

In my Journey to *Albany*, 20 Miles to the Eastward of *Hudson's* River, near the middle of a long rising Hill, I met with a brisk noisy Brook sufficient to serve a Water-Mill, and having observed nothing of it at the beginning of the Hill, I turned about and followed the Course of the Brook, till at length I found it come to an End, being Absorb'd, and sinking into the Ground, either passing through Subterraneous Passages, or soaked up with the Sand; and tho' it be common in other Parts of the World for Brooks and even Rivers thus to be lost; yet this is the first of the Sort, I have heard of, or met with in this Country.

P. Dudley.

IV. *A Letter from Mr. Leeuwenhoeck, F. R. S. concerning the Muscular Fibres in several Animals, and the Magnetick Quality acquired by Iron, upon standing for a long time in the same Posture.*

Delft, Apr. 21st, 1722.

To the Illustrious Royal Society.

Honoured Sirs,

I N a Letter I receiv'd sometime ago from one of your Secretaries, among many Expressions of your kind Acceptance of my Labours. I am requested by that Gentle-

Gentleman in the Name of the *Royal Society*, to endeavour by repeated Observations to confirm some of my late Discoveries, and to set them in so clear a Light, as to stop the Mouths of the most incredulous Gainers.

With regard to this, I beg leave to observe to you, that I examine a great many different Subjects, of which I commit no account to Paper, because the Result is the same with what I have already described; and that whenever I make any Discovery, which I apprehend will not easily meet with Credit, I suffer the Object to lie before the Microscope Day after Day, and sometimes for whole Years together, till it is eaten up by Insects. This I do with design to let it be seen by as many different Persons as possible.

It is not above eight Days ago, that I was viewing a Portion of the Flesh of a fat Ox, as likewise the Muscular Fibres of a Cod - Fish, and of a Pearch, which Fibres being cut transversly, I could see in them very distinctly the great number of small Vessels, that ran along the length of each Fibre. And I have seen the same this Month of *April*, in the Muscular Fibres taken from the hinder Leg of a Mouse, and cut thro' transversly.

I have at this time standing before a Microscope, some of the Muscular Fibres of a fat Ox, with those of a Mouse lying beside them, in order to have as many Eye-witnesses as possible, of their being of the same size in these two Animals, and I use the same Method in such other of my Observations, as are likely to appear incredible to other Persons.

In speaking formerly of the small *Fibrilla*, that help to suspend the Testicles of a Ram, I forgot to mention, that each of these consists of exceeding small Vessels, which run parallel to its length.

I have likewise at this time standing before a Microscope, a small Portion of the Bone of an Ox, in which may evidently be seen the Vessels, which proceed from the Bone, and compose what is called the *Periosteum*, as likewise the Openings of these Vessels; the reason of whose appearing so clearly is, as I imagine, that they are filled with the Medullary Oil.

I take this Opportunity of informing you, that the Iron-Cross, which is supposed to have stood upon the Steeple of the New-Church here about two hundred Years, having been lately taken down to be repair'd, I was inform'd by a certain Foreign Gentleman, that a piece of Iron, that has stood for a long time in one Situation, would thereby acquire a Magnetick Quality. Upon which I desir'd a Workman to procure me a piece of that Cross, who accordingly brought me a bit of it, of about a Span long, and a quarter of an Inch thick, which I apply'd both to a working Needle, and the Needle of the Compass, but without any Effect upon one or the other.

Some time after, the same Workman brought me some other pieces, looking like rusty Iron, which he had broken off from the bottom of the Cross, where it had been fasten'd by four cross pieces bound down with Iron, to an erect piece of Timber nine Inches square, and cover'd with Lead in such a manner, that no wet could get to it.

This seeming rusty Iron would take up several Needles hanging by one another, and appear'd to have a stronger Magnetick Virtue than two Loadstones, which I had then in the House; and was so hard, that no File would touch it. I gave one of the greatest pieces to a Knifegrinder, to grind it for me, who was a long time about it, and complain'd that it was harder than Steel.

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The Report of this made so great a Noise in the Town, that in a little time my pieces of Iron were all begg'd away, except one little one, which I kept for my self.

I am, &c.

Antony van Leuwenhoek.

V. *An Account of the manner of bending Planks in His Majesty's Yards at Deptford, &c. by a Sand-heat, invented by Captain Cumberland.*
By Robert Cay, Esq;

THe place, where the Planks lie to be softened in the Stove, is between two Brick-Walls; of such a length, height and distance from each other, as suffice to admit the largest, or to hold a good number of the smaller Sort: the bottom is of thick Iron Plates, supported by strong Bars; under the middle of which, are two Fire-places, whose Flews carry the Flame towards the Ends.

The Planks are laid in Sand; the lowest about six or eight Inches above the Iron-Plates, they are well cover'd with the Sand, and Boards laid over all, to keep in the Heat. The Sand is moistned with warm Water, (for which purpose they have a Cauldron adjoining to the Stove) and if the Timber be large, and intended to be very much bent, so that it must lie