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III. *Part of a Letter from John Fuller of Suffex, Esq; concerning a strange effect of the late great Storm in that County.*

December 6. 1703.

**W**E live Ten Miles off the Sea in a direct line, and yet can scarce perswade the Country People, but that the Sea water was blown thus far, or that during the Tempest the Rain was salt, for all the Twiggs of the Trees the day after were white, and tasted very salt, as I am informed almost by every body, tho I did not taste them time enough my self, nor observe it, and that not only upon this Hill where we live facing the Sea, but in all other places within 14 or 15 miles of the Sea, as well in the Valleys, between which and the Sea are several very high Hills, as on the Hills themselves.

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IV, *A Letter for the Reverend Mr William Derham, F. R. S. Containing his Observations concerning the late Storm.*

S I R,

**A**Ccording to my promise at the general meeting of the R. S. on *St Andrew's* day, I here send you inclos'd the Account of my Ingenious and Inquisitive Friend *Richard Towneley*, Esq; concerning the State of the Atmosphere in that part of *Lancashire*, where he liveth, in  
the

( 1531 )

the late dismal Storm. And I hope it will not be unacceptable, to accompany his with my own Observations at *Upminster* ; especially since I shall not weary you with a long History of the Devastations, &c. but rather some particulars of a more Philolophical consideration.

And first, I do not think it improper to look back to the preceding Seasons of the Year. I scarce believe I shall go out of the way, to reflect as far back as *Apr. l. May, June and July* ; because all these were wet Months in our Southern parts. In *April* there fell 12,49 *l.* of Rain thro my Tunnel. And about 6, 7, 8 or 9 *l.* I esteem a moderate quantity for *Upminster*. In *May* there fell more than in any Month of any Year since the Year 1696, viz. 20,77 *l.* *June* likewise was a dripping Month, in which fell 14,55 *l.* And *July*, altho it had considerable intermissions, yet had 14,19 *l.* Above 11 *l.* of which fell on *July* 28th and 29th in violent Showers. And I remember the News Papers gave accounts of great Rains that Month from divers places of *Europe*, but the *North of England* (which also escaped the violence of the late Storm) was not so remarkably wet in any of those Months ; at least not in that great proportion more than we, as usually they are ; as I guess from the Tables of Rain, with which Mr *Towneley* hath favoured me. Particularly *July* was a dry Month with them, there being no more than 3,65 *l.* of Rain fell thro Mr *Towneley's* Tunnel of the same diameter with mine.

From these Months let us pass to *September*, and that we shall find to have been a wet Month, especially the latter part of it ; there fell of Rain in that Month 14,86 *l.*

*October* and *November* last, altho not remarkably wet, yet have been open warm Months for the most part. My Thermometer (whose freezing point is about 84) hath been very seldom below 100 all this Winter, and especially in *November*.

Thus

Thus I have laid before you a short account as I could of the preceding disposition of the Year, particularly as to wet and warmth, because I am of opinion that these had a great influence in the late Storm; not only in causing a Repletion of Vapours in the Atmosphere, but also in raising such Nitro-sulphureous or other heterogeneous matter, which when mix'd together might make a sort of Explosion (like fired Gun-powder) in the Atmosphere. And from this Explosion I judge those Coruscations or Flashes in the Storm to have proceeded, which most people as well as my self observed, and which some took for Lightning. But these things I leave to better judgments, such as and that very ingenious Member of our Society, who hath undertaken the Province of the late Tempest, to whom if you please, you may impart these Papers; Mr *Halley* you know I mean.

From Preliminaries it is time to proceed nearer to the Tempest it self. And the foregoing day, *viz. Thursday, Nov. 25.* I think deserveth regard. In the Morning of that day was a little Rain, the Winds high in the Afternoon S. b. E. and S. In the Evening there was Lightning, and between 9 and 10 of the Clock at Night a violent but short Storm of Wind and much Rain at *Upminster*, and of Hail in some other places, which did some damage. There fell in that Storm 1,65 *l.* of Rain. The next Morning, which was *Friday, Nov. 26.* the Wind was S. S. W. and high all day, and so continu'd till I was in Bed and asleep. About 12 that Night the Storm awaken'd me, which gradually encreas'd till near 3 that Morning. And from thence till near 7 it continued in the greatest excess: and then began slowly to abate, and the *Mercury* to rise swiftly. The Barometer I found at 12 h.  $\frac{1}{2}$  P. M. at 28,72, where it continued till about 6 the next Morning, or 6 $\frac{1}{2}$ , and then hastily rose; so that it was gotten to 82 about 8 of Clock, as in the Table.

How the Wind fate during the late Storm I cannot positively say, it being excessively dark all the while, and my Vane blown down also, when I could have seen. But by information from Millers, and others that were forc'd to venture abroad, and by my own guess, I imagin it to have blown about S. W. by S. or nearer to the S. in the beginning, and to veer about towards the West towards the end of the Storm, as far as W. S. W.

The degrees of the Wind's strength being not measurable (that I know of, tho talk'd of) but by guess, I thus determine, with respect to other Storms. On *Feb. 7. 1698.* was a terrible Storm that did much damage. This I number 10 degrees; the Wind then W. N. W. *vid. Ph. Tr. No. 262.* Another remarkable Storm was *Feb. 3. 1701.* at which time was the greatest descent of the  $\bar{v}$  ever known. This I number 9 degrees. But this last of *November*, I number at least 15 degrees.

As to the *Stations of the Barometer*, you have Mr *Townley's* and mine in the following Table to be seen at one view.

As to *November 17th* (whereon Mr *Townley* mentions a violent Storm in *Oxfordshire*) it was a Stormy Afternoon here at *Upminster*, accompany'd with Rain, but not violent, nor  $\bar{v}$  very low. *November* the 11th and 12th had both higher Winds and more Rain; and the  $\bar{v}$  was those days lower than even in the last Storm of *November 26th.*

Thus, Sir, I have given you the truest account I can, of what I thought most to deserve observation, both before, and in the late Storm. I could have added some other particulars, but that I fear I have already made my Letter long, and am tedious. I shall therefore only add, that I have accounts of the violence of the Storm at *Norwich, Beccles, Sudbury, Colchester, Rochford*, and several other intermediate places; but I need not tell particulars, because I question not but you have better informations.

( 1534 )

A Table, shewing the Height of the Mercury in the Barometer, at *Towneley* and *Upminster*, before, in, and after the Storm.

Townley.			Upminster.		
Day.	Hour.	Height of $\bar{z}$	Day	Hour.	Height of $\bar{z}$
Novr	7	28 98	Novr	8	29 50
25	3	64	25	12	39
	9 $\frac{1}{2}$	61		9	14
	7	80		8	33
26	3	70	26	12	28
	9 $\frac{1}{2}$	47		9	10
	7	50		12 $\frac{1}{2}$	28 72
27	3	81	27	7 $\frac{1}{2}$	82
	9 $\frac{1}{2}$	95		12	29 31
	7	29 34		9	42
28	3	62	28	8	65
	9	84		12	83
	7	88		9	20 07
29	7		29	8	25

I have just now, since my writing, receiv'd an account from a Clergy-man, an intelligent person at *Lewes* in *Sussex*, not only that the Storm made great desolations thereabouts, but also an odd Phœnomenon occasioned by it, viz. " That a Physician travelling soon after the Storm to *Tisebyrst*, about 20 miles from *Lewes*, and as far from the Sea, as he rode he pluckt some tops of Hedges, and chawing, them found them Salt. Some Ladies of *Lewes* hearing this, tasted some Grapes that were still on the Vines, and they also had the same relish. The Grass on the Downs in his Parish was so salt, that the Sheep in the Morning would not feed till Hunger compelled them, and afterwards drank like Fishes, as the Shepherds report. This he attributeth to Saline Particles driven from the Sea. — He heareth also, that people about *Portsmouth* were much annoyed with sulphurous Fumes, complaining they were almost suffocated therewith.

V. Part