDICATION**, the setting apart of anything for a special object; especially the consecration of altars, temples and churches, also the inscription prefixed to a book etc. and addressed to some particular person, formerly designed to gain the patronage of the person addressed. In law, the setting apart by a private owner of a road to public use. (See HIGHWAY.)

The Jewish Feast of Dedication was observed for eight days from the 25th of Kislev (*i.e.*, about Dec. 12), to commemorate the purging (164 B.C.) of the temple after its desecration by Antiochus Epiphanes. See 1 Macc. 1:20-64, iv:36-59, 2 Macc. 1:9, 19, ii:16, v:15-16, vi:1-11, John x:22; also Josephus *Antiq.*, vii:6-7, xii:4 (where it is called the Feast of Lights).

**Dedication of Churches**.—The custom of solemnly dedicating buildings set apart for Christian worship must be almost as old as Christianity itself. Before the reign of Constantine Christian churches were few and any public dedication of them would have been dangerous in those days of persecution. But from the early 4th century allusions to and descriptions of the consecration of churches become plentiful.

Like so much else in the worship and ritual of the Christian Church, this service is probably of Jewish origin. The hallowing of the tabernacle and its ornaments (Exod. xl), the dedication of the temples of Solomon and Zerubbabel (1 Ki. viii, Ezra vi.), the rededication of the latter by Judas Maccabaeus (*see above*), the dedication of Herod's temple (Josephus, *Antiq.* xv:xi:6) and our Lord's recognition of the Feast of Dedication (John x:22, 23)—all support this hypothesis.

Eusebius (*Hist. Eccles.*, x:3-4) speaks of the dedication of churches rebuilt after the Diocletian persecution including that of the church at Tyre in A.D. 314-315. The consecrations of the church of the Holy Sepulchre built by Constantine at Jerusalem (A.D. 335), and of other churches after his time are described by Eusebius and other ecclesiastical historians. From them we gather that every consecration was accompanied by a celebration of the Holy Eucharist, a sermon, and special dedicatory prayers. St. Ambrose and other writers mention also the deposition of relics, and a vigil overnight, and there are occasional references to the tracing of the Greek and Latin alphabets on the pavement of the church.

The separate consecration of altars, by sacerdotal blessing and unction with chrism, is prescribed in canons of the councils of Agde (506) and Epone (517). St. Columbanus (d. 615) is said to have also used holy water (Walafrid Strabo, *Vita S. Galli*, cap. 6). At an early date the right to consecrate churches was reserved to bishops, as by the council of Braga in 563 and in the 8th century Irish collection of canons known as 'Synodus Patrickii'. Accordingly, it is in the pontifical that we find the fully developed consecration service. This occurs in a form closely resembling that now used in the pontificals of the 10th century, one of which, believed to be a copy of that of Egbert, archbishop of York (732-766), was printed in 1853 by the Surtees Society. Some idea of the general character of the service may be obtained from the following outline of it as performed in England before the Reformation, according to the use of Sarum (printed by W. Maskell, *Monumenta ritualia ecclesiae Anglicanae*, 2nd ed., vol. i, pp. 195-239, from an early 13th century pontifical).

There is a... (The text is partially obscured and difficult to read due to the image quality. It appears to describe a religious ceremony involving the altar and the church.)

**Consecration of Altar.**—Then follows the consecration of the altar. Holy water is mixed with chrism and with the mixture the bishop makes seven crosses on the altar. The altar is sprinkled seven times or thrice with water not mixed with chrism, and the altar-table is washed, censured and wiped. A cross is made with oil of catechumens in the centre of the altar, the altar-stone is anointed with chrism and the whole altar is rubbed with oil of catechumens and with chrism. Incense is blessed and the altar censured five grains of incense being placed crosswise in the centre and corners, and on the grains five slender candle-crosses which are lit. Afterwards the altar is scraped and cleansed; the altar-cloths and ornaments are sprinkled with holy water and placed on the altar, which is then censured. The service ends with the celebration of mass. The various collects, psalms, anthems, benedictions, etc., have been omitted for the sake of brevity.

The Sarum rite described above is substantially identical with that of Rome; but the latter contains in addition one important feature, viz. the translation of relics, found also in the Gallican and other uses. After the sprinkling of the church, the bishop prepares cement at the altar. He then goes to the place (outside the church) where the relics have been placed overnight and carries them in solemn procession to the church door, where he addresses the people and the founder, and two decrees of the council of Trent are read, together with the deed of foundation. Then the bishop anointing the door with chrism, enters the church with the relics and deposits them in the cavity on the altar, censes and covers them, and anoints the cover. The altar is then censured and wiped, as in the Sarum order.

This use of relics goes back to the time of St. Ambrose (see above), but was not universal. The council of Chalcedon (Chalcedon) in 451 ordered that part of the consecrated Host should be enclosed if relics were not obtainable. The tracing of the Greek and Latin alphabets on the church floor can be traced back certainly to the beginning of the 10th century, and is doubtless earlier. Its origin and precise meaning are unknown, but various explanations have been suggested by Rossi and others. The annual commemoration of the dedication of a church is probably as old a custom as that of dedication itself. In the Roman Catholic Church it is observed as a double feast of the first class, with octave.

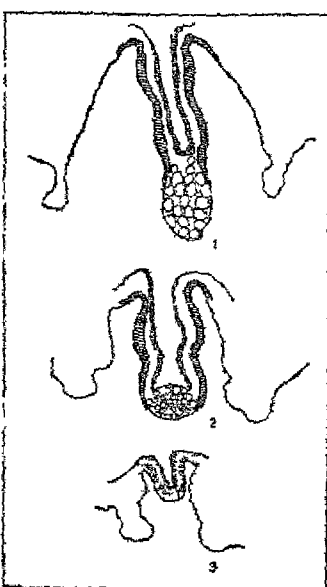
The dedication service of the Eastern Church is long and elaborate (see J. M. Neale, *Hist. of the Holy Eastern Church*, part II., 1850, pp. 1043-45). Relics are prepared and guarded overnight in a neighbouring sacred church. On the day, the bishop returns in procession with the relics to the church and... (The text is partially obscured and difficult to read due to the image quality.)

washes the altar with warm water and with wine and makes crosses on it with chrism. The altar is vested and the service ends with the liturgy which is repeated daily for seven days.

There is no authorized form for the dedication of a church in the reformed Church of England. A form was approved by the convocation of Canterbury in 1710, and an almost identical form was submitted in 1755 but neither form ever received royal sanction. Anglican bishops have however drawn up forms for use in their various dioceses. In the diocese of London for instance, the bishop attended by clergy and churchwardens, receives outside the west door a petition for consecration; the procession then moves round the whole church outside, while certain psalms are chanted. On again reaching the west door the bishop is admitted after knocking thrice and advances to the east end of the church. He there lays the keys on the table which is to be hallowed. The *Veni Creator* is sung followed by the *Gloria* with special suffrages. The bishop then blesses the font, cancel, lectern, pulpit, stalls and holy table. The deed of consecration is read and signed and Holy Communion is celebrated. The Church of Ireland and the episcopal Church of Scotland have no fully authorized form of dedication, but various forms have been issued on episcopal authority.

**DEDIFFERENTIATION**, a biological term meaning the reverse of differentiation, i.e. for processes which lead to organisms or their parts reverting to greater simplicity, the term reduction has also been employed, but is unsatisfactory as it is in demand for chromosome-reduction. (See CYTOLOGY) Dedifferentiation in its strict sense should not be applied to simple cases of degeneration, but in practice it is often impossible to draw the line.

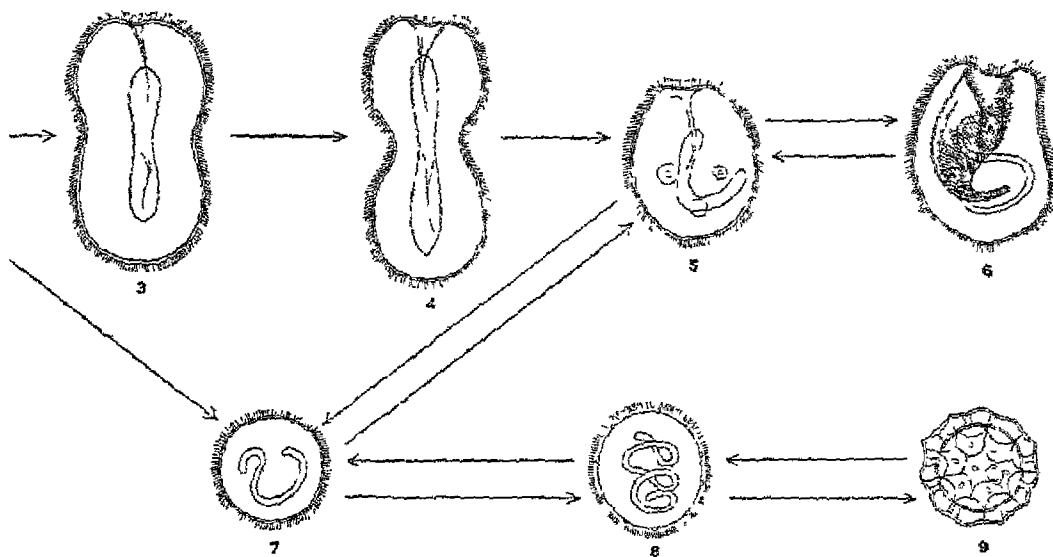
Dedifferentiation in many Protozoa (q.v.) may be a regular and physiological phenomenon. When Protozoa with complicated structure, such as many Ciliates reproduce by simple fission, many



FROM DE BEER, "AN INTRODUCTION TO EXPERIMENTAL EMBRYOLOGY" (CLARIFLONDON PRESS).  
 FIG. 1.—STAGES IN THE DEDIFFERENTIATION OF THE TENTACULOCYST OF AURELIA BY STARVATION  
 (1) Normal tentaculocyst. (2) Slightly dedifferentiated. (3) Dedifferentiated to a small knob without the characteristic structure.

of the old structures dedifferentiate, the daughter-cells acquiring new organs of the same kind by new differentiation. In *Bursaria* Lund has shown that, in addition, damage or unfavourable conditions will cause the whole animal to revert to a sphere without any trace of normal differentiation. Redifferentiation to the normal form may occur from this state or from any stage in the process. Similar total dedifferentiation occurs in the encystment of *Bursaria* and many other unicellular forms.

Starvation is a frequent cause of dedifferentiation. The common *Hydra*, by this and other means, may be made to lose all its tentacles, and eventually revert to a mere spheroid with no mouth, and similar phenomena have been described in sea-anemones. The common jelly-fish *Aurelia*, kept without food, shrinks enormously in bulk, some parts, e.g., the gelatinous bell, being much more reduced than others like the mouth-tentacles; specialized tissues lose their histological differentiation, e.g., the genital organs and the special sense-organs, the tentaculocysts. In the worm *Ophryotrocha*, remarkable dedifferentiation occurs if it is damaged or mutilated. In starvation, there will clearly be a "struggle of the parts," the less resistant breaking down and serving as food for the rest. Starvation itself is apparently favourable to dedifferentiation, but when this has once begun, the tissue can be more readily made to degenerate into mere food-materials. Thus differential resistance of tissues has sometimes been turned to physiological ac-



FROM LUND, "REVERSIBILITY OF MORPHOGENETIC PROCESSES IN BURSARIA"

2—DIAGRAM ILLUSTRATING REVERSIBILITY OF DEVELOPMENTAL PROCESSES IN BURSARIA  
 (1) Normal polyp. (2) Dedifferentiation begins. (3) Product of division. (4) Dedifferentiation preparatory to division. (5) and (6) A product of division, redifferentiating. (7) Reaction to unfavourable conditions. (8) and (9) Formation of resting-stage (oyst). The arrows indicate the direction of the process. Many steps are reversible.

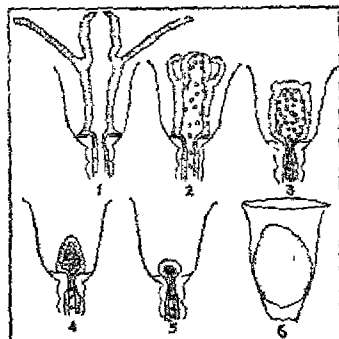
the salmon's sexual organs grow in fresh water, though it takes no time. The necessary material is in the queen ant are so weak off her wings after the nuptial flight, they dedifferentiate, eventually becoming converted into food-material.

Dedifferentiation is often complicated by resorption. When the process has reached a certain stage, many kinds of cell migrate out of the tissues. In higher forms with massive tissues this is not possible, and resorption is usually effected by phagocytes devouring the dedifferentiating cells. This is so in the tail-resorption of metamorphosing tadpoles; the tissues begin to dedifferentiate, but are subsequently attacked by phagocytes.

In lower types, the fate of dedifferentiating organs is largely determined by the space available to the emigrating cells, e.g., in colonial Hydroids, such as *Obelia*, when exposed to unfavourable conditions, the polyps start to dedifferentiate as does the less susceptible stalk are available to the tissues, and accordingly the dedifferentiated zooid point has been elicited by Child. Its such as weak alcohol to pieces (1874) he obtained dedifferentiation of the original polarity. On regeneration took place, but at right angles to the original polarity would have taken if no dedifferen-

tiation had occurred.

The Ascidians are the most highly organized animals in which total dedifferentiation is possible. This has been best worked out in *Clavellina*. Halved animals may, in the midst of normal regeneration, dedifferentiate to a small opaque spheroid, from which later a whole organism may arise. Intact whole animals, if small, may also dedifferentiate thus. Dedifferentiation may be induced by leaving in unchanged water, redifferentiation by change of water. Two successive dedifferentiations, each followed by redifferentiation have been obtained in a single animal, though deprived of food throughout.



FROM HUXLEY AND DE BEER IN "THE QUARTERLY JOURNAL OF MICROSCOPICAL SCIENCE"

FIG 4.—DEDIFFERENTIATION AND RESORPTION IN OBELIA

(1) to (5) When a section of stem is left attached to the polyp. (1) Normal polyp. (2) Dedifferentiation begins, and cells start migrating into the digestive cavity. (3) Mouth closed, tentacles resorbed to knob. (4) and (5) Total resorption of tentacles and shrinkage of the polyp. (6) No stem is left attached to the polyp. Dedifferentiation alone occurs.

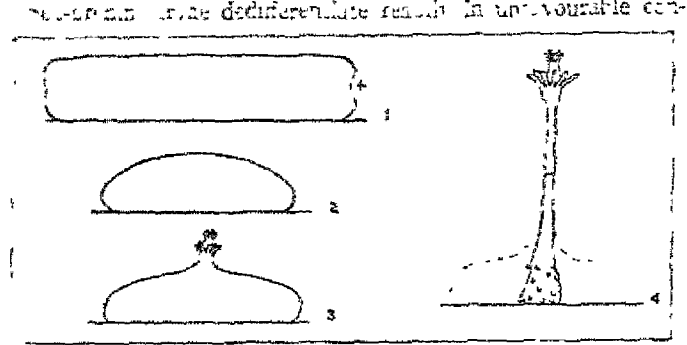
other form demands a continual performance of work against the forces of surface-tension, which is beyond the powers of cells exposed to other unfavourable conditions. The picture is complicated by two other factors—first, the facility with which different kinds of cells migrate out of their tissues; secondly, the different resistance of cells, leading to the least resistant breaking down and becoming food-material for the others.

Behaviour which may perhaps be included under dedifferentiation is that of (e.g.) certain Planarian flat when

the internal organs become greatly simplified, and different parts are affected at a very different rate; the cells revert to an embryonic type. Recovery is not possible from the most extreme stages, but at all earlier stages the process is reversible.

Schultz has attempted to show that dedifferentiation is a true reversal of normal development, but later work shows that this view is untenable. The structural changes seen are mainly due to the cells reverting to the "embryonic" type, roughly cubical when in epithelia, spherical when isolated. This, however, is not due to any mysterious force compelling return to the embryonic type because it is embryonic, but because this type has the least amount of surface relative to volume, to maintain any

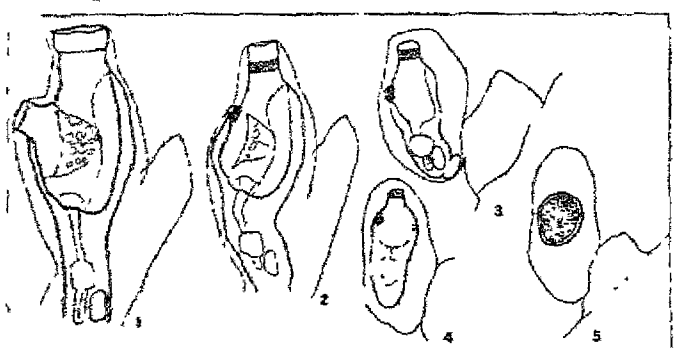
The cell may revert to a comparatively simpler state but the... As Child showed... the property of not... physiologically... Here the de-... relations... automatically.



FROM CHILD "PHYSIOLOGICAL FOUNDATIONS OF BEHAVIOR"  
 FIG. 5—DEDIFFERENTIATION IN CORYMORPHA FOLLOWED BY REDIFFERENTIATION WITH NEW POLARITY  
 (1) A piece of cut stem, — is free end nearest to the polyp (2) The same, after dedifferentiation in dilute alcohol-sea-water (3) and (4) When replaced in pure sea-water redifferentiation occurs but the new stem axis is at 90° angles to the old the polyp being formed where oxygen is most abundant

... eventually becoming... This tendency has been taken advantage of in... dedifferentiation of larval tissues followed by their re-... into the adult rudiment, is the method of normal metamorphosis (q.v.)

A striking type of dedifferentiation is that of tumour tissue, malignant and otherwise. When a tumour is formed the cells of the tissue from which it arises lose some of their differentiation. Roughly speaking, the greater the malignancy, the more complete the dedifferentiation (See CANCER). This type of dedifferentiation apparently differs importantly from that hitherto discussed for tumour-cells are characterized by undue activity and multiplicative power, whereas in the other type activity is reduced and multiplication, if present stopped. Possibly the existence of histological differentiation is only possible at a not too high level of metabolic activity, and relatively such stable scaffoldings as connective tissue fibrils, muscle-fibres, nerve-



FROM HUXLEY "STUDIES IN DEDIFFERENTIATION"  
 FIG. 6—REDUCTION PHENOMENA IN THE ASCIDIAN CLAVELLINA  
 (1) Upper part of normal specimen, showing heart (below to right), gullet, stomach, and rectum (below to left), with above, large pharynx opening by upper aperture of atrium (opening by aperture to left). The small circles are gill-slits leading from pharynx to atrium. (2) to (5) stages in dedifferentiation of the same specimen, to scale

fibrils, etc. are only constructed and maintained when the cell's activities are keyed at a certain pitch, and are broken down when they are higher, just as, to use a rough analogy, sandbanks are only laid down in a river when its rate of flow is suitable and are destroyed if its speed increases. On the principle of the struggle of the parts, it would be expected further that if cell-metabolism were altered so as to encourage cell reproduction, less food-material would be available for... structural dif-

not in any case cover all the fac shown to be sometimes caused by from another kind of tissue e.g. cultivated alone in artificial med. cells dedifferentiate entirely; but w the tissue-cells differentiate to form

In any event it is a well-established complication is incompatible with the if we may accordingly correlate the c with this fact and conclude that it dedifferentiation correlated with it

Dedifferentiation associated with is also seen in regeneration. In man served at the cut surface after wound tion of cells to form a so-called regeneration blastema, consisting of cells dedifferentiated as far as visible characteristics go. That they are also dedifferentiated in other respects is shown by the interesting results obtained in newts where grafting of a young regeneration blastema e.g. of a limb to some other region, e.g. the newly-cut stump of the tail will cause the blastema to complete the organ on to which it is grafted instead of that by which it was first regenerated (See REGENERATION, GRAFTING IN ANIMALS)

It will be seen that several diverse processes are at present lumped together under the head of dedifferentiation. Not only is the dedifferentiation correlated with increased multiplicative activity to be sharply distinguished from that correlated with depression of activity but among depressant agencies starvation, at least in moderate degree, probably has a different, less pathological chemically unfavourable conditions made between reversible dedifferentiation and therefore leads to dedifferentiation, if long continued (able). In reversible cases, investigation the dedifferentiated cells themselves zoa, and undoubtedly in some Metazoa of *Clavellina's* dedifferentiation), or redifferentiation occurs from undifferentiated. Investigation is also needed with respect capacity for tissues to transform from another. While this undoubtedly occurs to the power of a tissue to pass from differentiation, as when non-cornified into cornified under abnormal stimulus a new direction after passing through which cell-multiplication has taken example from regeneration. They solve several of these problems

See also REGENERATION GRAFTING SUB-CULTURE

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DE DONIS CONDITIONAL DEDUCTION, a term used in of taking away from or subt

... such as H these They do

and pec a v or the argum ntat e proces o arr ing at a or  
 ca or rom e dence re o an kind of in erence (from Lat  
*ded e e* to take o lead from o out o der e. Two forms of  
 the verb are used "deduce" and "deduct" originally synonymous,  
 they are now distinguished, "deduce" being confined to argu-  
 ments, "deduct" to quantities. In this sense it includes both argu-  
 ments from particular facts and those from general laws to  
 particular cases. In logic it is generally used in contradiction to  
 'induction' for a kind of mediate inference in which a conclusion  
 (often itself called the deduction) is regarded as following neces-  
 sarily under certain fixed laws from premises. Thus, the most  
 common form of deduction, is the syllogism (*q v*; see also  
 Logic), which consists in taking a general principle and deriving  
 from it facts which are necessarily involved in it. This use of  
 deduction is of comparatively modern origin, it was originally  
 used as the equivalent of Aristotle's ἀπαγωγή (see *Prior Ana-*  
*lytics*, B xxv). The modern use of deduction is practically iden-  
 tical with the Aristotelian συλλογισμός. Logical usage is some-  
 what inconsistent. On the one hand, Deduction is said to be from  
 a universal premise; on the other hand, even syllogisms consisting  
 of singular propositions only are described as deductive. To se-  
 cure consistent usage it is best to apply the term *deduction* to all  
 inferences from a universal proposition (even to immediate infer-  
 ences of a singular or particular proposition from a universal)  
 and to no other inference (such as singular syllogisms). Another  
 source of confusion lies in the fact that in Mathematics the term  
 deduction is sometimes used as synonymous with *Analysis*. Des-  
 cartes' "deductive method" is often misunderstood for this reason  
 as it covers both deduction proper and this analytic method.

**DEE, JOHN** (1527-1608), English mathematician and astrol-  
 oger, was born in London, and educated at St John's college  
 Cambridge, becoming a fellow of Trinity. He spent two years at  
 Louvain and at Rheims in study and lecturing, returning to  
 England in 1551, when he received a pension from Edward VI  
 which he exchanged for the living of Upton-on-Severn. Soon  
 after Mary's accession he was imprisoned on a charge of using en-  
 chantments against the queen's life, but was released in 1555. Dee  
 enjoyed the favour of Queen Elizabeth. He was asked to name a  
 propitious day for the coronation, gave lessons to the queen in  
 the mystical interpretation of his writings was sent abroad in  
 1578 to consult with German physicians and astrologers on the  
 nature of her illness, and was employed by her in establishing the  
 claim of the Crown to the overseas countries discovered by British  
 subjects. In 1581 began his collaboration with Edward Kelly, who  
 professed to have discovered the philosopher's stone and to be  
 able to raise spirits. The two spent the years 1583-89 in Poland  
 and Bohemia under the patronage of Albert Laski, palatine of  
 Sradecz. Dee returned to England in 1589. He was helped over  
 his financial difficulties by the queen and his friends. In May 1595  
 he became warden of Manchester college. In Nov. 1604 he re-  
 turned to Mortlake, where he died in Dec. 1608, at the age of 81,  
 in the greatest poverty. Dee's *Speculum* or mirror, a piece of  
 solid pink-tinted glass about the size of an orange, is preserved in  
 the British Museum.

His principal works are: *Propaedeutica aphoristica* (1558),  
*Monas hieroglyphica* (Antwerp, 1564); *Epistola ad Fredericum*  
*Commandinum* (Pesaro, 1570), *Preface Mathematical to the*  
*English Euclid* (1570), *Divers Annotations and Inventions added*  
*after the tenth book of English Euclid* (1570), *Epistola praefixa*  
*Ephemeridibus Joannis Feldi, a 1557, Parallaticae commenta-*  
*tionis praxeosque nucleus quadam* (1573).

The catalogue of Dee's printed and published works is to be found  
 in his *Compendious Rehearsal*, as well as in his letter to Archbishop  
 Whitgift *The Private Diary of Dr John Dee, and the Catalogue of*  
*his Library of Manuscripts*, edited by J. O. Halliwell, was published  
 by the Camden Society in 1842. There is a life of Dee in Thomas  
 Smith's *Vitae illustrium virorum* (1707). Eng. trans. by W. A. Avton  
 the *Life of John Dee* (906). M. R. J. Lists of Manuscripts  
 Formerly owned by D. John Dee, *Biblog Soc Trans Sup no I*  
 (92)

Dee a pring on Ben Brae acn on ot the Ca nso m at a he gh  
 o o5 it W h ts rbutares he r er drains an area of 100  
 sq m. Rap.d and turbu.ent during the frst hal. of t. cou.e of  
 90 m., t broadens below Aboyne and the rate of flow is diminished.  
 The channel towards its mouth was artificially altered in order to  
 provide increased dock accommodation at Aberdeen, but, above  
 the stream is navigable only for barges and small craft for a few  
 miles. It runs through beautiful scenery especially in Braemar.  
 About two miles above Inverey it enters a narrow rocky gorge  
 300 yd long and only a few feet wide at one part and forms the  
 rapids and cascades of the famous Linn of Dee. One of the finest  
 of Scottish salmon streams, it retains its purity almost throughout.  
 The principal places on the Dee are Castleton of Braemar, Balla-  
 ter, Aboyne, Kincardine O Neil, Banchory, Culter and Cuits.

**DEE**, a river of Wales and England. It rises in Bala Lake  
 Mertonethshire. Leaving the lake near Bala, it flows north-east  
 to Corwen and turns east past Llangollen to near Overton and  
 then bends nearly north to Chester, and thereafter north-west  
 through a great estuary into the Irish Sea. In the Llangollen dis-  
 trict the Dee crosses Denbighshire, and thereafter forms the  
 boundary of that county with Shropshire a detached part of Flint  
 and Cheshire. From Bala to Overton (35 m.), the river falls about  
 330 ft., and its course lies through a narrow, beautiful valley, en-  
 closed on the south by the steep slopes of the Berwyn Mountains  
 and on the north by a succession of lesser ranges. The Vale of  
 Llangollen is especially famous. Here an aqueduct of the Shrop-  
 shire Union canal bestrides the valley, it is a remarkable engineer-  
 ing work completed by Thomas Telford in 1805. The Dee has a  
 total length of about 70 m. and a fall of 530 ft. Below Overton it  
 debouches upon its plain track. Below Chester it follows a straight  
 artificial channel to the estuary, and this is the only navigable por-  
 tion. The estuary, which is 14 m. long, and 5½ m wide at its  
 mouth, between Hilbre Point and Point of Air, is not a commercial  
 highway like the Mersey, for at low tide it becomes a vast expanse  
 of sand, through which the river meanders in a narrow channel.  
 The tide rushes in with great speed over the sands, and their dan-  
 ger is illustrated in the well-known ballad "The Sands of Dee" by  
 Charles Kingsley. The Dee drains an area of 813 sq m.

**DEED**, in law, a contract in writing, sealed and delivered by  
 the party bound to the party intended to benefit. Contracts or  
 obligations under seal are called in English law *specialties*, and  
 down to 1869 they took precedence in payment over *simple* con-  
 tracts, whether written or not. Writing, sealing and delivery are  
 all essential to a deed. The signature of the party charged is  
 not material, and the deed is not void for want of a date. Del-  
 ivery it is held, may be complete without the actual handing over  
 of the deed, it is sufficient if the act of sealing were accompanied  
 by words or acts signifying that the deed was intended to be pres-  
 ently binding, and delivery to a third person for the use of the  
 party benefited will be sufficient. On the other hand, the deed  
 may be handed over conditionally as an *escrow*, in which case  
 it will not take effect as a deed until the conditions are per-  
 formed. A deed indented, or indenture (so called because written  
 in counterparts on the same sheet of parchment, separated by  
 cutting a wavy line between them so as to be identified by fitting  
 the parts together), is between two or more parties who con-  
 tract mutually. The actual indentation is not now necessary to  
 an indenture. The *deed-poll* (with a polled or smooth-cut edge,  
 not indented) is a deed in which one party binds himself without  
 expression of any obligations undertaken by another party. (See  
 CONTRACT)

Statutes have been enacted in many of the United States, as  
 in Great Britain and her colonies, setting forth certain short  
 and convenient forms for deeds thus giving effect to statutory  
 provisions and forms. In the United States a deed has the effect  
 of feoffment with livery of seisin or as a deed under the statute  
 of uses or of any species of conveyance to effect the  
 intent of the parties and not rep t to the legal req ents

**DEED REGISTRATION** see TITLE TO LAND

in 1841 became past or an American Bible Society in North Carolina. He taught at the University of North Carolina and at Raleigh-Mecklenburg College for four years (1850-54), president of the Greensboro N. C. Female college, and preached in a number of Southern churches. In 1855 he founded in New York City the unincorporated Church of the Strangers where he remained until his death on Nov. 13, 1893. With Phoebe Cary, one of his parishioners, he compiled *Hymns for All Christians* (1867) and also was the author of many books. For ten years he edited *Christian Thought*, organ of the American Institute of Christian Philosophy of which he was one of the founders and president and through which the Charles F. Deems lecture-ship in philosophy was established at New York university. See the memoir (1897) in part autobiography in part the work of his sons, and the memoir number of *Christian Thought* (Feb. 1894).

**DEEMSTER or DOOMSTER**, the former title of an officer attached to the High Court of Justice in Scotland who pronounced the doom or sentence on condemned persons. Mention of this office is made in the Doomsday Book. Deemster is the title proper to each of the two justices of the Isle of Man.

**DEER**, originally the name of one of two British species, the red-deer or the fallow deer, but now extended to all the family Cervidae (*see* PECORA, ARTIODACTYLA, UNGULATA). Briefly, deer may be defined as Pecora in which antlers are usually present in the male, when no antlers are developed, the upper canine teeth are elongated and sabre-like. The antlers arise from pedicles or bony projections of the frontal bone; when a new antler is to be formed the summits of these pedicles become highly vascular and from the blood thus supplied a bony secretion is deposited. During its growth the antler is covered with soft, hairy skin, through which run a number of blood-vessels, this skin is known as the velvet. Towards the completion of the antler's growth a more or less prominent ring of bone, the burr or coronet, is deposited at its base just above the junction with the pedicle, this tends to constrict the blood-vessels, and thus cut off the supply of blood from the antlers. When the antlers are freed from the velvet—a process usually assisted by the animal rubbing them against trees—they have a more or less rugose surface, owing to the grooves formed in them by the nutrient blood-vessels. In the antlers of the red-deer group which form the type of the whole series, the following names have been applied to their different component parts and branches. The main shaft is termed the beam; the first or lowest tine the brow-tine; the second the bez-tine, the third the trez-tine or royal; and the branched summit the crown, or surroyals.

The Cervidae are distributed all over Europe, Asia, northern Africa and America, but are unknown in Africa south of the Sahara. They are essentially woodland animals and where forced to dwell in open country, as in the highlands of Scotland, become stunted. Thus the prehistoric remains found in the Scottish peat-bogs indicate that a moderate sized, old time red deer (*Cervus elaphus*), which was a forest dweller, was a third as large again as well-grown modern forms. That this is not due to deterioration of the stock, but primarily to the conditions of the environment, is shown by the fact that the descendants of Scottish deer introduced into New Zealand are amongst the largest specimens known.

The existing members of the family are arranged in two sub-families, the Moschinae containing only a single species, the musk deer, and the Cervinae, including not only the true deer but the muntjaks, roe deer, mule deer, etc.

The subfamily Moschinae is distinguished by the presence of a gall bladder and, in the males, a large caudal gland, and by the absence of antlers, lacrimal glands and foot-glands. The hemispheres of the brain are comparatively smooth, with few convolutions. The subspecies are distributed over a large part of central and north-eastern Asia, from Gilgit southwards to Cochin China, and eastwards to Korea. The musk deer or kastura (*Moschus moschiferus*) stands about 20 in. at the shoulder, with the hind-quarters elevated, and the Korean subspecies is smaller and more slenderly built. The fur is black and white, resembling pitch; the general color is brownish spotted with grey. The ears are large and

the upper canine teeth of the males greatly enlarged projecting well beyond the lip margin. The tail is very short and the naked area of the muzzle is extensive. Musk deer are forest dwelling animals, usually found at considerable elevations; the males secrete the musk, from which the animal derives its name, in an abdominal gland. The record specimen carries canine teeth which project out beyond the jaw-bone for a distance of  $3\frac{1}{8}$  in.; these weapons appear to be chiefly used for fighting, the bucks engaging in severe combats during the pairing-season.

The Cervinae have no gall bladder or caudal gland, but there are foot-glands at least in the hind-limbs (absent in *Pudu*) antlers are as a rule, developed and are characteristic of all true deer. The cerebral hemispheres present numerous convolutions. It is an interesting point that the ratio between body-weight and antler-weight increases with the absolute size of the animal. Thus in the red deer (*Cervus elaphus*), it was found that in stags of mean weight 74.4 kg the antler-weight was 2.2% of the total in stags of mean weight 130.6 kg, it was 3.03% and in those of 211.8 kg 4.21%, a point of great evolutionary significance. The growth of the antlers depends also upon a number of other circumstances, which are favourable or unfavourable to the production of large, heavy antlers. Lime in the soil is very important and the amount of food available, depending on the weather, is also influential. The successive antlers of a stag increase rapidly in weight during the first few years, but after the 11th year, and sometimes before, decrease again ("go back"). The percentage increments for the red deer from Warnham Park are—2nd year, 230.6%, 3rd, 72.2%; 4th, 38.6%; 5th, 18.1%; 6th, 8.5%; 7th, 5.2% (*see* J. S. Huxley, *Proc. Zool. Soc.*, London, 1926). The antlers are used in fighting other stags and only exceptionally, or as a last resort, for defence, deer trusting rather to their fleetness to escape from an enemy. It is a remarkable fact however, that antler-less stags, which fight with their fore-hooves, seem often to be able to vanquish their antlered rivals. Most deer (but not the roe) are polygamous, the males fighting fiercely for possession of the females.

The subfamily contains 19 genera which vary in size from the *Pudu*, standing only about  $13\frac{1}{2}$  in. in height, to the gigantic moose and elk.

**I. Muntiacus.**—The members of this genus agree with all the other Cervinae, excepting the reindeer and caribou (*Rangifer*), in the absence of antlers in the females and the presence of a small, bare muzzle. They are known popularly as muntjaks or barking deer and are characterized by the tusk-like development of the upper canine teeth in the males, a feature in which these animals approach the condition found in the musk deer and resembling in this respect the tufted deer (*Elaphodus*) and the Chinese water deer (*Hydropotes*). Six species and numerous subspecies have been described, all are small animals, with small and simple antlers consisting of a small brow-tine and a beam, arising from long, bony pedicles which are continued downwards to form prominent ridges on the frontal region of the skull. In the females these pedicles are represented by small, bony prominences surmounted by tufts of hair. The ears are small and the tail long and thin. The various species are distributed over the Indo-Malayan region eastwards as far as Sumatra and Borneo, a number of forms occur in China and one in Formosa; muntjaks do not extend into Japan. The record length of the antlers taken from the burr to the tip, is 10 $\frac{3}{8}$  in. The males stand about 20 to 22 in. in height at the shoulder and weigh about 38 lb.

**II. Elaphodus** contains but a single species, *E. cephalophus*, or Chinese tufted deer, distinguished from the muntjaks by the small size of the antlers and by the supporting pedicles diverging inferiorly. Further, the pedicular ridges on the frontal region are absent. Four races are known all confined to China. In size these deer about equal the larger species of muntjak.

**III. Dama.**—Two species of *Dama* are now recognised, *D. dama* and *D. mesopotamica* from Persia, they are popularly known as fallow deer. In this genus, as in all the remaining genera except *Hydropotes*, the male canine teeth when present, are not tusk-like. The antlers are large and are supported on short pedicles which do not form frontal ridges as in the muntjaks: the bez-

time is normally absent and the beard is pinnated and bears numerous snags on the hinder edge. The coat is usually spotted with white in summer and the height at the shoulder is about 3 ft. Originally the species were restricted to the Mediterranean countries and Persia, the typical species has, however, been introduced into many parts of Europe. The extinct Irish elk (*Megaceros*) is an allied genus.

**IV. Axis.**—Some authors regard the genera *Axis*, *Hyalaphus*, *Rusa*, *Rucervus* and *Sika* as subgenera of *Cervus* but it seems more convenient to regard them as distinct. The chital or spotted deer (*Axis axis*) resembles *Dama* in the coat being spotted with white, the antlers are, however, very different being long, slender and not palmated. They are three-tined, the brow-tine forming a right angle with the beam. These Indian deer are of medium size standing about 36 in. at the shoulder, five antlers measure as much as 39 in. along the outer curve.

**V. Hyalaphus.**—Closely allied to the chital the hog-deer of the genus *Hyalaphus* are more stocky in build and the horn pedicles longer. The auditory bullae are very large and the coat is either spotted in summer or uniformly coloured throughout the year. The two species are confined to the Oriental region: *H. porcinus* is the best known.

**VI. Rusa.**—This genus includes large, medium-sized and small deer, normally carrying three-tined antlers in which the brow-tine forms an acute angle with the beam. The coat is long and shaggy and uniformly coloured in the adults. The species are widely distributed over most of the Oriental region, extending northwards as far as Sze-chuan. Five species are recognized, of which the sambar (*R. unicolor*) is the best-known. This species is typically a very massive animal, standing as much as 54 in. at the shoulder, some stags carry exceptionally large antlers (45 to 50 in. in length).

**VII. Rucervus.**—In this genus, the species of which are all large, both the second (bez) and third tine are wanting and the beam divides into four or more branches, the brow-tine forms either a right angle or continuous curve with the beam. The range includes a large part of south-eastern Asia, extending to the island of Hainan. *R. duvaucelli*, the barasingha or swamp-deer (confined to peninsular India), *R. schomburgki*, Schomburgk's deer, (remarkable for its many-tined antlers) and *R. thamin*, the thamin (with cylindrical and rugose antlers), which have a long brow-tine forming a continuation of the curve of the beam), are the best known.

**VIII. Sika.**—The sika or Japanese deer of Japan and Manchuria are medium-sized deer related to the true deer but with smaller and simpler antlers; the latter are flattened and usually four-tined. The coat is spotted with yellowish-white in summer; there is a white area bordered with black in the caudal region.

**IX. Cervus.**—In this genus, which includes the true deer, the antlers are more complex, usually having at least five tines. The tail is considerably shorter than in *Sika*, and the coat-colour uniform in the adult. The following species are here regarded as belonging to the typical genus.—the red deer (*C. elaphus*), wapiti (*C. canadensis*), Yarkand stag (*C. yarkandensis*), shou (*C. wallichii*), Macneill's deer (*C. macneilli*), hangul (*C. cashmiriensis*) and Thorold's deer (*C. albrostris*). The typical species (*C. elaphus*) is widely distributed, ranging over the greater part of Europe (excluding the Italian peninsula) and extending eastwards to the Caucasus and Caspian provinces of Persia. The largest of these red deer is the maral (*C. e. maral*) from Persia, the height at the shoulder reaching as much as 4½ ft. The wapiti (mis-called elk in America) is typically from eastern Canada; but in addition to the New World forms, several local races have been described from central and north-eastern Asia. The wapiti may stand as much as 5 ft. 4 in. at the shoulder and carries very massive antlers. Both red deer and wapiti have been successfully introduced into New Zealand. The shou and the hangul occur in the Himalayan region.

**X. Elaphurus** is apparently most nearly related to the true deer. The antlers divide a short distance above the burr, the front branch curving forwards and again dividing, and the single hind branch projecting backwards. Only one species is known, *E.*

*daidai* is the name of Pere David's deer, the distributional range is uncertain, as this deer is known only from a herd formerly kept in the gardens of the Summer palace, Peking, and their descendants, notably at Woburn abbey, England.

**XI. Odocoileus** includes the white-tailed deer (*O. virginianus*), mule deer (*O. hemionus*) and black-tailed deer (*O. columbianus*). In this genus and those following unlike *Dama*, *Cervus*, etc., the lateral metacarpals are represented by their lower, and not their upper, extremities. The antlers are large and the beam dichotomously forked—a subbasal snag is developed. The deer included in this group are exclusively American, the range extending from Alaska to Peru, Bolivia and northern Brazil. A large number of local races of the white-tailed deer have been described, from both North and South America. The mule deer and black-tailed deer are found only in North America.

**XII. Blastocerus.**—Closely allied to the foregoing but without metatarsal gland. The antlers are large, complex and lack the sub-basal snag of *Odocoileus*. Two species are known—*B. dichotomus*, the marsh deer, and the smaller *B. bezoarticus*, the Pampas deer, both South American. The former species is the largest South American deer, nearly equalling the red deer. *B. bezoarticus* is a little larger than a roe deer.

**XIII. Hippocamelus** is distinguished by the small, simple dichotomously forked antlers, of which the front prong is the shorter, and absence of metatarsal glands. Two species occur, both in South America.

**XIV. Mazama.**—The deer of this genus are all small species allied to *Hippocamelus*, but distinguished by their antlers being unbranched spikes. A large number of species and subspecies have been named, distributed throughout central and tropical South America, but the distinguishing characters are in many instances only very slight. The typical brocket (*M. americana*) is about 27 in. in height at the shoulder and the coat is bright rufous in colour. Some species are considerably smaller, notably *M. nana* from the Matto Grosso.

**XV. Pudu.**—This group contains two very small species, standing only 13½ to 15 in. at the shoulder, with very small spike-like horns, both from South America.

**XVI. Capreolus.**—This genus, comprising the roe deer is distinguished by the antlers arising almost vertically from the head; the beam divides into two upright branches, the hinder one of which again divides. It includes three species, varying in height from 26 (typical roe) to 34 in. (*C. pygargus*); they range over central southern Europe across Asia north of the Himalayas to the Pacific coast. The roe is monogamous. During the rutting period, the stags pursue the does in circles and often several pairs may be seen thus engaged. Although the rut takes place in autumn, the female roe shows no signs of pregnancy until the following spring, and it is suggested that development of the embryo is suspended during the winter.

**XVII. Alces.**—The members of this genus are at once distinguishable by their massive palmated horns, bordered with snags, large size (height at shoulder 5½ to 6½ ft.) and broad, overhanging muzzles. The European elk (*A. alces alces*) at one time extended throughout the greater part of northern Europe and part of northern Asia, but is now extinct in most parts of Europe. The American moose (*A. alces americanus*) from eastern North America is the typical moose. During the winter, a herd of moose will often trample down a space in the soft snow ("moose yard") to give them firm footing. The gait of these animals is a curiously stiff-legged run, but they nevertheless possess a considerable amount of speed. Their ungainly appearance.

**XVIII. Rangifer.**—The reindeer and caribou differ from all the preceding genera in that the female bears antlers and the muzzle is completely hairy. In size medium or large; in some subspecies the antlers are massive and broadly palmated (*R. tarandus tarandus*), in others long and slender (*R. t. arcticus*). The various races range over the northern parts of Europe and North America as far south as northern Columbia and New Brunswick. In many parts of its range, *Rangifer* is migratory and is indispensable as a domestic animal to the Lapps of northern Europe.

## Hydropotes

The general colour is rufous, much as in the workers and the race is confined to China and Korea.

References:—R. Lyell, *Desc. of A. Lond.* 1868 and Catalogue of the British Museum, *British Mus.* (N.S.) vol. 1, p. 117. R. Lyell and J. G. Rehn, *Camp. Journ.* of India (1914) p. 10. J. C. Dolman, *Rec. of the Indian Mus. Soc.* (1914) p. 10. J. S. Haldar, *Proc. Zool. Soc. Lond.* (1914) p. 10. (J. G. D.)

**DEERFIELD**, a town of Franklin county, Massachusetts, U.S.A., on the Connecticut and the Deerfield rivers 53 m. N. of Springfield, served by the Boston and Albany and the New York, New Haven and Hartford railways. The population in 1925 was 2,976. The greater part of the population is centred about the village of South Deerfield, a supply and shipping point for a large onion and tobacco-growing area. The oldest of the several villages, Old Deerfield, sometimes called "The Street", extends along one broad thoroughfare lined with elms through a beautiful valley, bordered by hills on the east and the west. Many of the houses date from the 17th century and the ground is dotted with tablets marking the home lots of early settlers and places where historic incidents occurred. In Memorial hall, built in 1798 for the Deerfield academy, the Pocumtuck Valley Memorial Association has assembled a collection of colonial and Indian relics. In 1896 many of the old household arts and crafts were revived and placed on a business basis by the formation of a society for the marketing of the products. For many years Deerfield (settled in 1669 and incorporated in 1673) was the frontier post of New England on the north-west. It suffered severely from the Indians in 1675 and 1677; and again on Feb. 29, 1704, the village was surprised in the early morning by a force of French and Indians who killed 49 captives (including the Rev. John Williams, who lived to publish an account of his experiences), burned the town and on the way back to Canada killed 20 of the captives.

**DEER PARK**, an enclosure of rough wooded pastureland for the accommodation of deer. Originally, the possession of a deer park in England was a royal prerogative and no subject could enclose one without a direct licence to impark from the crown. After the Conquest deer parks increased rapidly in number, but from about the middle of the 15th century they declined, and by Queen Elizabeth's time a considerable proportion of the great estates had passed into the possession of rich merchants who found it more profitable to breed bullocks than deer. This process of decline was hastened by the Civil Wars of the 17th century. The largest existing deer park in England is that at Savernake (4,000 acres); next comes Windsor, which contains about 2,600 acres in addition to the 1,450 acres of Windsor Forest.

See J. Whraker, *A Descriptive List of the Deer Parks of England* (1892).

**DE FALLA, MANUEL** (1876- ) Spanish composer, was born at Cadiz on Nov. 23, 1876. He studied piano with José Trapé and composition with Felipe Pedrell in Madrid. In 1905 he won the prize offered by the Academia de Bellas Artes with his opera *La Vida breve*. Two years later he went to live in Paris, where he met with much help and encouragement from Debussy, Ravel, Dukas and others, who recognized the sincerity of his aims. *La Vida breve* was produced at Nice in 1913 and in Paris the year following. When at last it reached Spain it was received with great enthusiasm; but in view of the tardy recognition of the composer in his own country overtures were made to him to become a naturalized Frenchman and so improve his chances of being heard in Paris. This he declined to do, and on the outbreak of the World War in 1914 he went back to Spain, where he made an exhaustive study of Spanish folk-music—in particular of the costs of Andalusia—before settling in his new home in Granada in the neighbourhood of the Alhambra. The traditional music of Spain, with its melodic elements of inspiration, containing as it does melodic elements from the church modes introduced by early Christians and Eastern rhythms brought by the Moors. De Falla's recognition in this field have made him a national composer in Spain. He makes

use of traditional modes and they stand for although he believes that the modality of folk-tunes should, and does form the basis of all great music his belief implies not only a complete absorption of the spirit of that modality but a thorough testing of the material in the light of the composer's aesthetic and ethical principles. Acting upon this, he submits his own work to the most searching revision before it is given to the public though fortunately without destroying its effect or spontaneity. He is a firm believer in tonality and in consonant chords having no love of dissonance for its own sake. His best-known work is the brilliant second ballet, *The Three-cornered Hat*, which was first played by the Russian Ballet at the Alhambra, London in 1919. His first ballet, *Love the Magician*, was performed in Madrid in 1915. Another dramatic work is *Master Peter's Puppet-Show*, a scenic version of a chapter from *Don Quixote*. He also wrote *Nights in the Gardens of Spain* for piano and orchestra, Concerto for harpsichord (or pf) fl., ob., clar. vln and cello, *Prece. españolas* for piano and *Seven Spanish Folk-Songs*.

See Manuel de Falla, *Miniature Essays* (J. & W. Chester, Ltd., London); *Dictionary of Mod. Music & Musicians* (London).

**DEFAMATION**, the publication concerning a person of matter which is untrue and tends to lower him in the estimation of right-thinking men or causes him to be shunned or avoided or exposes him to hatred, contempt or ridicule. (See LIBEL AND SLANDER.)

**DEFAULT**, in common law a failure to do some act required by law either as a regular step in procedure or as being a duty imposed. Default in compliance with a statute renders the defaulting liable to action by the person aggrieved or to indictment if the matter of command is of public concern, subject in either case to the qualification that the statute may limit the remedy for the default to some particular proceeding specifically indicated, and in some instances, e.g., in the case of local authorities, default in the execution of their public duties is dealt with administratively by a department of the Government, and only in the last resort, if at all, by recourse to judicial tribunals.

**DEFEASANCE**, in law, an instrument which defeats the force or operation of some other deed or estate.

**DEFENCE**: see PRACTICE AND PROCEDURE.

**DEFENCE MECHANISMS**, a psychological term, referring to various devices unconsciously adopted by the human mind to escape attack or to avoid unpleasant experience. The same mental mechanisms of defence which are employed by normal minds, appear in extreme form in the mental processes of the insane.

**Defence Mechanisms of Normal People.**—Whenever a normal person anticipates attack from an antagonist so much stronger than himself that he thinks he will be defeated if the contest ever comes to a decisive issue he immediately tends to act in a way calculated to prevent the conflict from occurring. Such responses are termed defensive reactions. They are of two general types: anticipatory attack upon the supposed opponent, and precautionary withdrawal from the anticipated danger. Lies told by children to avoid incurring punishment and the displeasure of loved parents exemplify both types of defence mechanisms. Concealment of the child's true actions represents withdrawal from threatened conflict with an antagonist (the parent) who is sure to win if the child tries to contest the case on its merits. The falsely imagined story constitutes an inducement response, wherein the child takes the initiative in an attempt to gain the approval and favour of the parent, thus preventing anticipated attack. Emotional irritability, active dislike of superiors and blustering, pompous manners frequently represent aggressive defence mechanisms of normal people. Shyness, seclusiveness, timidity, and sometimes day-dreaming and forgetting the names of real people and things represent the passive type of defensive mechanism.

**Defence Mechanisms of Abnormal People.**—Whenever a person tries ultimately to comply with some unpleasant emotional situation instead of dominating it, the result is an abnormal state of mind. By permitting the conflicting emotions to remain in consciousness without getting rid of some or harmonizing all, a number of abnormal states may result. The weaker emotion may



be suppressed into a repressed complex can never or only in acts or events which he has control over he does not understand that emotion is causing the acts. Or each conflicting emotion may organize about itself a separate personality resulting in "dissociation of personality," the afflicted individual uncontrollably changing from one personality to another at different times. Many psychiatrists (Hart) attribute somnambulism, obsessions, hallucinations and delusions to abnormal defence mechanisms similar to dissociation. Symbolization, stereotyped actions, rationalization, projection where the patient believes other people are expressing toward him the very emotions from which he is suffering, and insane phantasy are attributed to repression.

(W. M. M.)

See Hart, *The Psychology of Insanity*, 1925, Marston, *The Emotions of Normal People*, 1928.

**DEFENDANT**, in law, a person against whom proceedings are instituted or directed, one who is called upon to answer in legal proceeding. (See PRACTICE AND PROCEDURE.)

**DEFENDER OF THE FAITH** (Lat. *Fideli Defensor*), a title belonging to the sovereign of England in the same way as *Christianissimus* (Most Christian) belonged to the king of France and *Catholicus* (Catholic) belongs to the ruler of Spain. It seems to have been suggested in 1516, and although certain charters have been appealed to in proof of an earlier use of the title, it was first conferred by Pope Leo X on Henry VIII. The Bull granting the title is dated Oct. 11, 1521, and was a reward for the king's treatise against Luther. When Henry broke with the papacy, Pope Paul III deprived him of his designation, but in 1544 the title of "Defender of the Faith" was confirmed to Henry by Parliament, and has since been used by all his successors on the English throne.

**DEFERENT**, in ancient astronomy, the mean orbit of a planet, which carried the epicycle in which the planet revolved. (Lat. *deferens*, bearing down.)

**DEFERRED ANNUITY**, a periodic fixed money payment, generally arranged on an annual, semi-annual or quarterly basis, but upon which payments do not begin until the expiration of a certain time or the occurrence of some certain event. It is quite customary for insurance companies to sell deferred annuities whose payments begin when the beneficiary reaches a certain age, often 65 years or more. The deferred annuity may continue for a stipulated number of years, or for a specified number of payments (a deferred certain annuity), it may be continued for an uncertain period (a deferred contingent annuity); or may be continued during a person's lifetime (a deferred life annuity). (See ANNUITY.)

**DEFERRED ASSETS**, also known as *deferred charges to expense*, and *prepaid expenses*, are items of expense which have been paid or for which liability has been assumed, but which are not properly chargeable to the current accounting period. The charging of such items to current operating costs is deferred until the period arrives to which they are applicable. The premium, for example, on an insurance policy may be paid one year in advance. Obviously, the entire premium is not applicable to the month in which payment is made or obligation assumed but to the 12 months. Thus at the end of an accounting period, only that part of the cost applicable thereto would be charged to expense; the remainder is a *deferred asset*.

In addition to unexpired insurance, the other common deferred assets are advertising paid in advance, development expense, moving expense and organization expense. With such items as insurance and advertising, the problem of pro-rating costs is relatively simple, with such items as development, moving and organization expenses the problem becomes more involved. Organization expense, theoretically, extends over the entire life of the enterprise to which it applies. Since there is no way of knowing in advance how long a concern will remain in business some arbitrary basis must be selected for writing off the organization expense. Some organizations spread the cost over a five year period, others over a ten year period or even longer. Conservative accounting practice suggests the desirability of writing off such expense as rapidly as the profits of a business will permit.

**DEFFAND, MARIE ANNE DE VICHY-CHAMROND**, MARQUISE DU (1697-1780), a celebrated Frenchwoman was born at the château of Chamrond near Charolais (department of Saône-et-Loire) of a noble family on Dec. 25, 1697. Educated at a convent in Paris, she showed a sceptical and cynical turn of mind, which led the abbess to arrange that Massillon should reason with her, but he accomplished nothing. She was married at 21 to her kinsman Jean Baptiste de la Lande, marquis du Deffand but they were separated as early as 1722. Mme du Deffand, young and beautiful as said by Horace Walpole to have been for a short time the mistress of the regent, the duke of Orleans (Walpole to Gray, Jan. 25, 1766). In 1721 began her friendship with Voltaire but their regular correspondence dates only from 1736. She spent much time at Sceaux at the court of the duchesse du Maine, where she formed a close friendship with the president Hénault. In Paris she was in a sense the rival of Mme. Geoffrin but the members of her salon were drawn from aristocratic society more than from literary circles, though Voltaire, Montesquieu, Fontenelle and Mme de Staël-Delaunay were among the habitués. When Hénault introduced D'Alembert Mme du Deffand was at once captivated by him. With the encyclopaedists she was never in sympathy, and appears to have tolerated them only for his sake. When she lost her sight in 1754 she engaged Mile de Lespinasse to help her in entertaining. This lady's wit and charm made some of the guests, D'Alembert among others, prefer her society to that of Mme du Deffand, and she arranged to receive her friends for an hour before the appearance of her patron. When this state of things was discovered Mile de Lespinasse was dismissed (1764), but the salon was broken up, for she took with her D'Alembert, Turgot and the literary clique generally. From this time Mme du Deffand rarely received any literary men. The principal friendships of her later years were with the duchesse de Choiseul and with Horace Walpole. Her affection for the latter, which dated from 1765, was the most durable of all her attachments. Under the stress of this tardy passion she developed qualities of style and eloquence of which her earlier writings had given little promise. In the opinion of Sainte-Beuve the prose of her letters ranks with that of Voltaire as the best of that classical epoch. Walpole refused at first to acknowledge the closeness of their intimacy from fear of the ridicule attaching to her age, but he paid several visits to Paris expressly for the purpose of enjoying her society, and maintained a close and most interesting correspondence with her for 15 years. She died on Sept. 23, 1780 leaving her dog Tonton to the care of Walpole who was also entrusted with her papers. Of her innumerable witty sayings the best known is her remark on the cardinal de Polignac's account of St. Denis's miraculous walk of two miles with his head in his hands,—*Il n'y a que le premier pas qui coûte*.

The *Correspondance inédite* of Mme du Deffand with D'Alembert, Hénault, Montesquieu, and others was published in 2 vols (1809). In 1810 Mary Berry edited *Letters of the Marquise du Deffand to the Hon. Horace Walpole, afterwards earl of Orford, from 1766 to 1780* (4 vols), and gave numerous extracts from Walpole's letters to Mme du Deffand, since destroyed. In 1912 Mrs. Payer Toyne published in 3 vols *Lettres de Mme. du Deffand à Horace Walpole*, with 18 of the supposedly lost letters from Walpole. Her letters were also edited by M. de Lescurie in *Correspondance complète de la marquise du Deffand* (1865), and by the marquis de Ste. Aulaire in *Correspondance inédite, etc.* (1859 and 1866). See also Sainte-Beuve, *Causeries du Lundi*, vols. 1 and xiv. (1852-62); L. Percy, *Le président Hénault et Mme. du Deffand* (4th ed., 1893); P. de Ségur, *Esquisses et recits: Mme. du Deffand et sa famille* (1908).

**DEFIANCE**, a city of north-western Ohio, U.S.A., at the confluence of the Auglaize and the Tiffin rivers with the Maumee; the county seat of Defiance county. It is on Federal highway 24 and several State roads, and is served by the Baltimore and Ohio and the Wabash railways. The population was 8,376 in 1920 (94% native white) and was estimated locally at 10,000 in 1928. It is the central market of the Maumee valley a rich dairying and farming region. Dairy products, steel barrels and drums, automobile bodies and trucks, cotton gloves and mittens, metal and canvas specialties are some of its leading manufactures. It is the seat of Defiance college (Christian), established as a normal school

In 1834 The residence of the river was a favourite meeting-place of the Indians. In 1891 Gen. Amos Wayne built a fort which he named Denaree on a spot now included in a public park. A second fort (Wheatstone) was established here by Gen. Thomas during the war of 1812. The town was incorporated in 1822. It developed commercially after the opening of the Miami and Erie canal, (1825) was made the county seat in that year, and became a city in 1861.

**DEFILE**, a military expression for a passage, to march through which troops are compelled to file, or narrow their front, or to march in a line or by files. The word is usually applied to a ravine or gorge in a range of hills, but it is usually over a river, a bridge and even a village may be called a defile. The term is also used to express, with out any special reference to military operations a gorge among mountains. The verb to defile is used of troops marching on a narrow front, or narrowing their front, under all circumstances, and in this sense is the contrary of "deploy."

'Defile' in the sense of 'pollute' is another form of "defoul"  
**DE FILIPPI, FILIPPO** (1869- ), Italian scientist and explorer, was born in Turin April 6, 1869. After graduating in medicine at the Turin University, he became assistant in the surgical clinic and lecturer in operative surgery in the University of Bologna. He published a number of important papers on physiological and biological chemistry. In 1907 he went with the Duke of the Abruzzi to Alaska as scientific observer and ascended Mount St. Elias. Although he did not accompany the Duke to the Ravenston in Central Africa in 1906. De Filippi wrote the report of the expedition. In 1909 De Filippi joined the Duke's expedition to the Western Himalaya and Karakoram Mts. where a point 22,600ft high was reached on a ridge of the Bride Peak close to K2, which established a record of altitude unsurpassed until the exploits on Mount Everest (1922 and 1924). He later (1913-14) organized and led an important scientific expedition to the Karakoram range in Central Asia, under the auspices of the Indian and Italian Governments.

He published *The Ascent of Mount St. Elias, Alaska, by H.R.H. Prince Luigi Amedeo di Savoia, Duke of the Abruzzi* (1900), *Ruwendorn* (1909), *Karakoram and Western Himalaya* (1909) 2 vol. (1912) and *Storia della spedizione scientifica italiana nel Himalaya, Caracorum e Turkestan Cinese, 1913-1914* (1924)

**DEFINITION**, a logical term used popularly for the process of explaining or giving the meaning of, a word and also in the concrete for the proposition or statement in which that explanation is expressed (Lat. *definitio*, from *de-finire*, to set limits to, describe). In logic definition consists in determining the qualities which belong to given concepts or universals; it is not concerned with individuals, which are marked by an infinity of peculiarities, any one or all of which might be predicated of another individual. Individuals can be defined only in so far as they belong to a single kind. According to Aristotle, definition is the statement of the essence of a concept, that is, it consists of the genus and the differentia. In other words, "man" is defined as "animal" and "rational," or "rational animal" i.e., the concept is (1) referred to the next higher genus, and (2) distinguished from other modes in which that genus exists, i.e., from other species. "Rational animal" is thus the predicate of the statement constituting the definition. Sometimes the word "definition" is used to signify merely the predicate. It is sometimes argued that, there being no definition of individuals as such, definition is of names (see J. S. Mill *Logic*, I. viii. 5), not of things: it is generally, however, maintained that definition is of things, regarded as, or in so far as they are, of a kind. Definition of words can be nothing more than the explanation of terms such as is given in a dictionary.

The following rules are generally given as governing accurate definition. (1) *The definition must be equivalent or commensurate with that which is defined, it must be applicable to all the individuals included in the concept and to nothing else.* Every man, and nothing else, is a rational animal. "Man" is not a definition for "man" is predicable of animals, (2)

*be per genus et differentiam* as we have already seen. These are the important rules. Three minor rules are. (4) *The definition must not contain the name of the concept to be defined; it it does no information is given.* Such a proposition as "an archdeacon is one who performs archidiaconal functions" is not a definition. Concepts cannot be defined by their correlatives. Such a definition is known as a *circulus in definiendo*. (5) *Obscure and figurative language must be avoided,* and (6) *Definitions must not be in the negative when they can be in the affirmative.*

Definition *per genus et differentiam* is a concise description of what a certain kind of thing is. There is another kind of definition known as *genetic definition*, which describes how the kind of thing in question can be produced. Some terms can be defined in both ways e.g., the term *circle* may be defined as "a plane curve every point of which is equidistant from a certain point called the centre, or as a plane curve produced by moving a point at a constant distance from another point." Many chemical formulæ are really genetic definitions.

**DEFLATION**. A diminution of the volume of currency, causing a rise in the value of money per unit and a fall in prices. Its effect varies with the degree of inflation which preceded it and which it is concerned to reduce. For a full discussion see INFLATION AND DEFLATION, CURRENCY, MONEY.

**DEFOE, DANIEL** (c. 1650-1731), English author, was born in the parish of St Giles Cripplegate London, in the latter part of 1650 or early in 1660 of a Nonconformist family. His father James Foe, was a butcher and a citizen of London. Until late in life Daniel signed Defoe or Foe indifferently.

Daniel was educated at a famous dissenting academy, Mr Charles Morrison's of Stoke Newington, where many of the best-known Nonconformists of the time were his schoolfellows. He joined Monmouth's rebellion in 1685, and is supposed to have owed his lucky escape from the law to his being a Londoner, and therefore a stranger in the west country. Before his western escapade he had taken up the business of hosiery factor, and had married Mary Tuffley, by whom he had seven children. At the entry of William and Mary into London he is said to have served as a volunteer trooper "gallantly mounted and richly accoutred." At this period he seems to have been a sort of commission merchant, especially in Spanish and Portuguese goods, and at some time to have visited Spain on business. In 1692 he failed for £17,000. Although his creditors accepted a composition, he afterwards honourably paid them almost in full, a fact attested by not very friendly witnesses. He then became secretary and afterwards manager and chief owner of some tile works at Tilbury, but here also he was unfortunate, and his imprisonment in 1703 brought the works to a standstill, and he lost £3,000. About the middle of the reign of William III. he was introduced to the King and in 1695 he was appointed accountant to the commissioners of the glass duty, an office which he held for four years. At this time he produced his *Essay on Projects* (1698), containing remarkable suggestions, much in advance of his time, on banks, road-management, friendly and insurance societies of various kinds, idiot asylums, bankruptcy, academies, military colleges, high schools for women, etc. In the same year he wrote the first of a long series of ingenious pamphlets on the then burning question of occasional conformity. He argued that the conscience of the Dissenters should not permit them to conform, yet he denounced the impropriety of requiring tests at all. In support of the government he published, in 1698, *An Argument for a Standing Army*, followed in 1700 by a defence of William's war policy called *The Two Great Questions considered*, and a set of pamphlets on the partition treaty. *The True-Born Englishman* (1701) is a satire in rough but extremely vigorous verse on the national objection to William as a foreigner, and on the claim of purity of blood for a nation of mixed origin. He also took part in the proceedings which followed the Kentish petition and was the author of the letter of the *Legion Memorial* which asserted the right of the electors over the elected. The theory of the

*Body of the People of England examined and asserted* (1701).

In an evil hour for himself Defoe wrote the anonymous *Shortest Way with the Dissenters* (1702), a statement in the most forcible terms of the extreme "high-flying" position, which some high churchmen were unwary enough to endorse, without any suspicion of the writer's ironical intention. The author was soon discovered; and the advertisement offering a reward for his apprehension gives the only personal description we possess of him, as "a middle-sized spare man about forty years old, of a brown complexion and dark brown-coloured hair, but wears a wig; a hooked nose, a sharp chin, grey eyes, and a large mole near his mouth." In this conjuncture Defoe had really no friends, for the Dissenters had already been annoyed by his rather casuistical tracts on the question of occasional conformity, and were as much alarmed at his book as the high-flyers were irritated. He was fined (Feb. 24, 1703) 200 marks, and condemned to be pilloried three times, to be imprisoned indefinitely, and to find sureties for his good behaviour during seven years. It was in reference to this incident that Pope, whose Catholic rearing made him detest the abettor of the Revolution and the champion of William of Orange, wrote in the *Dunciad*—

Earless on high stands unabash'd Defoe

—though he knew that the sentence to the pillory had long ceased to entail the loss of ears. Defoe's exposure in the pillory (July 29, 30, 31) was, however, rather a triumph than a punishment, for the populace took his side; and his *Hymn to the Pillory* is one of the best of his writings in verse. Unluckily for him his condemnation had the indirect effect of destroying his business at Tilbury.

He remained in prison until Nov. 1, 1704, and then owed his release to the intercession of Robert Harley, who represented his case to the queen, and obtained for him not only liberty but pecuniary relief and employment, which, of one kind or another, lasted until the termination of Anne's reign. There is no doubt that Harley, who understood the influence wielded by Defoe, made some conditions. Defoe says he received no pension, but his services were certainly rewarded, and he was a secret agent of the government in 1706 and 1707 in Scotland, working in favour of the Union. In this case he was employed by Godolphin, to whom Harley had recommended him. He wrote in prison many short pamphlets, chiefly controversial, published a curious work on the famous storm of the 26th November, 1703, and started in February 1704 *The Review*. This was a paper which was issued during the greater part of its life three times a week. It was entirely written by Defoe, and extends to eight complete volumes and some few score numbers of a second issue. He did not confine himself to news, but wrote something very like finished essays on questions of policy, trade and domestic concerns; he also introduced a "Scandal Club," in which minor questions of manners and morals were treated in a way which undoubtedly suggested the *Tatlers* and *Spectators* which followed. Only one complete copy of the work is known to exist, and that is in the British Museum. After his release Defoe went to Bury St. Edmunds, though he did not interrupt either his *Review* or his occasional pamphlets. One of these, *Giving Alms no Charity, and Employing the Poor a Grievance to the Nation* (1704), is extraordinarily far-sighted. It denounces both indiscriminate alms-giving and the national workshops proposed by Sir Humphrey Mackworth.

In 1705 appeared *The Consolidator, or Memoirs of Sundry Transactions from the World in Moon*, a political satire which is supposed to have given some hints for Swift's *Gulliver's Travels*; and at the end of the year Defoe performed a secret mission, the first of several of the kind, for Harley. In 1706 appeared the *True Relation of the Apparition of one Mrs. Veal*, an excellent example of Defoe's skill as a special reporter. In the course of his service in Scotland he wrote his *History of the Union*, which appeared in 1709. In this year Henry Sacheverell delivered his famous sermons, and Defoe wrote several tracts about them and attacked the preacher in his *Review*.

In 1710 Harley returned to power, and Defoe was placed in a somewhat awkward position. He seems, in fact, to have agreed

with the foreign policy of the Tories and with the home policy of the Whigs, and naturally incurred the reproach of time-serving and the hearty abuse of both parties. At the end of 1710 he again visited Scotland. In the negotiations concerning the Peace of Utrecht, Defoe strongly supported the ministerial side, to the intense wrath of the Whigs, displayed in an attempted prosecution against some pamphlets of his on the all-important question of the succession. Again the influence of Harley saved him. He continued, however, to take the side of the Dissenters in the question affecting religious liberty. He naturally shared Harley's downfall; and, though the loss of his salary might seem a poor reward for his constant support of the Hanoverian claim, it was little more than his ambiguous, not to say trimming, position must have led him to expect.

Defoe declared that Lord Annesley was preparing the army in Ireland to join a Jacobite rebellion, and was indicted for libel; and prior to his trial (1715) he published an apologia entitled *An Appeal to Honour and Justice* which is one of the chief sources for the facts of his life. He was convicted, but was liberated later in the year under circumstances that only became clear in 1864, when six letters were discovered in the Record Office from Defoe to a government official, Charles Delafaye, which, according to William Lee, established the fact that in 1718 at least Defoe was doing political work of an equivocal kind—that he was sub-editing the Jacobite *Mist's Journal* under a secret agreement with the government that he should tone down the sentiments and omit objectionable items. He had, in fact, been released on condition of becoming a government agent. He seems to have fulfilled similar functions in *Dormer's Letter* and the *Mercurius Politicus*.

The first volume of Defoe's most famous work, the immortal story—partly adventure, partly moralizing—of *The Life and Strange Surprising Adventures of Robinson Crusoe*, was published on April 25, 1719. It ran through four editions in as many months, and then in August appeared the second volume. Twelve months afterwards the sequel *Serious Reflections*, now hardly ever reprinted, appeared. The first two parts were reprinted as a *feuilleton* in *Heathcote's Intelligencer*, perhaps the earliest instance of the appearance of such a work in such a form. The story was founded on Dampier's *Voyage round the World* (1697), and still more on Alexander Selkirk's adventures, as communicated by Selkirk himself at a meeting with Defoe at the house of Mrs. Damaris Daniel at Bristol. Selkirk afterwards told Mrs. Daniel that he had handed over his papers to Defoe. *Robinson Crusoe* is one of the world's classics in fiction. Crusoe's shipwreck and adventures, his finding the footprint in the sand, his man "Friday," are all inimitably told, but it is the conception of civilized man alone face to face with nature which has made Defoe's great work an imperishable part of world literature. In the same year appeared *The Dumb Philosopher, or Dickory Cronke*, who gains the power of speech at the end of his life and uses it to predict the course of European affairs.

In 1720 came *The Life and Adventures of Mr. Duncan Campbell*. This was not entirely a work of imagination, its hero, the fortune-teller, being a real person. There are amusing passages in the story, but it is too desultory to rank with Defoe's best. In the same year appeared two wholly or partially fictitious histories, each of which might have made a reputation for any man. The first was the *Memoirs of a Cavalier*, which Lord Chatham believed to be true history. *Captain Singleton*, the last work of the year, has been unjustly depreciated by most of the commentators. The record of the journey across Africa, with its surprising anticipations of subsequent discoveries, yields in interest to no work of the kind.

In 1721 nothing of importance was produced, but in the next year three works of capital importance appeared. These were *The Fortunes and Misfortunes of Moll Flanders*, *The Journal of the Plague Year*, and *The History of Colonel Jack*. *Moll Flanders* still ranks among the great English novels, and deserves far more notice than it has usually received.

The *Journal of the Plague Year*, more usually called, from the title of the second edition, *A History of the Plague*, reads like a