I. *A* Scheme *of a* DIARY *of the* Weather; *together with Draughts and Deſcriptions of* Machines *ſubſervient thereunto*; *inſcribed to the* PRESIDENT *and* Fellows *of the* ROYAL SOCIETY; *by* Roger Pickering, *F. R. S. and V. D. M.*

The INTRODUCTION.

Read at a Meeting of the Royal Society, May 3. 1741.

THE Uſefulneſs and Importance of *Meteorological Tables*, or *Diaries* of the *Weather*, are too well known to this *learned Society*, to need mentioning with any other View, than as an Excuſe under which the Author of the following Obſervations would ſhelter himſelf, for preſuming to engage in a Subject, upon which ſo many, infinitely his Superiors, have written: For, when both the Health and Trade of Mankind conſiderably depend upon the different States of the *Atmoſphere*, the meaneſt Endeavours to contribute to a Knowledge of it may not be without their Uſe, and are, at leaſt, excuſable.

A Senſe of the Importance of obſerving the Weather induced *Hippocrates*, in his Remarks upon the Epidemic Diſeaſes in *Thaſos*, to premiſe a general Hiſtory of the Weather preceding them; and with the ſame View did our great Mr. *Boyle* turn his Thoughts ſo cloſely upon the ſame Subject: whoſe Example, being followed by ſeveral judicious Inquirers into Nature, both abroad and at home, has brought the *Natural Hiſtory* of the *Air* to a ſurpriſing Degree of Perfection, beyond what the Antients ever

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could pretend to, or even thought of. Had but each County in *England* Gentlemen of ſuch Sentiments, who would charge themſelves with the annual Trouble of ſending a regular Account of the *Weather* to this *learned Body*, by it to be compared and digeſted, to what Degrees of Accuracy may we not ſuppoſe a Knowledge of the Nature and Affections of the *Atmoſphere* may be brought; and how well may we not hope to be guarded againſt the Diſorders, which, as *Iſlanders*, we are expoſed to, by ſuch a cloſe Inquiry into the Nature of that neceſſary Fluid in which we breathe! Not to mention the Advantages which ſeveral important Branches of Trade may receive from ſuch Meaſures: And were the digeſted Obſervations of the *Royal Society* compared with thoſe of foreign Societies, formed upon the ſame Plan, how ſhort a Time would bring this Part of Philoſophy to the greateſt Degree of demonſtrable Certainty!

The Trouble of making and keeping ſuch *Meteorological Regiſters*, which, in all Probability, prevents ſeveral Gentlemen from performing this Piece of Service to the Public, might be rendered very inconſiderable, by the Propoſal of an eaſy, as well as comprehenſive, Method for a *Diary*, and a Set of ſimple and convenient *Machines* for making the neceſſary Obſervations.

The Plan of the *Ephemerides Ultra-jectinæ*, tho' comprehenſive, is, with Submiſſion, very perplex'd; and the ſeveral others, mention'd in the *Philoſophical Tranſactions*, perhaps, do not include all the Particulars of which ſuch a *Diary* ſhould conſiſt. The Society of *Edinburgh* has prefaced to their *Medical Eſſays* a Scheme (which I had not the Pleaſure of ſeeing

ſeeing till a great while after I had fallen into the following Method) the moſt calculated for Uſefulneſs; but their *Machines* are neither ſo ſimple nor accurate, as ſuch a Work requires; not to mention their being intirely without one for obſerving the *Force* of the *Wind*.

After theſe free Expreſſions, nothing but a ſincere Intention would juſtify me to myſelf, for preſuming to offer the following Plan; except it were a full Dependence upon the Honour and Candour of the *Royal Society*, whoſe Humanity and Condeſcenſion to the meaneſt of its Well-wiſhers I have more than once already experienced.

SECT. I.

An Account of the Diary in general.

ON a Page of a Folio Paper-Book, opening broadways, are drawn, at proper Diſtances, nine *horizontal*, and ſeven *perpendicular* Lines; in the void ſquare Spaces of which the Particulars of the *Diary* are written down. The firſt of the horizontal Lines is for the Days of the *Month* and *Week*, on which the Examination is made: The ſecond for the *Hour* of the *Day*: The third for the *Weight* of the *Air*: The fourth for its *Heat*: The fifth for its *Moiſture*, or *Dryneſs*: The ſixth for the *Quarter* of the *Wind*: The ſeventh for its *Force*: The eighth for the *Weather*; as whether it be *rainy*, or *cloudy*, or *clear*: The ninth for the *Quantity* of *Rain*; and the Space

between the laſt Line and the End of the Paper, for the *Bill of Mortality*.

The ſeven *perpendicular* Lines are for the ſeven *Days of the Week*; which, in our *Diary*, begins with the *firſt Day*, according to the *Jewiſh* Account, by us called the *Sabbath*, or *Sunday*. If you therefore carry your Eye along the Paper from Left to Right, you may, at one View, ſee the *Weight* of the *Air*, and the Degrees of *Heat* and *Moiſture*, *&c.* for the whole *Week*. If you carry your Eye from Top to Bottom down the Column, for any one Day, you ſee regularly the Whole of the Obſervations in one Line for that Day. Four Pages, or Weeks, we allow to each Month, and then leave a void Page for the *Obſervations* made in that Month; and the overplus *calendary* Days are carried on to the Page allotted for the next Month; only taking care to deſcribe in every ſuch Page, where the Ending and Beginning of two different Months are to be found, the Names of both the Months, directly over their final and initial Day.

The Abſtract of the *weekly Bill of Mortality* is apparently a Part of Obſervation peculiar to this Plan, under which Article all *acute Caſes*, depending on the *State* of the *Air*, are ſet down. Perhaps the Ignorance of the *Searchers*, appointed to inſpect dead Bodies, as to the preciſe Diſeaſes People die of, may lay this Method open to Objection: To which it may be ſufficient to anſwer, That this being obviouſly a requiſite Article for a *Diary*, we muſt be content to take our Advices on this Point from ſuch Hands, rather than none; eſpecially, as all *Political Arith-*

Arithmetic has always been allowed upon no more certain a Foundation.

SECT. II.

A View of the Machines in general.

THE *Machines* neceſſary to the making Obſervations for a *Diary of the Weather*, are theſe five:

1. *The Barometer.*

I have found thoſe with *open Ciſterns* more ſenſible than the *portable* ones. That with which I make my Obſervations, is with an *open Ciſtern*, furniſh'd with a *Micrometer*, that divides an *Inch* into 400 Parts; by which I am capable of perceiving the moſt minute Alteration of the *Gravity* of the *Air*: It was made by Mr. *Bird* of the *Strand*; whoſe Accuracy in Graduation deſerves, I think, Notice and Encouragement.

2. *The Thermometer.*

Mine is one made by *Fahrenheit*'s Scale on one Side, with its Correſpondence to the Graduation of the *Alcohol* Thermometer on the other.

Of the three next *Machines*, two are *new*, and the other conſiderably altered, and, I hope, improved, from one offered to the Society a great while ago.

Note, All the *Machines*, except the *Barometer*, are expoſed to the open Air. The *Thermometer* and *Hygrometer* are placed in a little *Shed*, made for their Reception, againſt my *Study-Window*, where I can ſee the Graduation thro' the Glaſs; and, by lifting up the Saſh, can take them in, as Occaſion requires.

SECT.

SECT. III.

Of the Hygrometer.

I HAD, for ſome time, made uſe of Dr. *Hooke*'s *Hygrometer*, made of the *Beard of a wild Oat*, ſet in a *ſmall Box*, with a *Dial-plate* and an *Index*; but I ſoon found an Inconvenience, without the remedying of which no Dependence could be had on this *Machine*; *viz.* its making more than one *Revolution* in a Night. I endeavoured to remedy this by the following Method, deſcribed in TAB I. *Fig.* 6.

At the vertical Point, from which *Moiſture* and *Dryneſs* are graduated, I cauſed a ſmall *Circle* to be deſcribed; the lower *Arch* of which ſhould juſt interſect with that *Arch*, round which the *Index* of the Oat deſcribed its Circuit. In the Centre of this ſmall Circle I placed a *Pin*, eaſily turning in the central Cavity, and furniſh'd with a flat Piece of thin *Ivory* on its Head. This Piece of *Ivory*, interſecting with the Index of the Oat, by it was turned either to the moiſt or dry Side of its Graduation, as the *Index* made a double *Revolution*. I flatter'd myſelf with Succeſs; but ſoon found, in the great Fogs we had laſt Winter, that the *wild Oat* is not a ſafe Material to make an accurate *Hygrometer* of: For,

1. In the great Fogs it grew limber; ſo as that the Weight of the *Index* brought it down upon the Plate, where its Friction prevented its further Motion.

2. It ſoon loſes its *Senſibility*, grows harſh, and is abſolutely unfit for Uſe. So I immediately turned my Thoughts upon ſome other for my *Diary*, and

reſerved this for my Study; where, or in any incloſed Place, it does well enough, and may be very uſeful in the following Reſpects; as,

1. To examine, in Caſes of Sickneſs, the *Dampneſs* of *Rooms*.

2. To examine Damps in *ſubterraneous Cavities*, being let down with a *Weight*, where a Light would ſometimes ſet the Place on Fire.

3. To obſerve the proper State of Dryneſs in *Warehouſes*, *Wine-vaults*, *Studies*, where Damps would be detrimental and pernicious.

4. To examine the Strength of *ſudden Fogs*, and the *comparative* Dampneſs of particular Situations.

As a *Succedaneum* to this, I thought upon a *ſtatical* one; it recurring to my Mind, That the Weight and Moiſture of the Air being but two Properties of one and the ſame Body, a *ſtatical Hygrometer* (*cæteris paribus*) promiſed the beſt Aſſiſtance towards a more complete Knowledge of the *Barometer*, which acts upon ſtatical Principles; and that theſe two Machines muſt have a reciprocal Correſpondence with each other. I then remember'd, that the great Mr. *Boyle* had mentioned ſomething of this Nature; after conſulting whom, I made the following *Machine*, acting upon his Principles, but formed in a Manner differing from his.

I cauſed a *Balance* to be made to turn with *half a Grain*, ordering that the *Axis* of the *Balance* ſhould, on one Side, be drawn out to the Length of one Inch, and its End to be furniſhed with a *Male Screw*, to which a light *Index* with a *Female Screw* might be fixed. I had this *Balance* faſtened in a *Wainſcot Box*, twelve Inches in Length, nine in Diameter, and four

in

in Depth at Top, but gradually widening towards the Bottom, with a Back to ſlide up and down in a Groove. The *Axis*, already mentioned, of an Inch Length, came through a *Hole* in the Front of the Box, and then had the *Index* faſtened on, which deſcribed the *Segment* of a *Circle* upon a braſs Plate, ſilver'd and graduated into 180 Gr. as if it had conſiſted of a perfect *Semicircle*, or two *Quadrants*. The Reaſon why the Graduation did not begin exactly with the diametrical Line was, to prevent the Friction of the *Brachia* of the Balance, with the little Drop placed at the Bottom of the *Axis* already mentioned.

My next Concern was to *charge* this *Balance*. The Beam turned, as has been ſaid, with *half a Grain*; and every ſuch Turn, after repeated Trials, moved the Index ſomewhat more than one *Degree* of the 180 deſcribed upon the *Plate*; ſo I immediately pitched upon a *Four Peny-weight* all but *ſix Grains*, which contained as many half *Grains* as there were *Degrees*. This Weight I fixed with a Thread to one *Brachium* of the *Balance*, without any *Scale*, the ſeveral Threads or Silk Strings of which, as they would imbibe more Moiſture, would make the *Machine* leſs accurate; and the other *Brachium* I charged with a *Sponge*, ſuſpended likewiſe by a Thread, of ſuch a Weight, when reduced to abſolute Dryneſs, as made an *Equilibrium*; and then ſcrewing on the *Index* to the firſt Degree of the 180, and expoſing the *Machine*, thus ordered, to the open *Air*, in one Night's time the *Index* had got to the 70th Degree; which, as the *Sponge* had been abſolutely dry, muſt have been the true *State* of the *Air*, as to *Moiſture*, at that time.

I find

I find this *Machine* extremely ſenſible and accurate; it will alter 10 Degrees in a Night, and as many in a Day; and has, I think, the following Advantages:

1. It is more *portable* than any, except that of the *wild Oat*; and, upon any Accident, more eaſily and ſpeedily rectified than it, or any other whatever.

2. Being graduated from abſolute *Dryneſs*, it is beſt calculated for the Diſcovery of the true State of the *Air*, as to *Moiſture*.

3. The near Correſpondence between the Degrees on the graduated *Plate*, and the Weight of the *Moiſture* neceſſary to be imbibed or exhaled, to make either *Brachium* of the Balance preponderate every ſuch Degree, gives it the Preference to any other.

For a more perfect Idea of this Machine, ſee TAB. I. *Fig.* 1. where it is viewed on the Inſide, the Back being ſlid up. At *Fig* 2. is repreſented the *Plate* with its Graduations and Index, as it ſhould appear on the Front of the Caſe.

SECT. IV.

Of the Anemoſcope.

THE *Anemoſcope* is a Machine four Feet and a Quarter high, conſiſting of a broad and weighty *Pedeſtal*, a *Pillar* faſtened into it, and an iron *Axis*, of about half an Inch Diameter, faſtened into the *Pillar*. Upon this *Axis* turns a wooden *Tube*, at the Top of which is placed a Vane, of the ſame Materials, 21 Inches long, conſiſting of a *Quadrant*, graduated and ſhod with an iron *Rim*, notched to each Degree; and a *Counterpoiſe*, of Wood as in the Figure, on the other.

Through the Centre of the Quadrant runs an *iron Pin*, upon which are faſtened two ſmall round Pieces of Wood, which ſerve as moveable *Radii* to deſcribe the Degrees upon the Quadrant, and as Handles to a *Velum* or Sail, whoſe Plane is one Foot ſquare, made of Canvas ſtretched upon four Battens, and painted. On the upper Batten, next to the ſhod *Rim* of the Quadrant, is a ſmall *Spring*, which catches at every Notch correſponding to each Degree, as the Wind ſhall, by preſſing againſt the *Sail*, raiſe it up; and prevents the falling back of the *Sail*, upon the leſſening of the Force of the Wind. At the Bottom of the *wooden Tube* is an *iron Index*, which moves round a circular Piece of Wood faſtened to the Top of the *Pillar* on the Pedeſtal, on which are deſcribed the thirty-two Points of the *Compaſs*.

The Figure of this Machine may be ſeen TAB. I. *Fig.* 3. Its Uſes are the following:

1. Having a circular Motion round the *iron Axis* and being furniſh'd with a *Vane* at Top, and *Index* at the Bottom, when once you have fixed the artificial *Cardinal Points*, deſcribed on the round Piece of Wood on the *Pillar*, to the ſame *Quarters* of the Heavens, it gives a faithful Account of that *Quarter* from which the Wind blows.

2. By having a *Velum* or Sail elevated by the Wind along the *Arch* of the Quadrant, to an Height proportionable to the Power of the Column of Wind preſſing againſt it, the *relative Force* of the Wind, and its *comparative Power*, at any two Times of Examination, may accurately be taken.

3. By having a Spring fitted to the Notches of the *Iron* with which the Quadrant is ſhod, the *Velum* is pre-

prevented from returning back upon the Fall of the Wind; and the Machine gives the Force of the higheſt Blaſt, ſince the laſt Time of Examination, without the Trouble of watching it.

I have carefully examined the Dependence that may be had upon this Machine, during the late Storms in *February* $174\frac{3}{4}$, by comparing the Height to which the Wind then forced the *Velum*, with the *Deal* Letter. The 19th of *Feb. Sabbath*, 8 *a. m.* the Anemoſcope was at 75: The *Deal* Letter for that Day called it a Storm. The *Saturday* following, being the 25th, at 8 *p. m.* the Machine was at 79: The *Deal* Letter called that a violent Storm. The *Wedneſday* following, the laſt of *Feb.* it was at 84: The *Deal* Letter called that a violent Storm. So that it appears, that, in ſuch as the Sailors allow to be *violent Storms*, the Machine has hitherto anſwer'd well, and has had ſix Degrees to ſpare for a more violent Guſt, before it comes to an horizontal Poſition.

It is certainly to be depended upon in ordinary Weather, the *Velum* being hung ſo tender, as to feel the gentleſt Breeze. But, after all, I muſt freely own, that I fear the expoſing this Machine to all Winds, for a Continuance, muſt ſoon diſorder it; and that irregular Blaſts and Squalls cannot fail in a ſhort time to impair it. It may not therefore be amiſs, to prevent this, for Gentlemen to take the Machine in in violent Weather; and, by taking the *Tube* off the iron *Axis*, to make their Obſervations with the *Tube*, *Vane*, and *Velum*, in their Hands; which, as it is very light, and far from cumberſome, is eaſy to do, as I have often experienced.

SECT. V.

Of the Ombrometer.

THIS Machine conſiſts of a tin *Funnel*, whoſe Surface is an Inch ſquare, a flat *Board*, and a glaſs *Tube* let into the Middle of it in a Groove (the Length and Breadth of both Board and Tube being *ad Libitum*), and an *Index*. My Board is about three Feet long, to anſwer the Height of the Rails that go round the Top of my Houſe, to one of which it is hung, clear of any Obſtacle to prevent the free Fall of the Rain, with four little Staples that ſlide over as many Tenter-hooks. The *Bore* of my Tube is about half an Inch; which, at a Medium, is the beſt Size, a larger Bore obliging you to make your Graduation the more contracted, and, conſequently, the leſs plain and accurate; and a leſſer not permitting you to return the Water out of the Tube when full, without the Adheſion of a great deal to its Sides; which, when you have placed the Tube in its perpendicular Situation, ſubſides, and ſometimes fills up $\frac{2}{32}$ of an Inch; which, without Care, muſt neceſſarily make great Miſtakes in the *Diary*. The Method of *graduating* the Board is this:

I had a Veſſel of Tin made, whoſe Contents were exactly a *Cubic Inch*. With this Veſſel, filled with Water exactly to its Surface, I frequently gauged the Tube, till, by repeated Trials, I had found the Height to which a *Cubic Inch* of Water would riſe in it. The Space anſwering to this on the Board I had graduated into 32 equal Parts, and took the ſame Method with the reſt of the Tube, till in the ſame manner

ner I had graduated four ſuch Inches. Now the Surface of the Funnel being, as has been ſaid, exactly a ſquare Inch, no Rain can by it get into the Tube, but ſuch as falls within the Square of one Inch; which, as the Shower is more or leſs, has its exact Quantity ſhewn upon the Board, on which a moveable *Index* is placed.

This Machine has highly anſwer'd my Expectation; its Form being very ſimple, and eaſily repaired, if any Accident happen. For, ſhould the Tube be broke, 'tis only rubbing out the Graduation, which is marked with a Black-lead Pencil upon the Board painted white, and gauging your new Tube with the Cubic Meaſure for a new Graduation, and your Machine is again complete. I had one Tube broke, and about three Hours Pains ſet all to-rights. In Winter it will be neceſſary to let no Depth of Water remain in the Tube; for, ſhould there be a Froſt, the Expanſion of the Ice will certainly break it. The Machine will equally ſerve for diſſolved Hail and Snow. Its Figure may be ſeen TAB. I. *Fig.* 5.

SECT. VI.

Of the Monthly Obſervations.

THE vacant Page at the End of every four Weeks, reſerved for Obſervations occurring in the preceding Month, and giving a ſummary Account of the greateſt Difference of the Weather in it, is a Method peculiar to this *Diary*; and one which, I flatter myſelf, will be allowed exceeding pertinent and uſeful. The great End of this, and all *Diaries*, is to furniſh Materials for a Set of ſound Obſerva-

tions

tions, upon which to build a thorough Knowledge of the *Atmoſphere*, and its Effects upon Mankind: And it is eaſy to ſee what great Advantage to this Part of *Natural Knowledge* muſt ariſe from a Variety of Obſervations, made by different Men of Application and Judgment, upon one and the ſame Subject. Beſides, in this Portion of our Deſign may be included, what could not well without Perplexity be thrown into the Columns of the Diary, all the Meteorological Appearances of the *Aurora Borealis*, Lightning, Thunder, *&c.* together with Abſtracts of the moſt authentic Accounts of ſuch *Phænomena*, as at any time in the preceding Month have been ſeen in different Parts of our own Country, or abroad. But this Article muſt be left to every Gentleman's Judgment; it opening a fair Field for the moſt happy Advancements of many Parts of *Natural Knowledge*.

An EXPLANATION *of the* Characters *in the* DIARY.

THIS —— Line implies the Machine's being at the ſame Degree as it was in the preceding Obſervation.

This *O* Character in the Spaces for the Force of the Wind implies a *Calm*.

Note, 1ſt, None, but the cardinal and ſubcardinal *Points* of the *Compaſs* are commonly marked, unleſs in caſe of a *Storm*.

2dly, In the Abſtract of the *Bill of Mortality*, which comes out on a *Tueſday*, the Account in each Week is to be compared from the *Tueſday* of the Week before, to the *Tueſday* in that Week where the Abſtract is placed.

APRIL 1744.

Days of the Month and Week.	1 Sabbath.	2 Monday.	3 Tuesday.	4 Wednesday.	5 Thursday.	6 Friday.	7 Saturday.
Hours of the Day.	8 *a. m.* 8 *p. m.*	8 *a. m.* 8 *p. m.*	8 *a. m.* 8 *p. m.*	8 *a. m.* 8. *p. m.*	8 *a. m.* 11 *p. m.*	8 *a. m.* 8 *p. m.*	8 *a. m.* 8. *p. m.*
Barometer.	$29\frac{196}{400}$ $29\frac{192}{400}$	$29\frac{126}{400}$ $29\frac{45}{400}$	$29\frac{144}{400}$ $29\frac{246}{400}$	$29\frac{297}{400}$ $29\frac{305}{400}$	$29\frac{146}{400}$ $29\frac{116}{400}$	$29\frac{132}{400}$ $29\frac{33}{400}$	$29\frac{392}{400}$ $29\frac{378}{400}$
Thermometer.	37 —	36 —	37 35	38 35	40 45	40 34	55 45
Hygrometer.	70 77	— 79	81 80	— 74	81 74	77 74	— 69
Anemoscope { Quarter.	W.	N. W.	—	—	S. E.	N. W.	W.
Anemoscope { Force.	28	30	74	16	20	16	0
Weather.	Sleet. Rains	Snow. Sleet.	— Cloudy	— Starlight.	Rain. Cloudy.	Overcast. Stark.	Fine. Overcast.
Ombrometer.	1	3 13	22 3		2 1	13	
Bill of Mortality.	Buried.	Males -- 176 Females - 217 Total - 393 Decreased 7	Died of	Apoplexy — 1 Asthma — 8 Colic — 1	Fever — 52 Gripes — 4 Lunatic — 2	Small Pox 22 Suddenly 2	

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OBSERVATIONS in APRIL 1744.

Days of the Month.	Days of the Week.	Hours of the Day.	
19	Mond.	*M.* 12	LAST Night, at 8[1] Hour, carefully watched, whether the lunar Eclipſe had any Effect upon the Hygrometer; but could not, after ſeveral Examinations, perceive that it had any.
20	Friday.	*P. M.* 8	This is the firſt Day of our being favoured with warm Spring Weather. The Thermometer at 8 this Morning was at 65.
24	Tueſd.	*P. M.* 10½	It now lightens towards the S. E. This is the firſt we have had this Year.

A SUMMARY of the greateſt Difference of the WEATHER in *April* 1744.

Days of the Month.	Days of the Week.	Hours of the Day.			
21	Satur.	*A. M* 8	Mercury	Higheſt being then	30 $\frac{167}{400}$
5	Thurſ.	*P. M.* 11		Loweſt - - - -	29 $\frac{116}{400}$
21	Satur.	*P. M.* 8	Thermometer	Hotteſt - - - -	75
6	Friday	*P. M.* 8		Coldeſt - - - -	34
3	Tueſd.	*A. M.* 8	Hygrometer	Moiſteſt - - -	81
21	Satur.	*P. M* 8		Drieſt - - - -	65
3	Tueſd.	*A. M.* 8	Anemoſcope	Quarterly moſt from S. E.	
				Force greateſt from N.W.	74
			Weather very unconſtant.		
			Ombrometer	Moſt Rain on 7th in the Night	$\frac{24}{32}$
				Total Rain 5 Inch and	$\frac{6}{36}$
			Mortality	Greateſt in the 3d Week	432
				Leaſt 1ſt Week -	393
				Total - - - -	1702

A Deſcription *of the* Figures *in* TAB. I.

Fig. 1.

aaaa. The *Hygrometer* ſeen in the Inſide.
bb. The Balance.
c. A ſmall Piece of Wood, by which the Balance is faſtened to the Box.
d. The Sponge.
e. The Weight.
ff. Two little Rings, by which the Hygrometer is hung up.

Fig. 2.

The graduated Plate on the Front of the Machine, with its *Index* and *Diviſions*.

Fig. 3. The *Anemoſcope*.

a. The Pedeſtal.
b. The Pillar, in which the iron Axis is fitted.
c. The Circle of Wood, on which are deſcribed the 32 Points of the Compaſs.
d. The Index.
e. The wooden Tube upon its Axis.
f. The *Velum*.
g. The graduated Quadrant.
h. The Counterpoiſe of the Vane.

Fig. 4. The *Velum* taken off.

a. The Plane of the *Velum*.
b. The Spring.
cc. The wooden *Radii*.

dd. The Holes, thro' which the Pin, in the Centre of the Quadrant, goes.

Fig. 5. The *Ombrometer.*

aa. The Board.
bb. The Tube.
c. The Graduation.
d. The Funnel fixed in the Tube.
e. The Funnel one *Inch* ſquare.

Fig. 6. The Wild-Oat *Hygrometer.*

a. The Box and Plate.
b. The wild Oat, with the Index upon it.
c. The Pin, with a ſmall Piece of Ivory on its Head.

II. *A Letter from Mr.* William Watſon, *Apothecary, F. R. S. to the* SOCIETY, *concerning ſome Perſons being* poiſoned *by eating boiled* Hemlock.

Gentlemen,

Read May 10. 1744. NOtwithſtanding the Number of Inſtances, which occur among Writers, concerning the poiſonous Quality of our common Hemlock, or *Cicuta major* of *Caſpar Bauhin*; ſuch as, that of *Cardanus* mentioning a Man kill'd by a Cake, wherein this Plant was an Ingredient; that of *Braſſavola*, who aſſures us, that it is mortal not to Men only, but to Geeſe and Swine; as well as thoſe of

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