

It adds nothing, either to our previous knowledge of facts, or to our previous conceptions with regard to them, and so is of no use to scientific readers; while the manner in which it treats its subject is so dreary that we fear it is no less ill adapted to the requirements of popular readers. We regret this failure the more because the author, as is well known, is so hard a worker, both in cerebral morphology and morbid psychology, that in writing this book he deserved a success which he has failed to achieve. Having said this much it seems needless to enter on any detailed criticism. We have forced ourselves to read the work from end to end, but cannot advise any one else to follow our example.

*Ideality in the Physical Science.* By Benjamin Peirce. (Boston: Little, Brown and Co., 1881.)

THIS work is a series of six lectures published posthumously by the author's son. The lectures are of a purely popular character, and their object throughout is to maintain that science is, so to speak, an intellectual handmaiden to Christianity. The arguments, or rather illustrations, are all drawn from the domain of physics and astronomy, of which the writer was himself so distinguished a cultivator, and every page glows with the fervour of a deeply religious mind. Indeed, we may question whether there is not rather too much of this, even in view of the emotional effects which it seems to be the main object of the speaker to produce. The intellectual or argumentative object throughout is to show that the "ideality in the physical sciences" points to ideation in the source of the physical universe, or, to quote the concluding paragraph: "Judge the tree by its fruit. Is this magnificent display of ideality a human delusion, or is it a divine record? The heavens and the earth have spoken to declare the glory of God. It is not a tale told by an idiot, signifying nothing. It is the power of an infinite imagination, signifying IMMORTALITY."

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

Mr. Charles Darwin's Letters

WILL you allow me to mention that I am collecting my father's letters with a view to a biography. I shall be much obliged to any of my father's friends and correspondents who may have letters from him, if they will kindly allow me to see and make copies of them. I need hardly add that no letter shall be published without the full consent of its owner.

Down, Beckenham, May 25 FRANCIS DARWIN

Comet (a) 1882

THE following observations of Comet (a) 1882 have been made with the Transit-Circle of the Radcliffe Observatory, Oxford, when passing *sub-polo* :—

1882.	G.M.T.		Observed R.A.		Observed N.P.D.		Observer.
	h.	m.	h.	m.	(uncorrected for parallax).		
(a) May 12,	8	57	20°13'	0	14	22	90 ... 15 32 53'4 ... R.
(b)	13,	9	18 33'31	...	0	39	36'12 ... 15 54 2'9 ... W.
(c)	15,	9	57 21'31	...	1	26	23'60 ... 17 8 33'8 ... R.
(d)	16,	10	14 15'71	...	1	47	17'34 ... 18 0 13'7 ... W.
(e)	17,	10	29 20'28	...	2	6	20'93 ... 19 0 10'5 ... R.
(f)	18,	10	42 34'30	...	2	23	33'69 ... 20 7 31'7 ... W.
(g)	19,	10	54 4'86	...	2	39	2'69 ... 21 21 18'8 ... R.
(h)	20,	11	3 59'82	...	2	52	55'84 ... 22 40 44'3 ... W.
(i)	21,	11	12 28	...	3	5	(22) ... 24 5 (18) ... R.
(k)	22,	11	19 38'70	...	3	16	30'40 ... 25 33 (54) ... R.

Observers' notes :—

- (a), (b) Very faint; but observations fair.
- (c) Very faint at times; observation fair on the whole.
- (d) Nucleus sometimes showed as a bright point, but generally not so well defined, and would scarcely stand any illumination of field. Observation, though difficult, very fair.
- (e) Observation good.
- (f) Observation considered very good. Nucleus very sharp at times.
- (g) Difficult, but observation considered fairly good. Nucleus faint at times.
- (h) Faint. Observation good.
- (i) Observation only approximate. Sky cloudy.
- (k) R.A. good. N.P.D. very rough, from a single bisection when extremely faint.

*General Notes* :—In the telescope, the light of the head on the night of May 18, the nucleus being better defined than on any other night when the observations were made by me, was certainly not brighter than an eighth magnitude star (W.).

Brightness = Eight in star-magnitude (R.).

Observers—W. = Mr. Wickham.  
R. = Mr. Robinson.

E. J. STONE

Sea-shore Alluvion—Calshot and Hurst Beaches

WESTWARD of Brighton; Shoreham Harbour, Portsmouth, Southampton, and the Solent roadstead, all derive protection from shingle moles thrown up to windward of their entrances, the most remarkable of which, Calshot and Hurst Points, have each one of Henry VIII.'s stone castles at their extremities. The first incloses a large tidal estuary (Owers Lake) at the entrance to Southampton water, and forms a pier covering the entrance to that fine natural harbour from the south-west.

The condition of this spit is not much altered since Leland's time, A.D. 1539; it terminates in a horn, which forms the lake, and the outfalls of the Beaulieu and Lymington Rivers westward have similar windward moles on a modified scale.

Hurst Point is two miles in length in a north-west and south east direction, formed of rounded siliceous pebbles on an argillaceous base, which last terminates in a nearly perpendicular submarine cliff 200 feet in height; this physical peculiarity of position has been described by Webster and other writers; it has for centuries acted as a breakwater to the Solent and the small natural harbours eastward of it on the Hampshire coast, but has also limited their capacity by promoting a rapid deposition of silt along their foreshores. In the storm of November, 1824, its position was, and remained for some time, considerably altered, as has been described by Lyell. Still, however, the maps in the Cottonian and Burleigh collections all show the peculiar horn-like termination due to the indraught into the Solent, and the general outline of the spit much as at present, which doubtless has preserved its main features for centuries, subject, however, to local disturbance and variation. Half a mile landward of the lighthouses the beach curves eastward, and forks into three or four gradations of "fulls," showing modern variations and additions to the extremity locally termed the "Point of the Deep," a quarter of a mile long, and running nearly at right angles to the main mole; two smaller spits called "Rabbit Point" and "Shooting Points" (a double formation), tail out from the main spit, within or landward of the extremity.

Parallel to the entrance to the Solent, a bank of shingle three to four miles in length, with about six feet water over it at low water of spring tides, varying in level with the weather, easterly winds banking it up, stretching from the extremity of Hurst Point, south-westward to opposite the ledge called the "Bridge," off the "Needles" rocks, leaves the small entrance channel (the "Needles" Channel) intervening.

Hurst Beach presents many characteristics peculiar to the Chesil, Calshot, and other similar formations such as a low, flat shore to leeward or eastward, and a highly-inclined beach seaward, with a tendency to curve round north-eastward, and ultimately to inclose a tidal mere or lake; the elevation and size of the pebbles increase towards the summit and termination, and in places patches of sand and shingle conglomerate of an early date crop out through the shifting modern "fulls."

The degradation of the cliffs to the westward has been very great, and they are much serrated and water-worn, with frequent slips in the upper strata of sand and gravel on a clay base, and