

XV. *A Letter from the Reverend Henry Miles D. D. and F. R. S. to the President; containing Observations of luminous Emanations from human Bodies, and from Brutes; with some Remarks on Electricity.*

S I R,

Read June 13.
1745.

THE many Experiments lately made in Electricity, and the surprizing Effects which have been produced, are Encouragements to proceed in such Trials, that by an advancing Knowledge in the Nature of these strange *Phænomena*, we may have growing Hopes some Benefit will accrue to Mankind from them, as well as Entertainment to the Curious.

I should therefore think myself very happy, could I contribute any thing towards an Improvement in this Branch of natural Knowledge, were it but by suggesting what Persons of happier Talents might make a more successful Use of, than I am able to do.

The following Accounts, which relate to an odd *Phænomenon*, that has been several times observed in some human Bodies, as well as in those of some brute Animals, I was, for a good while, backward to offer to the Consideration of those who are attentive to electric Experiments, fearing they would be thought a little foreign to the Subject; but this Apprehension has, in a great measure, been removed, by considering the Remark which the late ingenious and industrious Member of the *Royal Society* Mr. Steph.

Steph. Gray made, in consequence of the Experiment of a Boy suspended on Hair Lines; *viz.* “ Hereby “ we see, that Animals receive a greater Quantity of “ electric *Effluvia* *.” ----- And, with the Leave of a very † learned Person, and an honourable Member of the same *Society*, I will add his Remark on the said Experiment. “ It is (says he) very observable, that the Communication of Electricity is much greater “ thro’ animal than thro’ inanimate Bodies: that is, “ The elastic Fluid, passing thro’ these, meets with “ a greater Quantity of the same Matter in them “ than in the other; the solid animal Fibres being “ more adapted to receive it.” And, a little after, he adds these encouraging Words;---“ Perhaps the “ Prosecution of such Trials upon living Creatures “ may, in time, make us more acquainted with the “ Laws and Actions of this impetuous Part (as *Hippocrates* calls it **) *viz.* the nervous Fluid in the “ animal Machine. *Ita res accendunt lumina “ rebus ††.*”

In the late Edition of the Works of the Honourable Mr. *Boyle*, Vol. V. Page 646. is a Letter from Mr. *Clayton*, dated June 23. 1684. at *James City* in *Virginia*; in which he gives Mr. *Boyle* an Account of a strange Accident (as he calls it); and adds, that he had inclosed the very Paper Colonel *Digges* gave him of it, under his own Hand and Name, to attest the Truth; and that the same was also asserted to him

* *Phil. Transf.* N^o. 417. † Dr. *Mead* *Mechan.* Account of Poisons, *Introduç.* p. 38, 39. Ed. 3d. ** *Hipp.* *Epidem.* lib. vi. § 8. Τὰ ὀσμῶντα σώματα. †† *Lucret.* lib. i. ver. 1110.

him by Madam *Digges*, his Lady, Sister to the Wife of Major *Sewall*, and Daughter of the Lord *Baltimore*, to whom this Accident happened.

This Paper, very unhappily, came not to hand till after Mr. *Boyle's* Works were printed; and therefore could not be inserted with Mr. *Clayton's* Letter: But, having since met with it, I present the following exact Copy of it to you, and, if you judge fit, by your Hands to the *Royal Society*.

“ *Maryland, Anno 1683.*

“ **T**HERE happened, about the Month of *Novem-*
 “ *ber*, to one Mrs. *Susanna Sewall*, Wife to
 “ Major *Nic. Sewall* of the Province abovefaid, a
 “ strange Flashing of Sparks (seem'd to be of Fire)
 “ in all the wearing Apparel she put on, and so con-
 “ tinued till *Candlemas*: And, in the Company of
 “ several, *viz.* Captain *John Harris*, Mr. *Edward*
 “ *Braines*, Captain *Edward Poulson*, &c. the said
 “ *Susanna* did send several of her wearing Apparel;
 “ and, when they were shaken, it would fly out in
 “ Sparks, and make a Noise much like unto Bay-
 “ leaves when flung into the Fire; and one Spark
 “ litt on Major *Sewall's* Thumb-nail, and there con-
 “ tinued at least a Minute before it went out, with-
 “ out any Heat: All which happened in the Com-
 “ pany of

Wm. Digges.

“ My

- * “ My Lady *Baltimore*, her Mother-in-law, for
 “ some time before the Death of her Son *Cæci-*
 “ *lius Calvert*, had the like happened to her;
 “ which has made Madam *Sewall* much trou-
 “ bled at what has happened to her.”
- “ They caused Mrs. *Susanna Sewall* one Day to
 “ put on her Sister *Digges’s* Petticoat, which
 “ they had tried beforehand, and would not
 “ sparkle; but at Night, when Madam *Sewall*
 “ put it off, it would sparkle as the rest of her
 “ own Garments did.”

The celebrated *Bartholin* of *Copenhagen*, in his Collection of anatomical Histories that are unusual, *Century III. Hist. LXX.* which he intitles *Mulier splendens*, gives us a parallel Instance in a noble Lady of *Verona* in *Italy*, which, he says, he had from an Account of the *Phænomenon* published by *Petrus à Castro*, a learned Physician of the same Place, in a small Treatise intituled *De Igne Lambente*. There is this Circumstance not mentioned in Mrs. *Sewall’s* Case (tho’ perhaps it would have happened, if Trial had been made, as well as in the Case of the *Italian Lady*); which I think not improper to mention, in *Bartholin’s* own Words, — “ *ut quotiens leviter linteo corpus tetigerit, scintillæ ex artubus copiose profiliant, cunctis domesticis con-*
 “ *spicæ, non secus ac si e silice excuterentur.*” At the Conclusion of this Relation he refers us to a Book of his, intituled, *De Luce Animalium*, for more Instances

* The additional Lines are not in Colonel *Digges’s* Hand, but seem to be in Mr. *Clayton’s*.

stances of these lucid *Effluvia*; and says, he has there shown the Cause of them at large; but, as I have not yet got a Sight of that Book, I can say nothing further — only, that in the second Century of the Histories above-mentioned, *History XII.* he asserts, that he has prov'd, in his Book *de Luce*, &c. that Light is connatural or innate to all, as well Vegetables as Animals.

There is another Author, Dr. *Simpson*, who published a Philosophical Discourse of Fermentation, dedicated to the *Royal Society*, Anno 1675. who takes notice of Light proceeding from Animals, on the Friction or Pectation (as he calls it) of them; and instances in the Combing a Woman's Head, the Currying of a Horse, and the Friction of a Cat's Back; the two last of which are known to most. I cannot tell whether it be material to add, that, according to this Gentleman's Hypothesis, he would assign the Principles of Fermentation, which he supposes to be *Acidum & Sulphur*, as the Cause of these lucid *Effluvia* in Animals. His Hypothesis I may not take upon me to judge of; but I humbly apprehend, the Properties of the *Effluvia* in animal Bodies are many of them common with those produced from Glass, &c.; such as their being lucid, their Snapping, and their not being excited without some Degree of Friction, and, I presume, I may add, Electricity; for I have, by repeated Trials, found a Cat's Back to be strongly electrical, when stroak'd.

I must intreat your Candor in excusing the Errors and Imperfections you may observe in this Paper to my present weak State of Health; and I was unwilling to delay any longer a small Testimony of

my Desire to promote the Designs of the *Royal Society*; to which and its worthy *President*, I am

A faithful humble Servant,

Tooting, May 9.
1745.

Henry Miles.

P. S. In the Account of some of the earlier electrical Experiments made by Mr. *Gray*, *Phil. Transf.* N°. 366. we are informed, that he electrified several other Bodies, besides animal Substances, by drawing them between his Thumb and Fingers; in particular, Linnen of divers Sorts, Paper, and Fir-Shavings, which would not only be attracted to his Hand, but attract all small Bodies to them, as other electric Bodies do. Now, notwithstanding this last Circumstance of their attracting, as well as being attracted, may it not be questioned, Whether, in this Way of Trial, it appears that they are electrical Bodies, or Electrics *per se*? Is it not doubtful (since his Fingers must be excited considerably in this Experiment) whether he did not communicate Electricity to them from his Hand, rather than excite it in them? I have no doubt but that the Principle is inherent in many other Bodies besides Animal, possibly, in all Bodies whatever; But as it is allow'd, I suppose generally, that Animals have a greater Quantity of it residing in them, than other Substances, there seems Room to admit the Doubt I have mention'd, which I submit to the Consideration of such as are curious in Experiments of this kind.