

59. *Frequency of Types of Prescriptions Filled:*

1, Liquids; 2, Capsules; 3, Tablets; 4, Powders; 5, Ointments.

60. *Frequency of Receiving Prescriptions Calling for Items Not Stocked:*

All but 4 reported that they did not frequently receive prescriptions calling for items not stocked. All reported that the un-stocked items were new proprietaries.

61. *Prescriptions from Dentists:*

5 receive no prescriptions from dentists; 6 receive less than 1%; 14 receive 1%; 7 receive 1%-5%.

62. *College Graduate Requirements:*

14 reported that they required registered pharmacists to be college graduates, 17 reported that they did not require registered pharmacists to be college graduates.

63. *Attitudes toward Schools of Pharmacy and Pharmacy Course:*

23 approved of the four-year pharmacy course,  
7 did not approve of the four-year pharmacy course.

Those that approved of the four-year pharmacy course did so for the following reasons: 2, raises standard of pharmacy; 3, reduces the number of graduates; 3, gives more general education; 3, produces higher type of men; 7, produces better equipped and more capable men; 1, impresses physicians and public; 1, greater help to professional pharmacy.

Those that did not approve of four-year course did so for the following reasons: 1, students are spending their impressionable years in college and coming out with no knowledge of practical pharmacy; 1, capable men are handicapped; 1, one or two years of training are ample.

Suggestions for improvement of pharmacy courses:

6, give more practical work and less theory; 3, require actual merchandising experience before graduation; 2, have teaching and talks by active professional pharmacists; 3, give more professional and laboratory training; 3, restrict enrollment.

64. *Demand for Pharmacy Graduates:*

18 considered the supply of pharmacy graduates greater than the demand,  
5 did not consider the supply of pharmacy graduates greater than the demand.

65. *Observance of Pharmacy and First Aid Weeks:*

23 observe Pharmacy and First Aid Weeks,  
8 do not observe Pharmacy and First Aid Weeks.

## THE DEBT OF AMERICAN PHARMACY TO BENJAMIN FRANKLIN AND HIS PROTÉGÉ, JOHN MORGAN.\*

BY JOSEPH W. ENGLAND, PH.M.

The dominant characteristic of Benjamin Franklin (1706-1790) was his amazing versatility. He was, in the tribute of George Washington, "venerated for benevolence, admired for talent, esteemed for patriotism and beloved for philanthropy." He left the impress of his personality upon practically every phase of

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our present-day life. Not only was he a scientist of rare ability, but he had unusual executive capacity, was intensely practical, and had a keen sense of humor.

Dr. Nathan G. Goodman, of Philadelphia, the well-known historical journalist, and author of "The Ingenious Dr. Franklin," in an interview with C. William Duncan (*Evening Public Ledger*, Philadelphia, January 16, 1932), has stated that:

"Benjamin Franklin was the wit par excellence of Colonial America. Because of the depth of his sympathy and his ability to survey situations in their manifold relationships to each other, Franklin was able to see beneath the surface of the human mind. Where can one find a more profound guide to human nature than the one offered by Franklin in 'Poor Richard's Almanack?' Here one finds recipes for the kitchen, choice bits of literature, philosophic epigrams and paragraphs, comments on the weather, advice on life and living, apt suggestions for politicians and much subtle humor.

"The first issue of the Almanack appeared in the fall of 1732, and it achieved immediate success. Before long Franklin was selling 10,000 copies annually. This meant that one person in every 100 had a copy of the Almanack. The author's reputation as a versatile writer was soon recognized throughout the Colonies.

"In his 'Pennsylvania Gazette' Franklin felt that he had to be dignified, but not so as editor of the Almanack. One can imagine that the actual writing of this annual volume was a source of real pleasure to him, for it was an outlet for his personal beliefs and feeling. It was in Poor Richard that Franklin introduced the element of humor into American writing for the first time, and he might well be called the 'Father of American Humor.'

"Franklin used the Almanack as a medium for instruction and for propaganda purposes for his own pet projects. In an unsuspecting, subtle way, he was fond of preaching.

"The most notable example of Franklin's art as a preacher is found in his preface to Poor Richard's Almanack for 1758, a preface printed throughout the world, after its first appearance, as 'The Way to Wealth.' He pictures a group of men at an auction sale; conversation centers around the hard times and an old gentleman is asked what he thinks of the time and won't the heavy taxes ruin the country? The old gentleman (Father Abraham) replied: 'Friends and neighbors, the taxes are indeed very heavy, and if those laid on by the government were the only ones we had to pay we might more easily discharge them; but we have many others, and much more grievous to some of us. We are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly; and from these taxes the commissioners cannot ease or deliver us by allowing an abatement. \* \* \* God helps them that help themselves.'

"Benjamin Franklin was incredibly curious. He asked more questions than his friends could answer; he demanded the how and the why of the most baffling as well as the commonest phenomena. In his innate curiosity lay the germ of his passion for the practical. When an explanation was neither forthcoming nor satisfactory, he himself set about solving the problem or unraveling the mystery.'

In the Library of the Philadelphia Drug Exchange there is an old worm-eaten book, brown with age, entitled "The Life of 'Dr. Benjamin Franklin, Written by Himself," Second American Edition, Philadelphia, Printed for Benjamin Johnson, No. 147, High Street, M, DCC, XCIV (1794).

Nothing was too small for Franklin to study; nothing too big, and in evidence of his greatness, no one was quicker to change his opinion if convinced of error. For instance, in his biography, he wrote (page 59), as follows:

"In the account of my first voyage from Boston to Philadelphia, I omitted, I believe, a trifling circumstance, which will not, perhaps, be out of place here. During a calm which stopped us above Block Island, the crew employed themselves in fishing for cod, of which they caught a great number. I had hitherto adhered to my resolution of not eating any thing that had possessed life; and I considered on this occasion, agreeably to the maxims of my master, Tryon, the

capture of every fish as a sort of murder, committed without provocation, since these animals had neither done, nor were capable of doing, the smallest injury to any one that should justify the measure. This mode of reasoning I conceived to be unanswerable. Meanwhile I had formerly been extremely fond of fish; and when one of these cod was taken out of the frying-pan, I thought its flavour delicious. I hesitated some time between principle and inclination, till at last recollecting, that when the cod had been opened, some small fish had been found in his belly, I said to myself, if you eat one another, I see no reason why we may not eat you. I accordingly dined on the cod with no small degree of pleasure, and have since continued to eat like the rest of mankind, returning only occasionally to my vegetable plan. How convenient does it prove to be a rational animal, that knows how to find or invent a plausible pretext for whatever it has an inclination to do."

Franklin "is buried on the spot which he himself chose, in the yard belonging to Christ Church of Philadelphia, one of the oldest Episcopal churches in the country," and on the simple marble slab are the words only: "Benjamin and Deborah Franklin, 1790." "Before his death he wrote an 'epitaph' to amuse some friends. It is full of wit and pathos, but was never intended to be placed over him," wrote Elizabeth Duane Gillespie (Franklin's great-granddaughter) in 1891 to George W. Childs of the *Public Ledger* of Philadelphia.

The epitaph read:

The Body of  
Benjamin Franklin, Printer  
(Like the cover of an old book,  
its contents worn out  
And stript of its Lettering and Gilding),  
Lies Here Food for Worms:  
Once More,  
Corrected and Amended  
by the Author

Benjamin Franklin had a very distinct, if indirect, influence upon the development of early American medicine and pharmacy, largely through his wide-spread personal contacts with physicians and his markedly efficient work for the Pennsylvania Hospital, the first public hospital in America.

Among his many practical schemes and suggestions, and scientific deductions, contained in the letters which Dr. Goodman publishes in his work, there may be mentioned: Daylight saving, treatment for gout, cold air bath, electrical treatment for paralysis, lead poisoning, rules of health and long life, choosing eye glasses, bifocals or bifocal eye glasses (which he invented), small pox and cancer, causes of cold, definition of a cold, etc. His letter of April 10, 1774, to Joseph Priestley (the discoverer of oxygen), reporting the inflammability of marsh gas, or methane, is most interesting, especially the concluding paragraph stating: "The discoveries you have lately made, of the manner in which inflammable air (*i. e.*, hydrogen, J. W. E.) is in some cases produced, may throw light on this experiment, and explain its succeeding in some cases, and not in others."

Dr. Francis R. Packard, the eminent medical historian, in his article on "How London and Edinburgh Influenced Medicine in the Eighteenth Century" (The S. Weir Mitchell Oration), delivered before the College of Physicians of Philadelphia (from the Transactions of the College of Physicians of Philadelphia, 1931, Vol. liii, page 151), states that:

"It was the ever-helpful Benjamin Franklin, however, who was the most important aid to his young fellow-countrymen. It may be recalled that Franklin visited England three times. His first trip was made in 1725-1726, when, at the instigation of Sir William Keith, he went over to London, where he worked at his trade as a printer. In 1757 he went to London as the representative of Pennsylvania in the disputes between the inhabitants of that province and the proprietaries, the Penns. On this occasion he stayed in England for six years, returning to Philadelphia late in 1763. During this sojourn he frequented the best circles in London, was a zealous attendant at the meetings of the Royal Society and was treated with much consideration by Fothergill, Lettson and many other prominent persons. He made a visit to Scotland, where he was much entertained and made many friends, among them Lord Kames and Sir Alexander Dick. The University of Aberdeen conferred the honorary degree of LL.D. upon him in 1759. Franklin's last visit to London began in 1764, when he was sent over as agent for Pennsylvania,



*Courtesy The First Century of Philadelphia  
College of Pharmacy and Science.*  
BENJAMIN FRANKLIN.

New York and New Jersey, in the disputes then pending with the government of Great Britain. He was received with open arms by his English friends. This time he remained for nine long years, not returning to Philadelphia until 1775. The importance of these trans-Atlantic sojourns of Benjamin Franklin in relation to scientific, educational and medical affairs in the Colonies, especially in Pennsylvania, cannot be overestimated. Treated on terms of friendship and esteem by the most intellectual circles in London, Franklin used his opportunities to aid his countrymen in their efforts to better cultural affairs in America to the fullest extent, and that they amply repaid him, at least as far as the profession of medicine was concerned, I hope to demonstrate.

"Franklin's own views on the educational opportunities for the student of medicine in London and Edinburgh are given in a letter to Dr. Thomas Bond, written February 5, 1772:

"The letter is reproduced by Dr. William Pepper in his most excellent series of articles on 'The Medical Side of Benjamin Franklin,' which were published in the University of

Pennsylvania Medical Bulletin in 1910: 'I suppose your son Richard will spend some time in London, where, by what I have heard, Physic and Surgery may be studied to as great advantage as in any Part of the World, by Attending the Anatomical Lectures and Hospitals, conversing with the most eminent Practitioners, and Reading under their Advice and Direction; and yet the general run is at present to Edinburgh; there being at the Opening of the Schools, when I was there in November last, a much greater number of medical Students than had ever been known before. They have indeed a Set of Able Professors in the several Branches, if common Opinion may be rely'd on. I who am no Judge in that Science, can only say that I found them very sensible Men, and agreeable Companions. I will endeavor to obtain Sir John Pringle's Advice in the Affair, as you desire. Every Wednesday evening he admits young Physicians and Surgeons to a Conversation at his House, which is thought very improving to them. I will endeavor to intro-

duce your Son there when he comes to London. And to tell you frankly my Opinion, I suspect there is more valuable knowledge in Physic to be learnt from the honest candid Observations of an old Practitioner, who is past all desire of more Business, having made his Fortune, who has none of the Professional Interest in Keeping up a Parade of Science to draw Pupils, and who by Experience had discovered the inefficacy of most Remedies and Modes of Practice, than from all the formal Lectures of all the Universities upon Earth. I like, therefore, a Physician's breeding his Son to Medicine, and wish the Art to be continued with the Race, as thinking that must be upon the whole most for the Publick Welfare.' "

Franklin was a publisher of medical literature. "He was one of the first, if not the first, publisher of medical books and pamphlets in the British Colonies. As early as 1734 he published an edition of 'Every Man His Own Doctor, or the Poor Planters' Physician,' prescribing plain and easy means for persons to cure themselves of all or most of the distempers incident to this climate, and with very little charge, the medicine being chiefly of the growth and production of this country. Throughout his long and varied career, Benjamin Franklin appears to have a predilection for the friendship of medical men. In addition to the brothers, Thomas and Phineas Bond, Franklin probably counted as friend or correspondent every prominent medical man in the British Colonies. In Great Britain itself Franklin's friends were numerous and influential. In France and on the Continent of Europe, Franklin was known to, if not by, every prominent medical man who was in any way interested in the general sciences.

"Through this wide and varied acquaintance with medical men of all parts of the civilized world, Franklin was able to, and did, assist a number of American students of medicine who had gone to Europe to complete their medical education. Not the least noteworthy of these several students was John Morgan, a son of Ezra Morgan, a merchant of Welsh descent (and warden of Christ Church) who had been a friend and neighbor of Benjamin Franklin and had also been associated with him as a member of the Board of Managers of the Pennsylvania Hospital." (M. I. Wilbert, *Amer. Jour. Pharm.*, 1906, 217.)

It was due chiefly to Franklin's genius for organization and his political strategy that the Pennsylvania Hospital was established in 1751. The suggestion for its founding, in Philadelphia, came from Dr. Thomas Bond who sought to obtain subscriptions to build such an institution, but failed. The proposal was a novelty in America, and not being well understood, did not appeal. Dr. Bond then came to Franklin who immediately took a sympathetic interest in the movement, and mapped out a campaign to secure public support. He gave the subject wide publicity in the newspapers, subscribed to the building fund and encouraged others to do likewise. The subscriptions were free and generous, but insufficient, and the Provincial Assembly was then petitioned for an appropriation. The Assembly was not impressed. Then Franklin exhibited his political shrewdness. He asked for the passage by the Assembly of a bill incorporating the institution, and inserted in the bill a conditional clause "providing that when the contributors had organized and raised by their own contributions a capital stock of two thousand pounds value, that then it shall be lawful for the speaker of the Assembly and he is hereby required to sign an order on the provincial treasurer for the payment of two thousand pounds in two yearly payments to the treasurer of said hospital to be applied to the founding, building and furnishing the same."

"The subscriptions accordingly soon exceeded the requisite sum," stated Franklin, "and we claimed the public gift, which enabled us to carry the design into execution." A convenient and handsome building was soon erected, and the institution has by constant experience been found useful and flourishes to this day. "I do not remember," he writes, "any of my political manœuvres the success of which at the time gave me more pleasure; or whereon after thinking of it, I more easily excused myself for having made some use of cunning." (Bigelow's *Autobiography of Benjamin Franklin*, Philadelphia, 1868, 281.)

It is interesting to note that the Pennsylvania Hospital recognized almost immediately from its foundation the importance of the science and art of pharmacy. "In 1752, Jonathan Roberts was elected first apothecary. He served for two years



JOHN MORGAN.

(Reproduction from "The History of Medicine in the United States," by Dr. Francis R. Packard.)

and a quarter, when he resigned. His successor was John Morgan, a pupil of Dr. John Redman (and a protégé of Benjamin Franklin, then the clerk or secretary of the Board of Managers of the Pennsylvania Hospital). He remained thirteen months, resigning May 1, 1756. During this time he put up all the prescriptions of the attending physicians, and this early experience of Morgan's in the Apothecary Shop of the Pennsylvania Hospital doubtless taught him the importance of pharmacy as a special branch of study, and in his subsequent practice, he confined himself to visiting the sick and writing prescriptions, but did not dispense his own medicine. This plan has since been generally adopted by the representative physicians of the country, although it was a daring innovation at the time Morgan introduced it." ("History of Pennsylvania Hospital," 1751-1895, by Dr. Thomas G. Morton, M.D.)

Morgan studied medicine with Dr. John Redman for six years. "In 1760 he went to Europe where, largely through the kindly assistance of Benjamin Franklin, who was then residing in Europe as the agent of the Pennsylvania Colony, he was brought in contact with and permitted to study under the leading men of the medical profession in London, and later in Edinburgh. It was no doubt due to his associations in the latter city that Morgan was led to conceive the idea of founding a medical school in connection with the College of Philadelphia, and at the same time, to attempt to introduce the then novel practice of writing prescriptions

and of having them compounded and dispensed by a regularly educated apothecary.

"The medical school founded by Morgan, in addition to acting as an incentive to the establishment of other schools, has itself taken a most important part in the progress of the science of medicine in this country, and was also, the direct incentive that led to the establishment of schools of pharmacy.

"Although it may be said of Benjamin Franklin that in matters medical, and in matters political or scientific, he was, as a rule, far ahead of his contemporaries, either as the originator of ideas and innovations, the disseminator of useful knowledge, or the promoter and champion of practices and teachings which his foresight and experience had taught him to be useful and beneficial. He was one of the foremost men of his age, and with the passing of years, his true merit and worth will be more and more appreciated." (M. I. Wilbert, *Amer. J. Ph.*, 1906, 217.)

Did time and space permit, it would be most interesting to give here a detailed account of the life of John Morgan (1735-1789). The following, however, are high lights:

"In 1757 John Morgan graduated from the College of Philadelphia (founded by Benjamin Franklin in 1749), receiving a collegiate degree (A.B.), and in 1760 went to Europe to complete his medical education. In 1765, having finished his studies in London, Edinburgh and Paris, he returned from Europe, and "founded the first medical school attached to any college or university in this country" (Edgar Fahs Smith), the medical school of the College of Philadelphia. He was the pioneer of systematic medical education in America. The medical department of the University of Pennsylvania was established in 1779, and in 1791 these two medical schools, by act of the Pennsylvania Legislature, were united under the University of Pennsylvania.

"Morgan was the first professor of the theory and practice of medicine, *materia medica*, pharmacy and pharmaceutical chemistry in America, having been so elected on May 3, 1765, by the Trustees of the College of Philadelphia.

"In addition to the part he played so honorably as a pioneer in medical education in this country, Dr. John Morgan, after his residence in England, and particularly in France, where pharmacy enjoyed an early and notable development, became a spirited advocate of the separation of the practice of pharmacy from the practice of medicine; and while his pleadings failed to bear immediate fruit, yet, in due time their wisdom became evident. As Dr. Joseph Carson<sup>1</sup> has stated ('History of Medical Department of the University of Pennsylvania,' 1869), 'The course pursued by Dr. John Morgan may be said to have given the original impulse to the cultivation of the profession of pharmacy (in this country) and sanctioned its independent existence.'" ("First Century of the Philadelphia College of Pharmacy," 1821-1921, 21, 24.)

He was Director-General of the Military Hospitals and Physician-in-Chief to the American Army (1775-1777).

The bard of all bards—Shakespeare, has written: "The evil that men do lives after them; the good is oft interred with their bones."

The good that Benjamin Franklin and his protégé, John Morgan, did, in their lives, was not interred with their bones, but will live on and on through the years to come.

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<sup>1</sup> Dr. Joseph Carson was professor of *materia medica* and pharmacy of the Philadelphia College of Pharmacy from 1836-1846, and professor of *materia medica* from 1846-1850, and editor of the *American Journal of Pharmacy* during the entire period of his connection with the school.