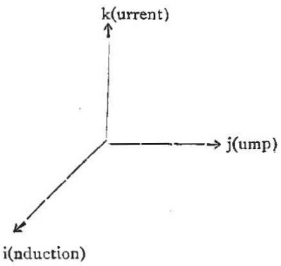
the direction of propulsion, the current urging it will be in the direction of twist in the muscles of the wrist. In treating the movement of a conductor carrying a current in the magnetic field, I have used a rule identical in character with Ampère's, and that was probably the rule to which J. T. B. referred in his critique, namely, that a figure swimming in the current and looking along the lines of force is carried to his left. I should be glad to find a rule at once as complete and more simple, although after a pretty wide experience, not always with the very brightest of pupils, I have not been sorely pressed with the difficulty J. T. B. seems to have felt. All the required attitudes are pretty familiar to a boy who is accustomed to diving in the water and swimming on his front, side, or back. L. CUMMING

Rugby, June 24

THE following version of Ampère's Rule is one which I communicated some time ago to a few friends, but it did not appear to me to be expressed in language sufficiently grave to justify its publication. Still, as the Rule is a simple and useful one, your readers, in general, may be disposed to overlook its levity.

Draw the three well-known Hamiltonian vectors, i, j, k. After i put (nduction), after j put (ump), and after k put (urrent). Then the figure explains the action of magnetic induction on an electric current. The figure in fact asserts that i(nduction) in i makes k(urrent) in k to j(ump) along j.



Of course the same figure gives the direction (according to the Law of Lenz) of the current generated by a motion (*i.e.* a jump) of a conductor in a given direction in a magnetic field in which the direction of the induction is given.

R.I.E. College, Cooper's Hill GEORGE M. MINCHIN

An Earthquake Invention

IN my letter to NATURE, vol. xxxiii. p. 438, I clearly showed that the supposition of Mr. D. A. Stevenson and Prof. Piazzi Smyth that I had endeavoured to claim the aseismatic joint of Mr. D. Stevenson was due to their imperfect acquaintance with seismological literature. I certainly intercalated a *note* about aseismatic structures in a report to the British Association on earthquake phenomena in general, without mentioning Mr. Stevenson's name.

Previous to this, when specially speaking or writing upon aseismic structures, I have *repeatedly* referred to the work of Mr. D. Stevenson. Such references were quoted. Under the circumstances I asked Messrs. Stevenson and Smyth to distinctly state whether they still considered themselves justified in continuing their accusations. If this point was overlooked the discussion might be considered as at an end. Mr. D. A. Stevenson has replied, but the question at issue *has been distinctly evaded* (NATURE, vol. xxxiii. p. 534).

I deeply regret that Messrs. Stevenson and Smyth should allow a discussion to terminate in such a manner.

Tokio, May 22 JOHN MILNE

[This must now close.—ED. NATURE.]

Professor Newcomb's Determination of the Velocity of Light

I HASTEN to correct an error which has crept into my account in last week's NATURE (p. 171) of Prof. Newcomb's measures of the velocity of light. The arrangement employed by Foucault in 1862 was *not* that adopted by Newcomb, and illustrated in Fig. 1, but that sketched in Fig. 2. In other words, he placed his lens between the revolving and fixed mirrors. His apparatus is described in *Comptes rendus*, t. lv. p. 792, where the velocity of the rotating mirror is stated to have been 400 revolutions a second, and the total length of path between the mirrors 20 metres. A. M. CLERKE

June 28

Solar Halo and Sun Pillar seen on June 5, 1886

WHEN approaching the Observatory, about 6.45 p.m., my attention was drawn to portions of a solar halo, which appeared as in Fig. 1.

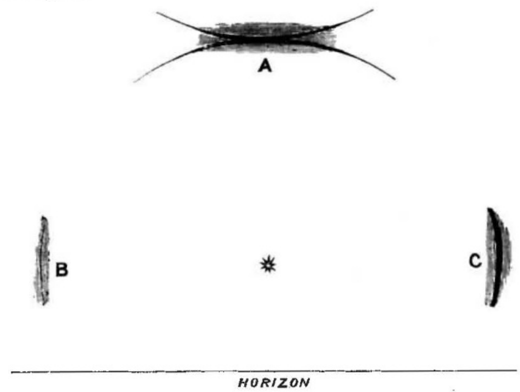


FIG. 1.—A, very bright; C, fainter; B, very faint.

This remained visible until after 7 p.m., and nothing more was seen before 7.30 p.m. When looking out at 7.40 p.m. G.M.T., I noticed something unusual, and came at once to the conclusion that it was a solar pillar, and made a sketch in a note-book and the following remarks:—

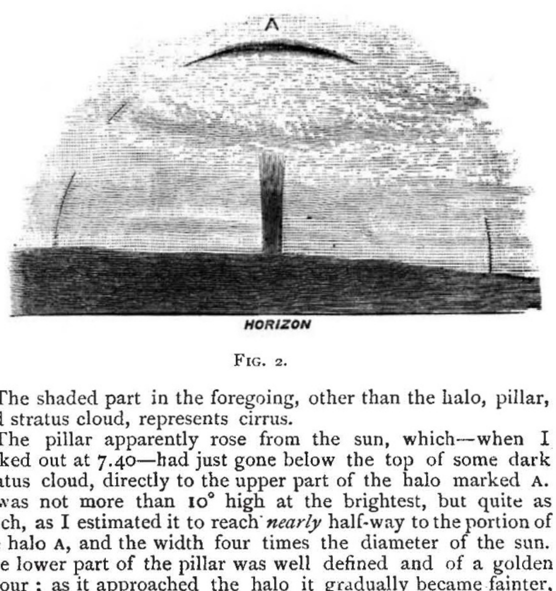


FIG. 2.

The shaded part in the foregoing, other than the halo, pillar, and stratus cloud, represents cirrus.

The pillar apparently rose from the sun, which—when I looked out at 7.40—had just gone below the top of some dark stratus cloud, directly to the upper part of the halo marked A. It was not more than 10° high at the brightest, but quite as much, as I estimated it to reach *nearly* half-way to the portion of the halo A, and the width four times the diameter of the sun. The lower part of the pillar was well defined and of a golden colour; as it approached the halo it gradually became fainter, and was then lost in the cirrus cloud. The upper part was somewhat wider; perhaps this was due to the greater amount of cloud there, which diffused the light.

At 7·55 G.M.T. all portions of the halo had gone except a small piece at A, and the pillar was fainter, but still quite visible. At 8·3 the halo and pillar had disappeared. The sun set at 8·14 p.m.

An ordinary halo ($22\frac{1}{2}°$) was visible, more or less bright and complete nearly from sunrise to sunset.

I could not fix the position of the pillar by stars, none near being visible. The sketch was made at the time from a window of the library of the Observatory.

That seen here on 1883 April 6, by Mr. W. A. Robinson, was about 15 minutes *after* sunset; this observation was 30 minutes *before*. The time at which the pillar was visible on the former date was given by nearly all your correspondents as