

CORRESPONDENCE.

To the Editor of the Journal of the Institute of Actuaries and Assurance Magazine.

SIR,—I have lately been reading some philosophical correspondence which took place between my namesake “the Learned John Ray and several of his Ingenious Correspondents,” and have come across the following, which I think will interest your Fire Assurance readers.

1st, as regards the word “Petroleum.”

I always imagined that this was a newly coined word, in use only since the comparatively recent discovery of the rock oil in America; but by the following letter from Mr. Willughby to Mr. Ray in 1662, it appears to have been then in use:—

“The first thing I saw considerable after I left Montpellier was a spring of Oleum Petroleum at Gabian; at the same place there is a kind of a black Pumice Stone, and a Medicinal Well”

2nd. A letter from Sir Hans Sloane to Mr. Ray is very interesting:—

“LONDON, Nov. 10, 1685.

“I wrote a pretty while ago to you about the Hockesdon Earth; which, because I fear it miscarried, I now repeat, desiring your Opinion of it.

“Not far from Moorfields, near the new Square in Hockesdon [Hoxton Square], some Workmen digging a Cellar for a new House in the End of a Garden, when they were about 3 Foot below the Surface of the Ground, found a very strong Smell in the one half thereof. Passing that Way, and finding it very surprizing, and a thing that I had neither heard of, nor seen before, I thought it worth farther Enquiry.

“The Workmen having dug a Pit about 6 Foot deep, at about 3 Yards Distance from that End of the Cellar which smelt so strong, I there found three several Layers of Earth one over another, all of them, more or less, having the same Scent. The uppermost Stratum was Clay, or, as the Workmen call it, Loom: It did not smell till 3 Foot deep; but then was very strong, and something noisome. If

one look earnestly on some Pieces of this Clay, there are easily discernable several small Quantities of a bituminous Substance, brownish Colour, and rough Consistence. I doubt not but this Substance gives the Smell, and other Qualities, to this Layer. This Clay preserves its Scent a pretty while, tho' by Degrees it grows fainter; and being expos'd to the Air for about a Month, will lose it quite. Eight Pounds of this Clay distill'd in a Retort, plac'd in a Sand-Fire (3^d. Degree of Heat), yielded one Pound of Phlegmatick Liquor, and six Drams of Oil, of a quite different Smell from anything I have hitherto met with.

"The second Layer was Gravel, which reached from 3 and a half to about 4 and a half deep, or thereabouts. It very much resembles the other in all its Qualities, except the Noisomness of its Smell: It loses its Scent much sooner than the former.

"The third layer was an earthy Sand, which smells stronger than the other two, and withal is much more fragrant: The deeper you dig, it smells the stronger. I took 8 Pound of this Layer at 9 Foot deep, and fill'd a Retort with it, and plac'd it as the Clay; but it afforded only 6 Ounces of Phlegmatick Liquor, and 2 Drams of Oil. This sandy loose Earth quits its Scent in about a Fortnight, being expos'd to the Summer-Air.

"Considering that Waters owe their greatest Differences to the several Soils through which they pass, I was very desirous to see what Sort of Waters would be produced by their being percolated through such a Strainer as this strange Sort of Earth; and desiring the Owner to dig till he should find Water, he accordingly did; and when he came to about 18 Foot deep, Water came in very plentifully; condition'd as follows:—

"It had at Top a curiously colour'd Film, the Colours of it resembling those of the Rainbow: Under this was a whitish coloured Water, which upon standing in a Vial some Days, lets fall a brownish Sediment, and by that means becomes diaphanous: It smelt very strong, as the Earth did, was somewhat bitter and clammy, as one may see by putting his Hands in it, and suffering them to dry without wiping. If you put some powder'd Galls into a Glass of this Water, so soon, or a little after you take it out of the Well, it will turn of a purplish red; but if it stand a Day or two, it will not at all.

"Several Persons having drunk of this Well about 3 Pints, say, that it usually works about 3 times by Stool, and very much by Urine.

"From which I conclude it to be a natural Bitumen, perhaps *sui generis*, that impregnates both Water and Earth. I desire your opinion in it, and remain, &c."

And the manner in which Mr. Ray overturns Sir Hans Sloane's theory, in his reply to the above, is highly amusing.

"BLACK NOTLEY, Nov. 17, 1685.

"I thank you for the Account of the Hockesdon Earth, and the rather, because I was lately informed that it was no natural Bitumen mingled with it, but had its' Original from the *burning* of a Painting Shop standing over the Spot where the Earth was digged up, and that

there was no such Earth round about, but just within that Compass. So that as the Corinthian Brass was made by an accidentall Mixture of Metals melted down and running into one Mass, at the Deflagration of that City; so this bituminous Earth became impregnated by a Mixture of Oils and Colours melted and mixed together, and soaking into the Ground at the *burning* of that Shop.”

If you deem the above extracts worthy of the space in your valuable *Journal*, kindly insert them in your next Number, and oblige,

Sir,
Your obedient servant,

Atlas Assurance Office, Cheapside,
11 July 1873.

R. RAY.
