III. *An Abſtract of the* Meteorological Diaries, *communicated to the* Royal Society, *with Remarks upon them, by* W. Derham, *D. D. Canon of* Windſor, *F. R. S.* [Vide PART III. *in Tranſact.* N° 433.]

PART IV. *Containing Meteorological Obſervations made at*

Naples
Bengal
Chriſtiana } 1727.

AN Abridgment of the *Meteorological Obſervations* made in the Year 1727, at *Naples*, by Dr. *Nic. Cyrillus*, *Prim. Med. Profeſ.* and at *Bengal*, by the Reverend Mr. *Bellamy*, Chaplain to the *Engliſh* Factory; and at *Chriſtiana* in *Norway*, by ——— communicated by Mr. *Pr. Kink.* Extracted, for the Uſe of the *Royal Society*, by *W. Derham, F. R. S.*

I ſhall begin (as in my former Abſtracts) with a ſhort and eaſy View of the *Barometrical* and *Thermometrical Obſervations*, in theſe little Tables of them, which will be the more valuable, on account of the Obſervations being made (as I ſuppoſe) with ſome of the *Societies* Glaſſes, of Mr. *Haukesbee*'s Preparation.

The *Barometrical Means* of *Naples* are, both as they are ſet down by the illuſtrious Obſerver

himſelf, according to Dr. *Jurin*'s Directions; and alſo as they are between the higheſt and loweſt Stations of every Month. Thoſe of *Norway*, are in the latter Way.

A TABLE *of the Barometrical Ranges at* Naples, *and at* Chriſtiana *in* Norway, *in the Year* 1727.

	JANUAR.		FEB.		MAR.		APRIL.		MAY.		JUNE.		
	Naples		Naples		Naples		Naples		Naples		Naples		Norw.
High	29.80		29.88		30. 6		29.88		29.88		29.72		29.3
Mean	29.55	29.65	29.63	29.72	29.59	29.73	29.71	29.72	29.71	29.73	29.60	29.64	29.1 ½
Low	29.30		29.38		29.12		29.54		29.54		29.46		29.0

The TABLE *continued.*

	JULY.			AUGUST.			SEPTEMBER.	
	Naples		Norw.	Naples		Norw.	Naples	
High	29. 80		29. 7	29. 80		29. 7	29. 88	
Mean	29. 67	29. 70	29. 3½	29. 55	29. 63	29. 5	29. 59	29. 72
Low	29. 54		29. 0	29. 30		29. 3	29. 30	

	OCTOBER.		NOVEMBER.		DECEMBER.	
	Naples		Naples		Naples	
Higheſt	29. 88		30. 06		29. 88	
Mean	29. 50	29. 66	29. 59	29. 75	29. 59	29. 65
Loweſt	29. 12		29. 12		29. 30	

A TABLE *of the Thermometrical Ranges at* Naples, Bengal, *and* Chriſtiana, *in the Year* 1727.

	JAN.	FEB.	MARCH	APRIL		MAY		JUNE.		
	Nap.	Nap.	Nap.	Beng.	Nap.	Beng.	Nap.	Beng.	Nap.	Beng.	Chriſt.
High	51.3	44.5	48.3	15.2	41.0	15.3	30.0	20.4	20 0	10.8	46
Mean	47.1	40.0	41 0	7.6	31.0	7.9	24.0	10.6	14.7	5.8	37
Low	43.0	35.0	34.5	0.1	21.0	0.6	18.0	0.7	9.5	0.8	29

	JULY			AUGUST			SEPT.		Oct.	Nov.	DEC.
	Nap.	Beng.	Chriſt.	Nap.	Beng.	Chriſt.	Nap.	Beng.	Nap	Nap.	Nap.
High	17.0	15.4	40	21.0	15.4	45	25.0	10.4	43.5	47.0	50.5
Mean	10.0	7.7	35	11.1	7.8	35	19.7	7.7	32.2	43.7	43.2
Low	3.0	0.1	30	7.3	0.2	25	14.5	5.0	21.0	40.5	36.0

Theſe

Theſe Tables give an eaſy View of the *Barometer* and *Thermometer* in the ſeveral diſtant Parts of the World ſpecified: which would have been very inſtructive, had they been obſerved throughout the Year, as they were at *Naples*.

By the *Barometrical* Obſervations it appears, that the Aſcent and Deſcent of the Quickſilver is not ſo great at *Naples* as in the more Northerly Climes: For it was but twice in the whole Year, above 30 Inches; and but thrice as low as 29.12 Inches. And ſo in *Philoſ. Tranſact.* N° 321. I obſerved, that, at *Zurich* the Range is but about an Inch; but at *Upminſter* I find the higheſt Aſcent to have been 30.44 Inches; and the loweſt Deſcent 27.44 Inches, which is a Range of 2½ Inches: And by my Account of the *Petersburgh* Obſervations in 1724, it appears that the Mercurial Range there is 3.31 Inches, in *Philoſ. Tranſact.* N° 424. *p.* 107. And as for *Norway*, the Obſervations are too few, and all made only in the Summer Months, whereby no good Judgment could be made: And *Bengal* had no *Barometer*.

By the *Thermometrical Table* we may judge of the Heat and Cold of the ſeveral Places. For the right underſtanding of which, I muſt repeat what I ſaid in a former Abridgment, *viz.* That in Mr. *Haukesbee*'s Thermometers, the Point of *Extream Heat* is 5 Degrees above 0; that 45 Degrees below 0, is the Point of *Temperate*; and 65 Degrees, the Point of *Freezing*. But Dr. *Cyril* (*vide Phil. Tranſact.* N° 429. *p.* 336.) ſaith it freezes with them at *Naples* when the Spirits are only got to 55 Degrees. His Words deſerve Conſideration: *Illud veſtrûm preſpicaciâ, & inveſtigandarum naturalium rerum ſtudio dignum reputo, quâ de re fiat, ut*

apud

apud nos Aqua congeleſcat, Thermometri liquore vix ad gr. 55 depreſſo, quum Londini id non accidat niſi ad gr. 65, quo loco veſtrum Froſt *eſt notatum. Si quid valet Philoſophari, ad Aquæ in Gelu concretionem, præter intenſum Frigoris gradum, aliquid aliud requiritur, quo in noſtris, non in veſtris regionibus Aer ditatus eſt. Quemadmodum ut Aqua in Glaciem arte mutetur, haud nix ſola, ſed ſale miſta admovenda.*

And as at *Naples* it *Freezes* at a warmer Degree of the Thermometer; ſo I obſerve that at *Chriſtiana* the illuſtrious Obſerver complains of the *vehement Heat of the Sun, Æſtus Solis vehemens*, in *July*, when the Spirits were but at 36 Degrees and 34 Degrees; in *Auguſt* at 25, 27, and 28 Degrees, he ſays, the *Weather was exceeding hot, Cœlum calidiſſimum.* I thus diſtinctly mention (as the Author doth) the *Heat of the Sun*, and the *Heat of the Weather*, becauſe they may not mean the ſame Thing, I having been informed by the Whale-Fiſhers, that in *Greenland* the Heat of the Sun is ſcarce tolerable on one Side of the Ship, when on the other Side it Freezes hard.

At *Bengal* the Heat at ſome times ſeems to be very intenſe, by the Thermometer being, in ſome Months, more Degrees about the 0, than the Point of *Extreme Heat* is. As particularly in *April, May* and *June*, it was 6, 7, and 8 Degrees above 0. But thoſe exceſſive Heats are generally in the Afternoons, the Forenoons being more temperate, and the Temperature, or what they call Cold there, is at the ſame Time of the Day. And the Degree of the Thermometer, at which they reckon it coldiſh, is about

about 15 Degrees. And on *May* 2d, at 8 o' Clock in the Morning, Mr. *Bellamy* ſaith (the Glaſs being then at 20.4 Degrees) *The Morning was like Winter Weather in Europe.*

Whether this ſo different Judgment of great Cold at *Bengal*, when the Thermometer was about 20 Degrees; and of exceſſive Heat at *Chriſtiana*, when it was but a little below that, *viz.* at 25 Degrees, *&c.* Whether, I ſay, this difference of Judgment ariſes from ſome Prejudice of the Senſes, or from ſome extraordinary Quality in the Air, I leave (as Dr. *Cyril* doth) to the Judgment of the learned Society.

As to the Weather, Winds, Rain, *&c.* of the ſeveral Places, it would be endleſs to meddle with Particulars, and therefore a tranſient View of every Month muſt ſuffice.

At *Naples*, *January* was a cool Month, frequent Rain, with much Thunder and Storms of Wind. The Rain amounted to 111½ Meaſures (23 of which make an *Engliſh* Inch in Depth) which is 4 Inches 19½ Meaſures, or near 5 Inches Depth. *Veſuvius* was pretty quiet.

February was a drier Month, the Rain amounting only to 14 Meaſures, which is but little above half an Inch deep. The Weather was for the moſt part Cloudy, with ſome Froſts. *Veſuvius* emitted a thick Smoak.

At *Naples*, in *March* it was cold, with Hail, and Snow on the Mountains, the Rain amounted to 101 Meaſures, which makes 4 Inches, 9 Meaſures depth. The Winds were in all the Points. *Veſuvius* diſcharged Rivulets of Fire.

At

At *Bengal* the five laſt Days (which were all obſerved in this Month) were Fair, the Wind S^a.

In *April* the Winds at *Naples* were much in the northerly Points, cold, frequent Thunder, the Rain only 38 Meaſures, which make 1 Inch, 15 Meaſures. No Fire in *Veſuvius* the Beginning of the Month, but towards the latter End, divers Rivers of Fire and Smoak.

At *Bengal* the Wind was much among the ſoutherly Points, Cloudy, ſome Rain and Thunder. The Weather for the moſt part temperate, but great Heats in the Afternoons.

In *May*, at *Naples*, the Wind lay much in the weſterly and ſoutherly Points. Rain 103½ Meaſures, which makes 4 Inches 11½ Meaſures Depth, with frequent Thunder. *Veſuvius* caſt out Rivers of Fire, which reached almoſt to the Bottom of the Mountain.

At *Bengal* the Winds varying, but for the moſt part ſoutherly, with much Cloudy, Rain, and Thunder. The Beginning of the Month colder than ordinary; afterwards exceeding hot.

In *June*, at *Naples*, the Wind was much in the weſterly and north-weſterly Points, but little Rain, only 6½ Meaſures, which is but about a quarter of an Inch depth.

At *Bengal*, much Rain with Thunder and Heat. On *June* 6th, it is noted, *we are now pretty certain the Rains are ſet in.*

At *Chriſtiana*, the Obſervations begin on *June* 22d. The Weather temperate, and for the moſt part cloudy, with Thunder, Hail and Rain.

July,

July, at *Naples*, was a very hot, dry Month, without any Rain, but frequent Miſts. *Veſuvius* quiet.

At *Bengal* frequent and much Rain, with Thunder and Lightening; for the moſt part cloudy. Winds perpetually varying.

At *Chriſtiana*, great Rains with Thunder, frequent Fogs, ſome Fair, and Complaints of vehement Heat, although the Thermometer was but at 30 Degrees in that Month.

In *Auguſt*, at *Naples*, the Wind was in the weſterly and north-weſterly Points. Showers with Thunder were frequent, which amounted only to 49½ Meaſures, which is but a little above 2 Inches depth. And although, by the Table, the Weather ſeems to have been warm, yet there are frequent Complaints of the Air being cold. *Veſuvius* caſt forth a large River of Fire.

At *Bengal* much Rain, with Thunder and Cloudy. Winds varying, but pretty much Eaſterly. Weather ſometimes very hot, but for the moſt Part more Temperate than in ſome of the other Months.

At *Chriſtiana* the Winds various; frequent Miſts, with Cloudy, and ſometimes Fair, and ſometimes Rain. Great Complaints of Heat, although by the Thermometer no great Signs of it.

In *September*, at *Naples*, the Winds various, and very ſtormy towards the latter End of the Month, with horrible Thunder, Lightening, and heavy Rain, which amounted to 220½ Meaſures, making 9 Inches 13½ Meaſures in depth; which was more than fell in any Month of this Year, and drowned the Marſhes, and did a great deal of Damage to

Houſes, Trees, &c. *Veſuvius* was quiet at the Beginning, but fiery at the End.

Bengal, hath only the 7 firſt Days Obſervations where the Wind was moſtly Eaſterly, Cloudy, and Showery, with Thunder and Lightening.

The Obſervations of the remaining Months are all of *Naples*; where, in

October, the Wind was various, and ſometimes ſtormy, with Thunder; frequent Miſts, and ſometimes heavy Rain, amounting to 107 Meaſures, which make 4 Inches 15 Meaſures, and in the Mountains Snow. *Veſuvius* turbulent in the Beginning of the Month, and emitted a River of Fire.

November was, for the moſt Part, a cloudy miſling Month, with Thunder and Rain; but of no greater Quantity than 73 Meaſures, which are equal to 3 Inches 4 Meaſures depth *Engliſh*. The Wind was more Northerly than in any other Quarter. The Fire of *Veſuvius* leſs.

December was a wet, unſeaſonable Month, the Rain being 179 Meaſures, which is 7 Inches 18 Meaſures in depth; which following the Rains and unſeaſonable Weather of the preceeding Months, ſo damaged the Fruits of the Earth, that publick Prayers were ordered for fair Weather.

The Rain of the whole Year the illuſtrious Obſerver computes at 3 *Engliſh* Feet 7 Inches and $14\frac{1}{2}$ Meaſures. And to ſhew how much wetter this Year was than the others, he gives theſe Quantities of the Year 1724, 2 *Engliſh* Feet 10 Inches, 14 Meaſures; of 1725, 2 Feet 10 Inches, 17 Meaſures; of 1726, 1 Foot, 11 Inches, $14\frac{1}{2}$ Meaſures.