

XIV. *Account of a singular Instance of atmospherical Refraction.*
In a Letter from William Latham, Esq. F.R.S. and A.S. to
the Rev. Henry Whitfeld, D.D. F.R.S. and A.S.

Read May 10, 1798.

DEAR SIR,

Hastings, August 1, 1797.

ON Wednesday last, July 26, about five o'clock in the afternoon, whilst I was sitting in my dining-room at this place, which is situated upon the Parade, close to the sea shore, nearly fronting the south, my attention was excited by a great number of people running down to the sea side. Upon inquiring the reason, I was informed that the coast of France was plainly to be distinguished with the naked eye. I immediately went down to the shore, and was surprised to find that, even without the assistance of a telescope, I could very plainly see the cliffs on the opposite coast; which, at the nearest part, are between forty and fifty miles distant, and are not to be discerned, from that low situation, by the aid of the best glasses. They appeared to be only a few miles off, and seemed to extend for some leagues along the coast. I pursued my walk along the shore to the eastward, close to the water's edge, conversing with the sailors and fishermen upon the subject. They, at first, could not be persuaded of the reality of the appearance; but they soon became so thoroughly convinced, by the cliffs gradually appearing more elevated, and approaching nearer, as it

were, that they pointed out, and named to me, the different places they had been accustomed to visit; such as, the Bay, the Old Head or Man, the Windmill, &c. at Boulogne; St. Vallery, and other places on the coast of Picardy; which they afterwards confirmed, when they viewed them through their telescopes. Their observations were, that the places appeared as near as if they were sailing, at a small distance, into the harbours.

Having indulged my curiosity upon the shore for near an hour, during which the cliffs appeared to be at some times more bright and near, at others more faint and at a greater distance, but never out of sight, I went upon the eastern cliff or hill, which is of a very considerable height, when a most beautiful scene presented itself to my view; for I could at once see Dengeness, Dover cliffs, and the French coast, all along from Calais, Boulogne, &c. to St. Vallery; and, as some of the fishermen affirmed, as far to the westward even as Dieppe. By the telescope, the French fishing-boats were plainly to be seen at anchor; and the different colours of the land upon the heights, together with the buildings, were perfectly discernible. This curious phænomenon continued in the highest splendour till past eight o'clock, (although a black cloud totally obscured the face of the sun for some time,) when it gradually vanished.

Now, Sir, as I was assured, from every inquiry I could possibly make, that so remarkable an instance of atmospherical refraction had never been witnessed by the oldest inhabitant of Hastings, nor by any of the numerous visitors, (it happening to be the day of the great annual fair, called Rock-fair, which always attracts multitudes from the neighbouring places,)

I thought an account of it, however trifling, would be gratifying to you.

I should observe, the day was extremely hot, as you will perceive by the subjoined rough journal of a small thermometer, which was kept in the dining-room above mentioned. I had no barometer with me, but suppose the mercury must have been high, as that and the three preceding days were remarkably fine and clear. To the best of my recollection, it was high water at Hastings about two o'clock P. M. Not a breath of wind was stirring the whole of the day; but the small pennons at the mast-heads of the fishing-boats in the harbour, were, in the morning, at all points of the compass.

I am, &c.

WILLIAM LATHAM.

P.S. I forgot to mention that I was, a few days afterwards, at Winchelsea, and at several places along the coast; where I was informed, the above phænomenon had been equally visible. I should also have observed, that when I was upon the eastern hill, the cape of land called Dengeness, which extends nearly two miles into the sea, and is about sixteen miles distant from Hastings, in a right line, appeared as if quite close to it; as did the fishing-boats, and other vessels, which were sailing between the two places: they were likewise magnified to a great degree.

State of the Thermometer at Hastings, during the Month of July, 1797.

1797.	Therm.	Time.	Wind.	Weather.
July 1	64	10 A. M.	SW	Windy. Fair.
2	64	10	SW	Windy. Fair.
3	62	10	SW	Rain. Windy.
4	62	10	SW	Fair. Windy.
5	61	10	SW	Rain. Windy.
6	60	10	SW	Rain. Windy.
7	61	10	W	Rain. Windy.
8	62	10	NW	Fine.
	66	5 P. M.	NW	Fine.
9	66	10 A. M.	SW	Fine.
10	67	10	N afterw. SW	Fine.
11	65	10	SW	Foggy all day.
12	63	10	SW	Fine.
13	72	10	SW	Fine.
14	76	10	W	Fine.
	68	12	W	Fine.
15	72	10	W	Fine.
16	72	10	N	Fine.
	78	7 P. M.	E	Storm of wind. Lightning.
17	73	10 A. M.	W	Fine.
18	70	10	W	Fine. Showers in the night.
19	67	10	WSW	Fine. Windy.
20	67	10	SW	Rain. Windy.
21	65	10	SW	Fine. Windy.
22	61	10	S	Rain.
23	65	10	S	Fine.
24	66	10	S	Fine.
25	66	10	SW	Fine.
26	68	10	SW	Fine. Dead calm all day.
	76	5 P. M.	SW	Fine.
27	72	10 A. M.	SW	Fine.
28	70	10	S	Fine.
29	72	10	E	Fine.
30	70	10	SW	Rain.
31	69	10	S	Fine. Windy.