

Explanation of TABLE IV. representing the Cicuta aquatica of Wepler.

- a*, A Branch of this Plant with its Umbels of Flowers in different States.
- b*, The Appearance of the Bottom of the Stem, growing from the Crown of the old Root.
- c*, An anterior View of the Flower of its natural Size.
- d*, An anterior View of the same magnified.
- e*, A posterior View of the Flower magnified.
- f*, The *Vasculum feminale*, and Seed.
- g*, The same magnified.

Explanation of TABLE V. representing the Root of the Cicuta aquatica in Winter.

Fig. I.

- a*, The Rudiments of the Leaves.
- b*, The old rotten Root not yet separated from the new one of the preceding Summer.

Fig. II.

A longitudinal Section of the Root exhibiting the Cells.

XIII. *A Letter to Mr. Benj. Robins, F. R. S. shewing that the Electricity of Glass disturbs the Mariners Compass, and also nice Balances.*

Dear Sir,

June 10. 1746.

Read June 12.
1746.

WHILE so many Gentlemen are labouring to find out the Uses of Electricity, it has been my Fortune to discover one, at least, of the Inconveniencies attending that Property

perty in Glafs. And as it is fuch whereby vaſt Numbers, very likely, have been, and may hereafter be, greatly prejudiced, I deſire you will mention what follows to the *Royal Society*; to the end that it may be published, if they think proper, for the Benefit of others, and particularly of thoſe who uſe the Sea.

Having lately had Occaſion to compare together two Compaſſes of a different Make, the one having a bare Needle, as uſual, and the other a Chart, in the Manner that Mariners Compaſſes are commonly made, I happened to wipe off with my Finger ſome Duſt, which lay upon the Glafs of the former; and thereby put the Needle, which was before at Reſt, into a violent diſorderly Motion, partly horizontal, and partly vertical or dipping. After ſeveral Repetitions of the ſame Thing, I found that the Glafs, by ſo ſlight a Touch, was at that time excited to Electricity, ſo far as to diſturb the Needle extremely.

The ſame Glafs being rubb'd a very little more with a Finger, a Bit of Muſlin, or of Paper, would attract either End of the Needle, ſo as to hold it to the Glafs, for ſeveral Minutes, far out of the due Direction, according to what Part of the Glafs was moſt excited.

And when the Needle has for ſome time adhered to the Glafs, and afterwards dropt looſe, and made Vibrations, thoſe Vibrations would not be biſected, as uſual, by that Point where the Needle ſhould reſt, but either be made all on one Side, or be very unequally divided, by means of ſome Remains of electrical Virtue in that Part of the Glafs which had attracted the Needle; until at length, after fifteen Minutes or more, all the Electricity

city being evaporated, the magnetical Power took place.

The Cure for this Inconvenience, is to moisten the Surface of the Glass : Even a wet Finger will do it immediately and effectually.

I need not suggest, that the same Quantity of Friction will not at all times have the same Effect upon these Glasses, any more than it will upon the electrical Tubes ; but take the Liberty to hint, that I have Reason to believe that Glass does, at some times, become in some degree attractive without any Friction at all ; and may possibly be excited by great Concussions in the Air, such as Thunder, or the Discharge of great Ordnance, &c. and, if so, may thereby disturb the Compass.

I must however observe, that the Mariners Compass is much less dangerously moved by wiping or exciting the Glass than the other ; by reason that the excited Part of the Glass attracts that Part of the Chart which lies nearest, just underneath, without giving it so much Verticity, as it does to the other Sort of Compass with a bare Needle. And farther, that the deeper, or the farther distant the Needle hangs below the Glass, the less Disturbance it is likely to receive, by wiping, rubbing, or otherwise exciting the Cover.

I shall make no farther Reflections upon these Facts than to observe, first, That all the minute, irregular, reciprocating Variations which have been observed in the Directions of dipping and horizontal Needles, as mentioned in some of the *Transactions* *, may probably

* N^o. 425.

bably have been caused by the Glasses which covered the Instruments made use of: And, secondly, That the flat Pieces of Glafs, often placed under the Scales of an Essay-Balance, are likewise very capable of attracting, and making even the lighter Scale preponderate, where the whole Matter weighed is so very small. I have not tried this last, but do remember, that Mr. *Ellicot*, a Member of your *Society*, did some Years ago suspect, if not find it certain, that such Pieces of Glafs did disturb his Balance, and had given him a vast deal of Trouble, upon a Supposition, that the Beam itself was defective.

Your most humble Servant,

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June 19. the SOCIETY adjourned to *Oct. 23.* 1746.

Printed for C. DAVIS, over-against *Gray's-Inn Gate*
in *Holbourn*, PRINTER to the ROYAL SOCIETY,
M.DCC.XLVII.