

bright Sun, or that it might be some duff in the Aire.

The great *Microscope* being fitted in the day-light for this piece of Fish, we examin'd it that night, and it yielded no light at all, either by the view of the Glafs, or otherwise.

Finding it dry, I thought that the moisture of Spittle, and touching of it, might cause it to shine: and so it did, though but a very little, in a few small sparks, which soon extinguish'd. This we saw with the bare eye; not in the Glafs.

The Fish were not yet fetide, nor insipid to the best discerning palats: And I caus'd two Fish to be kept for further Tryal, two or three days longer, till they were fetide in very hot weather; and then I expected more brightness, but could find none, either in the water, by stirring it, or in the Fish, taken out of the water.

And some Trials I made afterwards with other boyl'd Mackrels (as is abovesaid) with like pickle, but fail'd of the like success.

This season serves for many Trials in this kind, and by better *Microscopes*, or better ordered. And in these Vulgarities we may perhaps as well trace out the cause and nature of Light, as in Jewels of greatest value, &c.

Some Considerations

*Touching a Letter in the Journal des Scavans of
May 24. 1666.*

In *Num. 9.* of these *Transactions* were publish'd the *Schemes* and *Descriptions* of certain Ways of *Sounding the Depth of the Sea without a Line*; and of *Fetching up Water from the bottom of it*; together with some Experiments already made with the former of these two Contrivances. The Author of the French *Journal des Scavans* found good, to insert them both in his *Journal of May 3.* but in another of *May 24.* intimates, that the said *Schemes* and their *Descriptions* are not very clear and intelligible (he means, that they were not well understood by *French Readers*) proposing also some Difficulties, relating to that Subject, and esteemed by him necessary to be satisfied, before any use could be made of the said Instruments.

Upon this occasion, the Author of these *Tracts* thinks fit, here to represent,

First,

First, That *Englishmen* and such others, as are well versed in the *English* tongue, find no difficulty in understanding the descriptions of these *Engines*, nor in apprehending their structure, exhibited by the *Figures*, especially if notice be taken of the Emendation, expressed at the end of *Num. 10.* about the misgraving the *Bended end* of the *Springing Wire* (which it seems has not been noted in *France*, tho' the said *Num. 10.* is known to have been seen there a pretty while before their *Journal* of *May 24.* was publish'd). And as for the particular of the *Bucket*, fetching water from the bottom of the *Sea*, both the *Figure* and the annexed *Description* thereof are so plain and clear, that 'tis some wonder here, that any difficulty of understanding them is pretended by any, that hath but ordinary skill in *Cutts* and the *English* language. Mean while, that way, which the *French* Author recommends for this purpose as more simple, *Videl. a Brass-Pump with double Valves*, is not at all unknown in *England*, nor his bin left untried there; but was found inconvenient, in respect that the *Valves* in descending did not fully open, and give the water a free passage through the *Cavity* of the *Vessel*, nor in ascending shut so close, as to hinder the water from coming in at the top: Whereas by the way proposed in *Num. 9.* both is perform'd with great ease and security.

Secondly, Whereas the *French* Author is of opinion, that 'tis unknown, how much time a *Heavy Body* requires to sink in water, according to a certain depth; he may please to take notice, that that hath been made out in *England* by frequent Experiments; by which, several *Depths*, found by this Method of founding *without* a *Line*, were examin'd by trying them over again in *the same place with* a *Line*, after the common way. And as to that *Quere* of his, Whether a *heavy Body* descends in the same *Proportion* of swiftness in *Water*, that it would do in *Air*? The Answer is, that it does not; but that, after it is sunk one or two fathoms into the *Water*, it has there arrived to its greatest swiftness, and keeps, after that, an equal degree of velocity; the *Resistance* of the water being then found equal to the *Endeavour* of the *heavy Body* downwards.

Thirdly, When the same *Author* alledges that it must be known, when a *Light Body* reascends from the bottom of the water to the

the top, in what proportion of time and swiftness it rises. He seems not to have considered, that in this Experiment, the times of the descent and ascent are both taken and computed together ; so that for this purpose, there needs not that nicety, he discourses of.

Fourthly, Whereas it is further excepted, That this way of Sounding Depths is no new Invention ; The answer is ready, that neither is it pretended to be so, in the often quoted *Tract* ; it being only intimated there, that the manner of performing it, as it is in that place represented and described, is new.

Lastly, To rectifie the said Author's mistake, as if the instrument of fetching up Water from the bottom of the Sea, were chiefly contriv'd, to find out, Whether in some places of the Sea any *Sweet Water* is to be met with at the bottom : There will need no more, than to direct him to the Book it self *Num. 9.* where p. 149. towards the end, the *First* use of this *Bucket* is express'd to be, to know the *degrees of Saltness* of the Water according to its nearness to the top or bottom ; or rather to know the constitution of the Sea-water in several depths of several *Climates*, which is a matter, much better to be found out by *Trial*, than *Discourse*. Neither is it any where argued in that Book (as the *French Journal* insinuates) that, because sweet water is found at the Bottom of the Sea of *Babarem*, therefore it *must*, but only that it *may*, be found so elsewhere. And since the same *Journal* admits, that those Sweet water-springs, which yield the sweet water, that is found at the said place, have been formerly on the *Continent*, far enough from the Sea, which hath afterwards covered them. It will be, it is presumed, lawful to ask, Why in many other places there may not be found the like ? And besides, how we do know, but that there may be in other parts, Eruptious of large Springs at the bottom of the Sea, as well as there ?