Mens names.

Mr. Sewel	*	Mr. Morris
Mr. Hand	*	Mr. Bates
Mr. Willmot	* died,	Mr. Thompſon *
Mr. Letts		Burton, apprentice
Mr. Chaddock	*	Dobie, ditto *.
Mr. Ruſt	*	

N. B. All thoſe mark'd *, had the gaol-diſtemper.

VII. *An Account of the great Alterations which the Iſlands of* Sylley *have undergone ſince the Time of the Antients, who mention them, as to their Number, Extent, and Poſition: In a Letter to the Rev.* Thomas Birch, *D.D. Secr. R. S. by the Rev. Mr.* Wm Borlaſe, *M. A. F. R. S.*

Reverend Sir,

Read Feb. 8, 1753. HAVING made a little tour to the iſlands of Sylley laſt ſummer, and finding them very different from what I imagin'd, and from the deſcriptions given us of them, and the trade to them, by the ancients, had concluded them to be, you will excuſe my ſending you an obſervation or two, which occurr'd to me relating to their natural hiſtory, and the conſiderable alterations, which they muſt have undergone, ſince they were firſt taken notice of in hiſtory, and what I think may have been the cauſe of theſe alterations.

Theſe iſlands being ſo noted among the antients, I expected to find among the inhabitants a conſcious eſteem

eſteem of their own antiquity, and of their appearance in hiſtory before the other parts of Britain were at all known. I was not without hopes of finding old towns and caſtles, perhaps inſcriptions, and works of grandeur. But there is nothing of this kind; the inhabitants are all new-comers; not an old habitation worth notice; nor any remains of Phenician, Grecian, or Roman art, either in town, caſtle, port, temple, or ſepulchre.

All the antiquities here to be ſeen are of the rudeſt Druid times; and, if borrow'd in any meaſure, from thoſe eaſtern traders before-mention'd (ſuperſtition being very catching and infectious) were borrow'd from their moſt antient and ſimple rites.

We are not to think, however, but that Sylley was really inhabited, and as frequently reſorted to antiently, as the old hiſtorians relate. All the iſlands (ſeveral of which are now without cattle, or inhabitant) by the mains of hedges, walls, foundations of many contiguous houſes, and a great number of ſepulchral barrows, ſhew, that they have been fully cultivated, and inhabited.

That they were inhabited by Britons, is paſt all doubt, not only from their neighbourhood to England, but from the Druid monuments; ſeveral rude ſtone pillars; Circles of ſtones erect; Kiſt-vaens without number; Rock-baſons; Tolmêns; all monuments common in Cornwall and Wales, and equal evidences of the antiquity, religion, and original of the old inhabitants. They have alſo Britiſh names for their little iſlands, tenements, and creeks.

How came theſe antient inhabitants then (it may be aſk'd) to vaniſh, ſo as that the preſent have no pretenſions

pretenſions to any affinity or connexion of any kind with them, either in blood, language, or cuſtoms? How came they to diſappear, and leave ſo few traces of trade, plenty, or arts, and no poſterity, that we can learn, behind them? This is what the curious will be ſolicitous to know; and two cauſes of this fact occurr'd to me whilſt I was at Sylley, which may perhaps ſatisfy their inquiries: The manifeſt incroachments of the ſea, and as manifeſt a ſubſidence of ſome parts of the land.

§ 2. The ſea is the inſatiable monſter, which devours theſe little iſlands, gorges itſelf with the earth, ſand, clay, and all the yielding parts, and leaves nothing, where it can reach, but the ſkeleton, the bared rock. The continual advances, which the ſea makes upon the low-lands, at preſent, are plain to all people of obſervation, and within theſe laſt thirty years have been very conſiderable. What we ſee happening every day may aſſure us of what has happen'd in former times; and from the banks of ſand and earth giving way to the ſea, and the breaches becoming ſtill more open, and irrecoverable, it appears, that repeated tempeſts have occaſion'd a gradual diſſolution of the ſolids for many ages, and as gradual progreſſive aſcendency of the fluids.

Again; the flats, which ſtretch from one iſland to another, are plain evidences of a former union ſubſiſting between many now diſtinct iſlands. The flats between Treſcaw, Brêhar, and Sampſon, (mark'd *D E* in the map) are quite dry at a ſpring-tide, and men eaſily paſs dry-ſhod from one iſland to another, over ſand-banks, (where, upon the ſhifting of the ſands, walls, and ruins are frequently diſcover'd) upon

which at full ſea there are ten and twelve feet of water. From the ſouthern ſide of St. Martin's, (mark'd *A*) in the map annex'd, there ſtretches out a large ſhoal towards Treſcaw and St. Mary's; and from St. Mary's, a flat call'd Sandy-bar (mark'd *C*) ſhoots away to meet it; and between theſe two ſhoals there are but four feet of water, in the chanel call'd Crow-ſound: All ſtrong arguments, that theſe iſlands were once one continued tract of land, tho' now, as to their low-lands, over-run with the ſea and ſand. Hiſtory confirms their former union. "The iſles Caſſiterides (ſays "Strabo *) are ten in number, cloſe to one another; "one of them is deſert and unpeopled, the reſt are "inhabited." But ſee how the ſea has multiplied theſe iſlands; there are now reckon'd one hundred and forty: Into ſo many fragments are they divided, and yet there are but ſix inhabited.

§ 3. But no circumſtance can ſhew the great alterations, which have happen'd in the number and extent of theſe iſlands more than this; *viz.* that the iſle of Sylley, from which the little cluſter of theſe Cyclades takes its name, is no more at preſent than a high rock, of about a furlong over, whoſe cliffs hardly any thing but birds can mount, and whoſe barrenneſs could never ſuffer any thing but ſea-birds to inhabit it. How then came all theſe iſlands to have their general name from ſuch a ſmall and uſeleſs plot? From the diſpoſition of the rocks and iſlets here, and allowing the alterations before ſuggeſted, we may anſwer this queſtion, which would otherwiſe be extremely difficult to ſolve.

From

* Geogr. lib. 5.

From the ſouthermoſt hill of Brêhar I obſerved the Guêl hill, and the iſle of Guêl (mark'd *I*) ſtretching away towards the little iſle of Sylley, and with it making a curve, of which Sylley is the head-land: from the furthermoſt hill of Brêhar, a promontory ſhoots out in the ſame ſweep, and at the extremity, a vaſt rocky Tor call'd the Brêhar, behind which a ledge of many pointed rocks ſhew themſelves above water, intimating the former connexion, and with what great devaſtations the furious ocean has diſſolv'd it. So that Sylley, which is now a bare rock, and ſeparated from the lands of Guêl and Brêhar by a narrow frith of ſea, was formerly join'd to them by low necks of lands, being the rocky promontory of one large iſland now broke into ſeven.

To purſue this conjecture (if I may call that ſo, which has ſo many reaſons to ſupport it) a little farther: When all theſe ſeven iſlands, Sampſon, Brêhar, Treſcaw, St. Elen's, Theon, St. Martin's, and St. Mary's, made but one, that one went by the name of Sylley, or ſome name of like ſound and derivation *; and, having ſome little iſlands ſcatter'd round it, imparted its name to them; whence, what were called by the Greeks Caſſiterides, were nam'd by the Latin authors Sygdeles, Sillinæ, or Silures, from the Britiſh name, as I apprehend, which they found them call'd by

* Sûl-lêh ſignifies in Cornu-britiſh, flat rocks, of, or dedicated to, the ſun. So the mount of St. Michael was call'd in Cornu-britiſh Din-ſûl, the hill conſecrated to the ſun; and, as I conjecture, the vaſt flat rocks, common in theſe iſlands, had the like dedication: For, upon the ſurface of one of them, there are the remains of an antient Druid temple. It is one plane of rock, edg'd with nine vaſt ſtones (the reſt taken away) planted in a circular line, meaſuring 172 feet from north to ſouth, and 138 feet from eaſt to weſt.

among the natives. I muſt go farther ſtill, and obſerve that the promontory (at preſent call'd Sylley iſland) lying weſternmoſt of all the high lands, was the firſt land of all the iſlands diſcern'd by traders from the Mediterranean, and Spaniſh coaſts, and, as ſoon as diſcover'd, was ſaid to be Sylley; nothing being more uſual with ſailors, upon their firſt ſeeing land, than to call the part by the name of the whole; of which I will not detain you with proofs. But, when this conſiderable iſland called Sylley was broke to pieces, the great portions became inhabited, and requiring diſtinct appellations, had firſt Britiſh names, as Brêhar, Treſcaw, Enmor; but as ſoon as the regulars were placed here (probably in Athelſtan's reign, or immediately after) were call'd, according to the religion of the times, after the names of particular ſaints. The chief diviſion was intituled St. Mary's, in honour of the holy virgin-mother; the others dedicated to St. Nicholas, St. Martin, St. Theon, and ſo on; but this remarkable promontory (now Sylley iſle) being in no wiſe fit for habitation or devotion, was dedicated to no ſaint, but left to enjoy its antient name; and, notwithſtanding the modern Chriſtian dedications, ſailors went on in their old way; this high land is ſtill call'd Sylley, and the iſlands in general are ſtill denominated, from what was antiently their principal, Sylley iſles.

It muſt have been a very diſpiriting circumſtance to the old inhabitants, to ſee the ocean ſo continually eating away their low-lands, in which they had their treaſures of tin, their houſes, and ports: but this gradual decay was not the only misfortune, which attended them,

them, neither will it account for the following phænomena.

§ 4. It has been mentioned before, that upon ſhifting of the ſands in the chanel, walls and ruins are frequently ſeen: There are ſeveral phænomena of the ſame nature, and owing to the ſame cauſe, to be ſeen on theſe ſhores, as particularly a ſtrait-lin'd ridge like a cauſeway, running croſs the old town creek (mark'd *H*) in St. Mary's, which is now never ſeen above water; ſo that the ſubſidence, if any, has been different in different places. From the iſland of Sampſon I ſaw the foundations of hedges (ſo we call the ſtone-fences of our fields, which are not built of maſonry and cement) running on in a ſtrait line croſs the frith *E*, towards Treſcaw iſle, till they were hid in ſand; which ſand, when in its full tide, has from ten to twelve feet water on it. Now we cannot ſuppoſe, that the foundation of theſe hedges was laid as low as high-water mark (for who would build fences upon ſo dangerous a level?) and if, at a medium, we ſuppoſe them to have been laid only ſix feet above the full tide, I am perſuaded it will not be thought an unreaſonable calculation. Here then we have the foundations, which were ſix feet above high-water mark, now ten feet under, which together make a difference as to the level of ſixteen feet. To account for this, the ſlow advances and depredations of the ſea will by no means ſuffice; we muſt either allow, that the lands incloſed by theſe hedges have ſunk ſo much lower than they were before; or elſe we muſt allow, that, ſince theſe lands were incloſed, the whole ocean has been raiſed ſixteen feet perpendicular; which

which laſt will appear, Sir, I believe, to the judicious, much the harder and leſs tenable ſuppoſition of the two.

Here then was a great ſubſidence; the land betwixt Sampſon and Treſcaw ſunk at leaſt ſixteen feet, at a moderate computation. This ſubſidence muſt have been follow'd by a ſudden inundation; and this inundation is likely not only to have deſtroy'd a great part of the inhabitants, but to have terrified others who ſurvived, and had wherewithal to ſupport themſelves elſewhere, into a total deſertion of their ſhatter'd iſlands. By this means, as I imagine, that conſiderable people, who were the aborigines, and carried on the tin-trade with the Phenicians, Greeks, and Romans, were reduced to the laſt gaſp. The few poor remains of this deſolation, by their neceſſary attention to food and raiment, muſt ſoon have loſt ſight of their antient proſperity; (for trade will produce plenty, and plenty rightly uſed will make people happy) and the faint remembrance, that was left of what the iſlands had been before, expired of itſelf, in an age or two, through the indigence of the inhabitants.

§ 5. That ſuch an inundation has happen'd here, is ſtill more plain, becauſe theſe iſlands are no longer, what they were antiently, fertile in tin; nor are there any remains of ſuch and ſo many antient workings as could maintain a trade, ſo greedily coveted by ſome of the antients, and ſo induſtriouſly concealed by others.

There are no mines to be ſeen in any of theſe iſlands, but only on one load (ſo we call our tin veins) in Treſcaw iſland, and the workings here are very

very inconſiderable, and not antient; and indeed the ſides of the cliffs, and the ſtrata of bare rocks, do not ſhew, that ever there have been any conſiderable workings there for tin, or give us the leaſt promiſing circumſtance to encourage tin-adventurers. For among ſuch numbers of rocks and cliffs, as I paſs'd over in St. Mary's, and the off-iſlands, nothing ſurpriz'd me more, than that there ſhould be ſo few veins in ſtrata formerly ſo famous for tin. In the cliffs of Cornwall 'tis very different; you cannot walk on any beach, without perceiving veins of one ſort or other, in the clay, rubble, or rock; but here in Sylley it is generally one continued rock, and the interſtices ſo cloſe, that ſcarce a knife can get between.

Beſides the load above-mention'd in Treſcaw, I ſaw a very narrow one in the ſame iſland under a place call'd Oliver's battery (marked *K*) but could perceive no metal, either by inſpection, or by more than ordinary weight. I ſaw two veins, about two inches wide, running thro' the rocks on the back of St. Mary's pier; and a gentleman in company thought he had found one in Porthmellyn (*L*); and theſe are all we could diſcover, tho' our attention this way ſeldom left us.

There is one place on Dolphin-Downs, in Treſcaw, where they work'd for tin in the antient manner, which was by laying open the ground in the ſame way as we now work ſtone quarries; and this is every thing I could perceive, in all theſe iſlands, which look'd like a working for tin. It muſt therefore be matter of wonder where the Phenicians, Greeks, and Romans, could have found ſuch a plenty of that uſeful metal.

metal. Whatever reſources they had from Cornwall, (formerly reckoned, as I have great reaſon to think, among the Caſſiterides) great part of their tin muſt doubtleſs have come from theſe iſlands; but where it was found is uncertain. Nothing now appears above-ground, which can ſatisfy ſuch an inquiry. The ſtory of the Phenician veſſel mention'd by Strabo to have purpoſely run aſhore, and riſqu'd the men as well as loſt the ſhip, rather than diſcover to the Romans the trade to theſe iſles, is well known, and proves beyond all doubt the commerce to have been very advantageous. That the natives had mines, and work'd them, appears from Diodorus Siculus, *lib.* 5. *ch.* 2. and from Strabo (*Geog. lib.* 3.) who informs us, that Publius Craſſus ſailing thither, and obſerving how they work'd their mines, which were not very deep, and that the people lov'd peace, and at their leiſure navigation, inſtructed them how to carry on this trade to better advantage: That is (if I underſtand him rightly) ſeeing their mines but ſhallow, yet well worth working deeper, taught them how to purſue the metal to a greater depth. The queſtion then is, what is become of theſe mines? And how ſhall this queſtion be anſwer'd, but by confeſſing, that the land, in which theſe mines were, is now ſunk, and bury'd under the ſea?

I am not fond of introducing earthquakes, or calling in the powerful ſubterraneous world to account for the ſuperficial; but where there has been evidently a great ſubſidence of the earth's ſurface, I am very willing to refer to better judges than myſelf, whether it can be accounted for at all, without a previous trembling and concuſſion of the earth.

Proofs

Proofs are much better drawn from nature than tradition; but yet I cannot help obſerving, that what nature declares in this caſe, tradition ſeems to confirm; there being a ſtrong perſuaſion in the weſte n parts of Cornwall, that formerly there exiſted a large country betwixt the Land s-end and Sy ley, now laid many fathoms under water. The particular arguments, by which they would ſupport this tradition, I forbear to trouble you with, as they may be ſeen in Mr. Carew's *Survey of Cornwall*, p. 3. and in the laſt edition of Camden, p. 11. But, if I were to produce them, it ſhould only be to prove, that there was ſuch a tradition, and not as proofs of the matter of fact; for of that I am very dubious; the Caſſiterides, by the moſt antient accounts we have of them, appearing always to have been iſlands. I know it is the opinion of ſome naturaliſts, that all iſlands were formerly join'd to the continent; but we may, at leaſt in my opinion, as well ſuppoſe the ſeveral parts of the continent, which are now ſeparated by the branches of the ſea, to have been once conjoin'd; which will prove a great deal too much; the preſent intermixtures of land and water being a much more gracious and ſocial diſpoſition, and for that reaſon more likely to be the true and original one, than ſo cloſe and compact an union; and therefore, where there are not ſhoals, and other evidences of a connexion (as there are none betwixt the Land s-end and Sylley) I think it the ſafeſt way not to ſuppoſe any.

But tho' there are no evidences, to be depended upon, of any antient connexion of the Land's end and Sylley, yet that the cauſe of that inundation, which deſtroy'd much of theſe iſlands, might reach alſo to the Cor-

niſh ſhores, is extremely probable; there being ſeveral evidences of a like ſubſidence of the land in Mount's-bay. The principal anchoring-place, call'd a lake, is now a haven, or open harbour. The mount, from its Corniſh name *, we muſt conclude to have ſtood formerly in a wood, but now at full tide is half a mile in the ſea, and not a tree near it; and in the ſandy-beach betwixt the Mount and Penzance, when the ſands have been diſperſed by violent high tides, I have ſeen the trunks of ſeveral large trees in their natural poſition, the ſurface of their ſection worn ſmooth by the agitation of the water, ſand, and gravel, as if cut with an axe, upon which, at every full tide, there muſt be twelve feet water; ſo that the ſhores in Sylley, and the neighbouring ſhores of Cornwall, are equal and concurrent evidences of ſuch a ſubſidence, and the memory of the inundations, which were the neceſſary conſequences of it, is preſerv'd in tradition; tho' like other traditions, in proportion to their age, obſcur'd by fable.

I ſhould now make an apology, Sir, for troubling you with this ſketch of the alterations, which the Sylley iſles have ſuffer'd ſince the age of the antient hiſtorians: but becauſe I have no other view in it than teſtifying my reſpect to that honourable Society, in which you deſervedly hold ſo eminent a ſtation, that muſt be my apology. I only beg leave to obſerve, that altho' theſe iſlands are neither of that extent they were formerly, nor fruitful of tin, nor ſtor'd

* Guavas lake, ſignifying the grey rock in a wood.

ſtor'd with ſuch antiquities, as one might expect from their long commerce with the Phenicians, Greeks, and Romans; yet I found them well worth ſeeing: they are inhabited by an induſtrious, apprehenſive people; their lands, fortifications, and commerce, are capable of great and eaſy improvements, and their harbours are of the utmoſt importance to the navigation of this kingdom. I am,

SIR,

Ludgvan, Dec. 21, 1752.

Your moſt obedient ſervant,

Wm. Borlaſe.

Extract of another Letter of Mr. Borlaſe *to the Rev. Dr.* Lyttelton, *Dean of* Exeter, *and F. R. S.*

Read Feb. 8, 1753.

THAT there has been ſuch a ſubſidence of the lands belonging to theſe iſlands, (as is before ſuppoſed) the preſent ruins of the iſlands teſtify. That this ſubſidence reach'd even to the Mount's-bay, and laid under water a great part of the low lands, then woody, there being now 10 feet water, (as at Sylley over the hedges, ſo here over the trunks and roots of trees) I have ſuch convincing reaſons to lay before you at a proper time, as will exclude all doubt. So that the ſhores in Sylley, and the ſhores in Cornwall, are equal proofs of ſuch inundation, and the memory of it is preſerv'd in tradition, tho', like other traditions, obſcur'd in fable.

When this inundation happen'd, it is perhaps in vain to inquire; but two pieces of hiſtory occur to me, which poſſibly may lead us near the time. In the time of Strabo and Diodorus Siculus, their commerce ſeems to have been in full vigour; "Abun-"dance of tin carried in carts," ſays Diodorus Siculus: — "But ten iſlands in all, (ſays Strabo) and "nine of thoſe inhabited." The deſtruction therefore of Sylley muſt be plac'd after the time of theſe authors; that is after the Auguſtan age: but at what time after, I find nothing as yet can determine.

Plutarch indeed (of the *Ceſſation of Oracles*) hints, that the iſlands round Britain were generally unpeopled in his time. If he includes Sylley among them, then this deſolation muſt have happened between the reign of Trajan, and that of Auguſtus. However that be, Sylley, tho' not intirely deſtitute of inhabitants, ſeems to have been noted for two or three baniſhments during the empire of the Romans in Britain.

It continued neglected, till trade began to thrive, ſhipping increaſe, and naval wars to be carried on in this weſtern world. Then its commodious ſituation at the opening into both the chanels ſoon ſhew'd of what importance it was for Britain to poſſeſs it, and how dangerous it might be to the ſafety and trade of Britain, if in an enemy's hand.

This ſeems to be the reaſon, why Athelſtan made a voyage to, and conquer'd, theſe iſlands. That prince was taught by his grandfather Alfred's wiſe maxims, that the proper and natural ſecurity of Britain lay in the royal navy, and its riches in traffick; and he ſaw, that neither of them could be well provided

vided for, if Sylley were not ſubdued as well as Cornwall.

VIII. *An Account of Mr.* Appleby's *Proceſs to make Sea-Water freſh; with ſome Experiments therewith; communicated to the* Royal Society, *by* W. Watſon, *F. R. S.*

Read Feb. 8, 1753. THE making ſea-water freſh has been frequently attempted, and ſeveral accounts thereof, from time to time, been communicated to the Royal Society. I thought it therefore not improper to lay before you Mr. Appleby's proceſs for this purpoſe, in order to its being preſerved in the journal-books of the Society. To this I have ſubjoined ſome experiments upon the water prepared in Mr. Appleby's manner, made by Mr. Michael Clark, operator at Apothecaries Hall, a perſon extremely well verſed in the theory and practice of chemiſtry, at the deſire, and under the inſpection, of the cenſors of the college of phyſicians, to whom Mr. Appleby's proceſs was referred by the lords commiſſioners of the admiralty.

Mr. Appleby's proceſs.

INTO twenty gallons of ſea-water put ſix ounces of a fixed alcali, prepared with quick-lime as ſtrong as *lapis infernalis*, and ſix ounces of bones calcined to

Philos. Trans. Vol. XLVIII. TAB. III. p. 55.

Sylley Islands their Distances & Flats.