I. *Several* Electrical Experiments, *made at various Times, before the* ROYAL SOCIETY, *by the Rev.* J. T. Deſaguliers, *LL. D.* F. R. S.

1. *An Account of ſome* Experiments *made before the* ROYAL SOCIETY, May *the* 14th, 1741.

I Mentioned in one of my former Papers concerning Electricity, that Electrics *per ſe* would not receive the Electricity of a rubbed Tube, ſo as to carry on to a Diſtance; but that, if thoſe Bodies were changed into Non-electrics, they would then receive and convey the Electricity of the rubbed Tube, in the ſame manner as all other Conductors of Electricity do. The Experiments which I made to prove this plainly, are as follow:

EXPERIMENT I.

I ſuſpended a long ſmall glaſs Tube at about the Diſtance of 14 or 15 Inches from an horizontal extended Cat-gut in the ſame Poſition, or parallel to it, by Two ſmall ſilken Threads; and, with a ſmall Packthread, hung an ivory Ball on the End of the ſuſpended Tube; and, applying the rubbed Tube to the other End, (though lightly excited, as appeared by its ſnapping) no Electricity was communicated to the Ball: Though, when a very ſmall Packthread was hung from one End of the Tube to the other, the ivory Ball became very electric, as appeared by its attracting a Thread hung on a Stick. Then taking off the Packthread, and wetting the Tube from one End to the other, with a Spunge, it became a Non-elec-

tric, and conveyed the Electricity to the Ball as ſtrongly as the Packthread had done.

EXPERIMENT II.

The Tube being well dried, I applied a Silk in the ſame manner as I had done the Packthread; but no Electricity could be conveyed to the Ball by applying the rubbed Tube to the contrary End of the Silk. But afterwards, having wetted the Silk, it became a Non-electric, and received the Electricity, which it communicated to the Ball.

N. B. I choſe a glaſs Tube for this Experiment, becauſe Mr. *Du Fay* had made uſe of glaſs Tubes for the Supporters of his Conductors of Electricity; and Silk, becauſe Mr. *Gray* had ſupported his Conductors of Electricity upon Silk.

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2. *An Account of ſome* Experiments *made before the* ROYAL SOCIETY, *on* Thurſday, May *the 28th*, 1741.

THAT it is not the Quantity of Matter in Bodies, that makes them more or leſs receptive of Electricity, and conductive of it, but intirely their Quality, appears by the following Experiments.

EXPERIMENT I. Fig. 1.

From a Cat-gut String *A B*, about 12 Foot long, ſtretched horizontally Six Foot above the Floor of the Room, I ſuſpended Two Iron Bars *C D*, *E F*, of about 40 Inches long, and a Quarter of an Inch ſquare, by the ſilken Strings *Cc*, *D d*, *E e*, *Ff*, which at firſt touched at their Ends *D*, *E*; and from the End *F* of the Bar *E F*, there hung, by a Packthread, the ivory Ball *G*. Then having rubbed a large Tube *I K*

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to excite its Electricity, I applied it near the End *C* of the Firſt Bar; and the electrical Virtue ran along the Two Bars, and impregnated the Ball *G*, as appeared by its attracting the Thread hanging from the Stick *H*, at about Three Inches Diſtance. Afterwards I ſeparated the Tubes, in the manner that they appear in the Figure; and the Electricity was communicated to the Ball but faintly when the Bars were an Inch and an half aſunder, and not at all when they were Two Inches and an half aſunder. But this was owing to the moiſt State of the Air; for, when the Air is very dry, the Virtue will jump Six or Nine Inches; but when the moiſt Particles, that float in the Air, are attracted by the Bars, the Virtue will reach but a little Way; though, if that Moiſture be fixed upon any Body, which (being an Electric *per ſe*) would not conduct the Electricity applied to its End, the Virtue will be carried from one Bar to another as well as if they had touched, as will farther appear by the next Experiment.

EXPERIMENT II. Fig. 2.

Having ſeparated the hanging Bars ſo far aſunder, that the Electricity could not jump from the one to to the other, (*viz.* about Three Foot) I laid upon their End the ſmall Tube *D E*, having wiped it very dry: Then, applying the rubbed Tube to *C*, the Virtue ſtopped at *D*; and neither the Bar *E F*, nor the Ball *G*, received any Electricity, the Thread *H* being attracted by neither of them. But, having blown through the Tube, the Moiſture of the Breath changes it from an Electric to a Non-electric; and then the Virtue of the rubbed Tube runs along freely from *C*

quite to the Ball at *G*, which then ſtrongly attracts the ſuſpended Thread.

N. B. When the Air is very moiſt, the Tube *D E* is turned to a Non-electric without blowing, only by the watery Particles adhering to it.

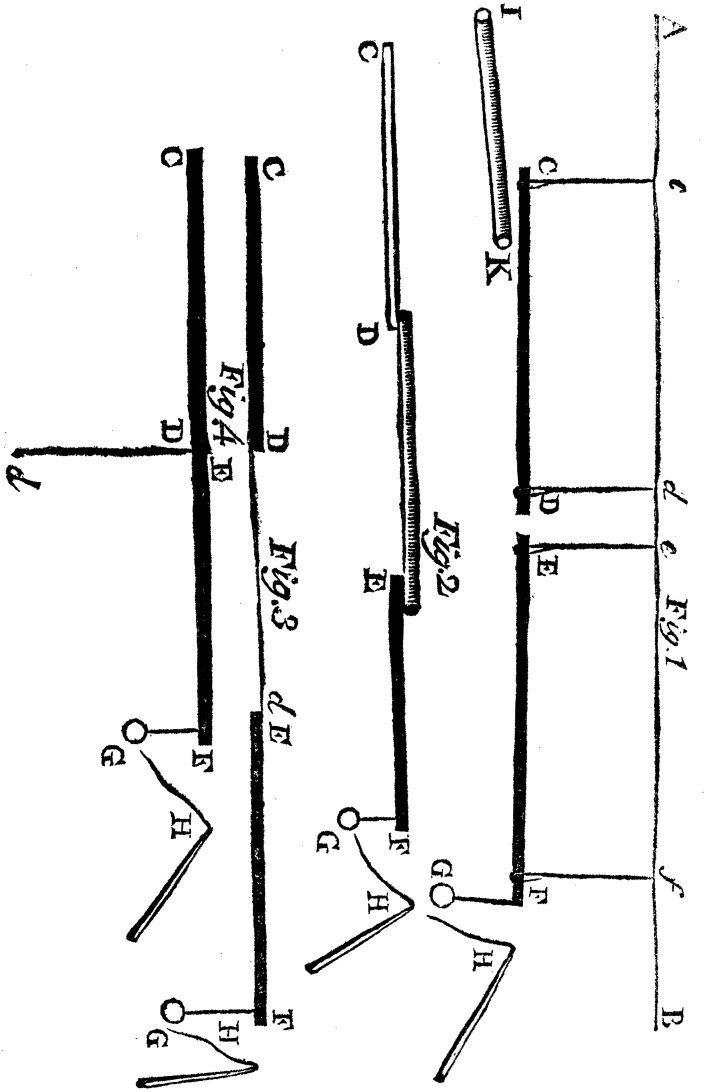
EXPERIMENT III. Fig. 3.

The Bars remaining in their Situation, I took off the Tube, and ſtretched a very fine white flaxen Thread from *D* to *E*, which touched both the Bars: Then applying the rubbed Tube to *C*, the Virtue was carried from Bar to Bar, and the Ball *G* attracted the Thread *H* at Two Inches Diſtance. Afterwards wetting the Thread, the Attraction became much ſtronger at *G*, ſo as to attract the Thread *H* at Four or Five Inches Diſtance.

EXPERIMENT IV. Fig. 4.

Having joined together the Ends of the ſuſpended Bars, I ſuffered the Thread *D d* to hang down, but touching no other Body; then the Electricity was freely communicated (by applying the rubbed Tube to *C*) from *C* to the Ball at *G*. But if *d*, the lower End of the Thread, touched the Ground, or a Chair, or was taken hold of by any body's Hand, or lifted up by a walking Cane; then the Electricity advanced no farther on the Bars than *D*, but was interrupted by the Thread *D d*, and carried to the Bodies conguous to *d*, when they are Non-electric. If the End *d* of the Thread was laid upon a dry glaſs Tube, held in the Hand of an Aſſiſtant, then the Electricity ran as before, along the Bars to the Ball *G*. The ſame thing alſo happened when the End *d* of the Thread was thrown up upon the Cat-gut String; for in that Caſe

Caſe the Electricity, having impregnated the String, did afterwards run along the Bars, *&c.*



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3. *An Account of ſome new* Electrical Experiments, *performed before the* ROYAL SOCIETY, Thurſday, Aug. 29. 1741.

HAving found by ſeveral of Mr. *Gray*'s Experiments, as well as ſome of my own, that Water is receptive of Electricity, ſo as to be raiſed up in a little Cup, to emit a Vapour towards the rubbed Tube, to ſnap, and to give Light; having alſo found, (as I ſhewed the Experiment before the ROYAL SOCIETY) that when a dry Tube, ſuſpended horizontally, will not conduct the Electricity of the rubbed Tube applied to one of its Ends; and yet, when blown into, will conduct it ſtrongly all its Length, becauſe the Electricity runs along from one moiſt Particle to another, though thoſe Particles are not contiguous—— I thought that Electricity might impregnate a whole Jet of Water, whether perpendicular, oblique, or horizontal: And ſuppoſed alſo, that if at any time there be electrical *Effluvia* in or above a Cloud, that Virtue may be communicated by the falling Rain, to any thing that the Rain falls upon. How far my Conjecture is true, will appear by the following Experiment.

Having properly ſuſpended (that is, ſuſpended by ſome electric Body, here Cat-gut) a copper Fountain with the Spout downwards, I opened the Cock, and let the Water ſpout into a Veſſel underneath: Then, having excited a great Tube to Electricity, I held it over the copper Fountain, whilſt an Aſſiſtant held the Thread of Trial (that is, a Thread hanging from a Stick) near ſeveral Parts of the Jet, which attracted

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it ſenſibly: Then I applied the rubbed Tube near to the falling Jet, which attracted it ſtrongly, ſo as to bend it into a Curve, and ſometimes cauſe it to fall out of the Veſſel below.

II. *A Letter from* John Huxham, *M. D.* F. R. S. *to* Thomas Stack, *M. D.* F. R. S. *concerning an Extraordinary* Venereal Caſe.

Dear SIR,

I Have now ſent you the uncommon Venereal Caſe I promiſed in my laſt, which, I think, hath ſomething very remarkable in it, and ſeems very much to confirm the Great *Boerhaave*'s Opinion, that the Seat of the *Lues Venerea* is in the *Membrana adipoſa.*

Mr. *R. B.* aged about 27, of a bilious, dry Conſtitution, had, for ſome Years before his Death, contracted a virulent *Gonorrhœa*, which was ſcarce well cured before he got a Second, and at length a Third.—To complete his Miſery, being in the Fleet at *Portobello*, he had frequent impure Converſation with ſome of the *Negro* Huſſies (who probably laboured under the worſt Species of *Pox*, called the *Yaws).*

He returned with a very troubleſome Itching all over him, though no Puſtules appeared; was much thinner than uſual, and had a horrible ſtinking Breath, and ſpit frequently a foul, corrupt Matter.—As he had no Running, Ulcer, *Bubo*, or *Nodes*, he thought all ſafe.—But not many Days after his Arrival at *Portſmouth*, *poſt impurum cum impurâ Coitum*, a violent Green-coloured *Gonorrhœa* appears.—For