disabled by sickness to come over to me (which he promis'd to do, as soon as he could) writ me only a *Ticket*, whose substance was, That the *Earth-quake* was there much more considerable, than where I lodged, and that at a Gentlemans house, whom he names (the most noted Person, it seems, of the neighbourhood) the House trembled very much, so as to make the Stones manifestly to move to and fro in the Parlour, to the great amazement and fright of all the Family. The Hill, whereon this *Brill* stands, I have observ'd to be very well stor'd with Mineral substances of several kinds; and from thence I have been inform'd by others, that this Earth-quake reach'd a good many miles; but I have neither leasure, nor inclination to entertain you with uncertain reports of the Extent and other Circumstances, especially since a little further time an inquiry may enable me to give you a better warranted account.

Some Observations and Directions about the Barometer, *communicated by the same Hand, to the* Author *of this* Tract.

These shall be set down, as they came to hand in another Letter; *videl.*

As to the *Barometrical* Observations (as for brevities sake I use to call them) though you * guessed aright, that, when I saw those of the Learned and Inquisitive Dr. *Beale*, I had not Mine by me, (for I left them, some years since, in the hands of a *Virtuoso*, nor have I now the leasure to look after those Papers;) yet since by the Communication, you have made publick, 'tis probable, that divers Ingenious men will be invited to attempt the like Observations, I shall (notwithstanding my present haste) mention to you some particulars, which perhaps will not appear unseasonable, that came into my mind upon the reading of what you have presented the Curious.

* *See* Num. 9. *of the* Phil. Transact. *p.* 159. *the last* paragraph.

When I did, as you may remember, some years agoe, publickly express and desire that some Inquisitive men would

make *Baroſcopical* Obſervations in ſeveral parts of *England* (if not in forrain Countries * alſo;) and to aſſiſt them, to do ſo, preſented ſome of my Friends with the neceſſary Inſtruments: The declared reaſon of my deſiring this Correſpondence was (among other things) that by comparing Notes, *the Extent of the Atmoſpherical Changes, in point of Weight, might be the better eſtimated.* But not having hitherto received ſome account, that I hoped for, I ſhall now, without ſtaying for them, intimate thus much to you: That it will be very convenient, that the Obſervers take notice not only of the *day*, but, as near as they can, of the *Houre* wherein the height of the *Mercurial Cylinder* is obſerv'd: For I have often found, that within leſs than the compaſs of one day, or perhaps half a day, the Altitude of it has ſo conſiderably vary'd, as to make it in many caſes difficult, to conclude any thing certainly from Obſervations, that agree but in the day.

* *Some whereof have been ſince invited by the* Publiſher, *to give their concurrence herein.*

It will be requiſite alſo, that the Obſervers give notice of the *Scituation of the place*, where their *Barometers* ſtand, not only, becauſe it will aſſiſt men to Judge, whether the Inſtruments were duely perfected, but principally, becauſe, that though the *Baroſcope* be good (nay, becauſe it is ſo) the Obſervations will much diſagree, even when the *Atmoſphere* is in the ſame ſtate, as to Weight, if one of the Inſtruments ſtand in a conſiderably higher part of the Countrey, than the other.

To confirm *both* the foregoing admonitions, I muſt now inform you, that, having in theſe parts two Lodgings, the one at *Oxford*, which you know ſtands in a bottom by the *Thames* ſide, and the other at a place, four miles thence, ſeated upon a moderate *Hill*, I found, by comparing two *Baroſcopes*, that I made, the one at *Oxford*, the other at *Stanton St. Johns*, that, though the former be very good, and have been noted for ſuch, during ſome years, and the latter was very carefully fill'd; yet by reaſon, that in the *Higher* place, the incumbent part of the *Atmoſphere* muſt be lighter, than in the *Lower*, there is almoſt al-

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ways between 2 and 3 Eights of an Inch difference betwixt them: And having ſometimes order'd my ſervants to take notice of the Diſparity, and divers times carefully obſerv'd it my ſelf, when I paſs'd to and fro between *Oxford* and *Stanton*, I generally found, that the *Oxford Barometer* and the *other*, did, as it were by common conſent, riſe and fall together ſo, as that in the former the *Mercury* was uſually ⅛ higher, than in the latter.

Which Obſervations may teach us, that the Subterraneous ſteams, which aſcend into the Air, or the other Cauſes of the varying Weight of the *Atmoſphere*, do, many times, and at leaſt in ſome places, uniformly enough affect the Air to a greater height, than, till I had made this tryall, I durſt conclude.

But, as moſt of the *Barometricall* obſervations are ſubject to exception, ſo I found the formerly mentioned to be. For (to omit leſſer variations) riding one Evening from *Oxford* to *Stanton*, and having, before I took horſe, look't on the *Baroſcope* in the former of theſe 2. places, I was ſomewhat ſurpriſed, to find at my comming to the latter, that in places no farther diſtant, and notwithſtanding the ſhortneſs of the time (which was but an hour and a half, if ſo much) the *Barometer* at *Stanton* was ſhort of its uſual diſtance from the *other*; near a quarter of an *Inch*, though, the weather being fair and calm, there appear'd nothing of manifeſt change in the Air, to which I could adſcribe ſo great a Variation; and though alſo, ſince that time, the *Mercury* in the two Inſtruments hath, for the moſt part, proceeded to riſe and fall as before.

And theſe being the only Obſervations, I have yet met with, wherein *Baroſcopes*, at ſome *Diſtance of Place*, and *Difference of Height*, have been compar'd (though I cannot now ſend you the Reflexions, I have elſewhere made upon them;) as the opportunity I had to make them my ſelf, rendred them not unpleaſant to me, ſo perhaps the Novelty will keep them from being unwelcome to you. And I confeſs, I have had ſome flying ſuſpicions, that the odd *Phænomena* of the *Baroſcope*, which have hitherto more pos'd, than inſtructed us, may in time, if a

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competent number of Correſpondents do diligently proſecute the Inquiries (eſpecially with *Baroſcopes*, accommodated with Mr. *Hooks* ingenious additions) make men ſome *Luciferous* diſcoveries, that poſſibly we do not yet dream off.

I know not, whether it will be worth while to add, that ſince I was oblig'd to leave *London*, I have been put upon ſo many leſſer removes, that I have not been able to make *Baroſcopical* Obſervations with ſuch a conſtancy, as I have wiſhed, but, as far as I remember, the *Quick-ſilver* has been for the moſt part, ſo high, as to invite me to take notice of it; and to deſire you to do me the favour to inquire among your correſpondents whether they have obſerv'd the ſame thing. * For, if they have, this laſting (though not uninterrupted) Altitude of the *Quick-ſilver*, happening, when the Seaſons of the year have been extraordinary dry (ſo much as to become a grievance, and to dry up, as one of the late *Gazettes* informs us, ſome ſprings near *Waymouth*, that uſed to run conſtantly) it may be worth inquiry, whether theſe obſtinate Droughts, may not by cleaving of the ground too deep, and making it alſo in ſome places more porous and as it were, ſpungy, give a more copious Vent, than is uſual, to ſubterraneal ſteams, which adſcending into the Air, increaſe the gravity of it. The inducements I have to propoſe this inquiry, I muſt not now ſtay to mention. But perhaps, if the Obſervation holds, it may prove not uſeleſs in reference to ſome Diſeaſes.

* *This hath been inquired into, and is found, that ſeveral Accurate and Curious perſons* (*as the Moſt Noble* Preſident of the Royal Society, *the Lord Viſcount* Brounker, Doctor Beale, Mr. Hook &c.) *have obſerved the ſame.*

Perhaps it will be needleſs to put you in mind of directing thoſe *Virtuoſi*, that may deſire your Inſtructions about *Baroſcopes*, to ſet down in their Diarys not only the day of the month, and the hour of the day, when the *Mercuries* height is taken, but (in a diſtinct *Columne*) the weather, eſpecially the Winds, both as to the Quarters, whence they blow (though that be not always ſo eaſy nor neceſſary,) and as to the Violence or Remiſneſs, wherewith they blow. For, though it be more difficult,

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than one would think, to ſettle any general rule about the riſing and falling of the *Quick-ſilver*; yet in theſe parts one of thoſe, that ſeem to hold oftneſt, is, * that when high winds blow, the *Mercury* is the lower; and yet that it ſelf does ſometimes fail: For, this very day (*March* 3.) though on that hill, where I am, the ſomewhat Weſterly Winds have been bluſtering enough, yet ever ſince morning the *Quick-ſilver* has been riſing, and is now riſen near ⅛ of an *Inch*.

* *See Number* 9. Phil. Tranſact. *p.* 157. 5. 8. *&* 9. *where the Word*, Generally, *ſignifies no more, than* for the moſt part.

I had thoughts to add ſomething about another kind of *Baroſcope* (but inferiour to that in uſe) whereof I have given ſome intimation in one of the *Præliminaries* to the *Hiſtory of Cold*. But you have already too much of a letter, and my occaſions, *&c.*

So far that Letter. Since which time, another from the ſame Noble Obſerver intimates, That, as for that cauſe of the height of the *Quick-ſilver* in Droughts, which by him is ſuſpected to be the elevation of ſteams from the *Cruſt* or Superficial parts of the Earth, which by little and little may add to the Weight of the *Atmoſphere*, being not, as in other ſeaſons, carried down from time to time by the falling Rain, it agrees not ill with what he has had ſince occaſion to obſerve. For, whereas about *March* 12th, at *Oxford*, the *Quick-ſilver* was higher, than, for ought he knew, had been yet obſerv'd in *England*, viz. above ⅛ above 30. *Inches*, upon the firſt conſiderable ſhowers, that have interrupted our long Drought, as he affirms, he foretold divers hours before that the *Quick-ſilver* would be very low, (a bluſtering Wind concurring with the Rain) ſo he found it at *Stanton* to fall ⅛ beneath 29. *Inches*. *

* *Dr.* Beale *concurs with this Obſervation, when he ſaith, in a late* Letter *of* March 19. *to his Correſpondent in* London; By change of Weather and Wind, the *Mercury* is ſunk more than an *Inch*, ſince I wrote to you on *Munday* laſt, *March* 12. This laſt night, by Rain and South wind, 'tis ſunk *half an Inch.*

General