

the grief of communicating to the self-same Royal Society of London an almost exactly similar research, resulting in almost the same solar conclusion; my foundation matter being the mean annual rock-temperatures observed in the Royal Observatory, Edinburgh, during thirty-three years (twenty-four of them under my own supervision) with the recorded sun-spot and other solar phenomena by Schwabe, Wolf, the Kew Observatory, and other authorities, during the same period.

And yet why was Mr. Stone *not* acquainted with this previous work of mine, communicated to the very same London Society, at a time too when he was still in London or very close to it?

The answer is probably, that it was the work of the *Secret Committee* of the Royal Society appointed by the Council to report on my paper. For the Committee's first proceeding was to keep the paper shut up with themselves for upwards of seven months; and their next, to condemn it before the Council on several counts, the two chief of which seemed to be—first, that I had inveighed without occasion, in a note on a certain page, *against* British units and standards of linear measure; and secondly, that I was not to be allowed to compare the Edinburgh mean annual temperatures with sun-spot observations.

Touching the first objection, I showed that there was no such note or sentiment throughout the whole paper; and with regard to the second, I felt scientifically constrained to declare, that I could not consent to be denied the right of comparing so long, accurate, and indeed hitherto unsurpassed, a series of earth-surface temperatures as those of the Edinburgh Observatory, with acknowledged solar phenomena; especially when confining myself to merely trying and exhibiting for annual means whether there was, or was not, any sensible correspondence in time and manner.

For this rebellious opposition to the despotic dictates of the *Secret Committee*, my paper was instantly extinguished by the Council of the Royal Society; and I was put to the further indignity of receiving an unpleasant letter from the secretary, on merely requesting to know the names of the gentlemen constituting the said Committee, whose identity in the flesh is therefore still a problem. But now, see how speedily the *Nemesis* of deeds of darkness has overtaken those who dabble in them; for the newly-appointed Astronomer Royal at the Cape of Good Hope, in charge of the British Observatory which stands next in importance to Greenwich, one of the Royal Society's own Fellows too, has, moved by some most mysterious impulse, made that very subject, just banned by the carefully concealed sages who speak from behind a curtain, the material of his first scientific communication from the Southern Hemisphere; and, with even a cruel degree of polite attention, he has sent that paper, filled with their own forbidden matter, to the Royal, rather than any other, Society in London, to read aloud before their members.

Yet this chief and leading society's secret Star-chamber, though exclaiming, perhaps, to the South African astronomer, "*Et tu, Brute!*" has not repented, at least in any generous or human manner; for they have left me both to find out from *NATURE* the whole character of Mr. Stone's paper just accepted by and read before them, and to form my own unaided conclusions.

Wherefore I cannot but wonder more than ever, and even with exceeding admiration, at what *any* Scientific Societies in the present day have got to do with that accursed thing in all national history represented by Secret Committees, secret members, secret judgments, *veiled* prophets, who may, and—as would most clearly be shown if the whole correspondence in this case were to be published—who do, blunder utterly in understanding a plain sentence of simple English, who likewise enact a mistaken rule to tie down some astronomers in their own business, prove themselves totally void of Christian charity and gentlemanly feeling, and all the time require the incense of passive obedience to their partial edicts and strange behests.

Is not this then a matter just as important as any that can occur in the interests of true science and unalloyed, for the Royal Commission now sitting on Scientific Education and the Advancement of Science to take account of! For, if that Commission fitly and fully represents the general government in these times of this free and enlightened land in which we live, it would seem to be one of their holiest duties to the nation at large, to see that a base political method of a past and exploded era of our history, after being driven with ignominy out of every other branch of government, be not allowed to linger in sequestered nooks and dark corners of State-supported or State-aided societies for scientific pursuits.

C. PIAZZI SMYTH

15, Royal Terrace, Edinburgh, March 31

Ocean Currents

MR. LAUGHTON thinks (see his letter in *NATURE* of April 6) that the ocean surface current, which flows into the Mediterranean by the Straits of Gibraltar, is due to the preponderance of west winds over the Atlantic. Were this so there ought to be a similar current flowing into the Baltic; but on the contrary, there is a surface-current flowing out of the Baltic.

I am convinced that Dr. Carpenter is right in accounting for the currents at the entrances of both the Mediterranean and the Baltic by the differences in the degrees of saltness of different seas.

JOSEPH JOHN MURPHY

Old Forge, Dunmurry, Co. Antrim

Sun Spots

SOME very remarkable maculæ appeared on the sun on March 28, 9^h 50^m A.M., which are of interest from the fan-like portion of the most westerly of the large spots having been much enlarged whilst under observation. The enlargement took place from the centre outwards, and occupied several seconds in its development.

W. H. WALENN

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The Echoes of the Royal Albert Hall

THE following observations may assist in reconciling some of the conflicting statements respecting the above subject, and explaining their curious discrepancies:—

The shape of the building is nearly elliptical; for the sake of description I will assume that it is a true ellipse. The middle of the platform, down which Her Majesty walked on the occasion of the opening ceremony, corresponded to the major axis of this ellipse, the seats in the arena were arranged in rows at right angles to the major axis, and thus the middle row of these seats was placed across the minor axis. I sat on one of the chairs of this middle row, that against the edge of the platform, and thus was in the nearest available place to the geometrical centre of the building, and therefore well situated for one set of acoustic observations. I listened very carefully, and made the following notes:—

An invisible military band was playing for some time before the arrival of the Queen. This music was freely heard without any perceptible echo, but the outlines of the sound (if I may use such an expression) were slightly shaded, there was just that want of crispness and definition of individual sound which would be advantageous to an ill-timed band, but somewhat damaging to the display of one that was playing staccato passages with perfect unity.

When the Prince of Wales read his address I heard every word repeated with perfect distinctness, the echo was pure and single, the two voices appeared like those of a prompter and a faithfully repeating speaker. The echo was remarkably well defined, and nearly as loud as the voice of the Prince.

When the Queen replied, her words were also repeated, but far less distinctly. This was a respectful whispering echo. When Santley sang a solo, there was no distinct echo, only a slight confusion of sound; but every note of Madame Sherrington's solo was most vexatiously mocked, but not so distinctly as the words of the Prince of Wales. A slight murmur accompanied the band, but it required a strain of attention to detect any definite echo.

The above is a description only of what I heard.

A friend who was sitting at the other end of one of the middle arena seats, *i.e.* near the boxes, or circumference of the ellipse, did not hear these echoes at all, and I have since learned that this was the case with others seated in boxes on either side of the hall.

The explanation of these facts is not difficult. On both sides of the organ, which occupied the south end or vertex of the ellipse, are unbroken curved wall spaces above the choir, covered with wooden panels or lining, a material well adapted for the reflection of sound. Beyond these bare spaces the boxes begin, and extend round the circumference till they reach the bare wall-space on the opposite side. There can be no regular reflection from the large area covered by the boxes when these are filled with people, but there must be such regular reflection very distinctly effected by the small bare portion of the curvature on each side of the organ.

If the curvature of this bare wooden wall-space were a true parabola, and a sound were emitted from the focus of the curve, it would be reflected in straight lines parallel to the axis, and only extending to a short distance on each side of it. With the