

Japan for that year (vol. ix. p. 40). Further, in publishing an account of the horizontal pendulum seismograph, I pointed out that the way to get a steady-point with respect to one component of earthquake-motion, is to pivot a body in nearly neutral equilibrium, with the corresponding kind of freedom, and to use the centre of percussion as the steady-point, the steadiness of the steady-point being increased, if need be, by pivoting a second mass there. So far as I am aware, this obvious principle was first explicitly recognised and applied in my horizontal pendulum seismograph; and on this point I shall appeal from Mr. Gray of 1886 to Mr. Gray of 1881:—

"I believe the first time special attention was paid to the application of this well-known dynamical principle to seismometers is to be found in a paper communicated by Prof. Ewing to the last meeting of this Society" (T. Gray, *Trans. Seis. Soc. Jap.*, vol. iii. p. 5).

(2) Mr. Gray's second charge is that I am using his vertical motion seismometer without acknowledgment. I am not using his instrument; and I have acknowledged fully his service to seismometry in this connection. A horizontal bar, loaded at one end and held up by a spring, was used for vertical motion by the British Association Committee at Comrie in 1842. In 1881, Mr. Gray, holding the bar up by a long spiral spring, made the suspension astatic by adding a trough or tube containing mercury (*Trans. Seis. Soc. Jap.*, vol. iii. p. 137). After seeing this, I devised another and simpler method of making the suspension astatic, and in describing it I said:—

"At a recent meeting of the Society, Mr. T. Gray described a seismometer for vertical motion, in which the problem of supporting a heavy mass, so that it should be free to move vertically and yet remain in neutral equilibrium, was for the first time (so far as I am aware) successfully solved" (*Ibid.* p. 140).

My method is entirely different from Mr. Gray's. He now says that it was anticipated by a paper of his, dated May 1880. He did not suggest this at the time; and, on reading the paper now, I can find no trace of the alleged anticipation. In the passage quoted above, and in other writings ("Earthquake Measurement," p. 48; *NATURE*, vol. xxx. p. 152; "Encyclopædia Britannica," Art. "Seismometer"), I have tried to do justice to Mr. Gray's priority in the solution of this problem of vertical astatic suspension; but I prefer, and use, my own later solution. J. A. EWING

University College, Dundee, December 11

How to make Colourless Specimens of Plants to be preserved in Alcohol

IN your last number (p. 149) Prof. H. de Vries described a valuable method for making botanical museum specimens colourless; but, as it is more important in many cases to keep the original colour, you will allow me to call your attention to a note in the *Berichte der deutschen botanischen Gesellschaft* (1886, No. 8), where Dr. Tschirch describes a method for retaining the colour (green or other) on specimens preserved in spirit. He discovered some time ago that tannates and colouring-matters (as found in plants), with the exception of xanthophyll, form compounds with lead and barium which are insoluble in alcohol, and he based his method on this discovery. He recommends the specimens to be put into solutions of compounds of lead or barium before transferring them to spirit, or simply to add concentrated solutions of acetate or nitrate of lead, or chloride or hydrated oxide of barium, to the spirit. I may add that I have tried this method, but I have not yet got quite satisfactory results. My best results were obtained by plunging the specimens first of all into boiling water before putting them into the above-mentioned mineral solutions.

SELMAR SCHÖNTLAND

Botanic Garden, Oxford, December 18

The Recent Weather

MY barometer, at 250 feet above sea-level, fell to 28.20 at 5 a.m. on December 8, and to 27.82 at 8 p.m.

Birstall Hill, Leicester, December 18 F. T. MOTT

I GATHER from your notice of the great storm on the 8th that readings of the barometer taken during its passage across the country will be of some interest. I therefore place at your dis-

posal copies of the records made at Belvoir Castle. An indication of an approaching storm was given by a falling barometer on the 6th, its reading at 9 a.m. on that day being 29.380. The depression increased on the 7th, reaching 28.960; at 9 a.m. on the 8th it had fallen to 28.200, and then went down rapidly, until at 9 p.m. it reached its lowest point, 27.800, the lowest I have registered at this place during a period of thirty-two years. During the 8th the wind was strong from the south, amounting to a gale, and was accompanied with rain, 0.60 being recorded, but it was less violent than the indications of the barometer led me to expect. That the pressure was less intense here than in the storm on October 14, 1881, was evidenced by the escape of timber-trees; some 400 to 500 were blown down in 1881, and not half a dozen in the woods adjacent to the Castle on the 8th. Belvoir Castle is in the northern division of Lincolnshire, about twenty miles east of Nottingham. The height of our station, but not of the Castle, is 237 feet, lat. 52° 53' 39" 9 N., long. 0° 3' 7" 4 W.

WILLIAM INGRAM

Belvoir

Electrical Phenomenon

I BEG to inclose extract from a letter just received from a young friend at Ylloilo, and shall be glad if you will insert it in your next issue. Some of your readers may have further information respecting this interesting sight. THOMAS HIGGIN
Ethersall, Roby, Liverpool, December 15

"Ylloilo, October 1, 1886

"Last night a most extraordinary phenomenon was visible in the heavens. About 9 o'clock the sky was perfectly clear, all the stars visible, but no moon, when suddenly the whole heavens were lit up as if by electric light, a very large globe of fire became visible (about the size the moon appears when full) and floated slowly northwards. I was in rather a bad position for seeing where it actually went, a house being between me and the horizon. This ball was followed by smaller ones, which were close to the big one, and gradually got smaller, till they appeared like falling stars, only they went much more slowly."

Electricity and Clocks

WOULD any of your readers aid me in carrying out this idea: To make the works of a small striking clock strike the hours on a large bell by an electrical connection. T. WILSON
Rivers Lodge, Harpenden, St. Albans

BOTANY OF THE AFGHAN DELIMITATION COMMISSION

WHEN, in 1884, it became known that the Government intended sending a Commission to settle the boundary of North-Western Afghanistan, representations were made to the Marquis of Ripon, then Viceroy of India, that it was desirable in the interests of science and commerce that a naturalist should be attached to the staff, and Brigade-Surgeon Aitchison was accordingly appointed in that capacity. Certainly no better choice could have been made, at least as far as botany was concerned, because no other person had the practical knowledge of the vegetation of the region possessed by Dr. Aitchison, who, moreover, is unsurpassed as a collector. As long ago as 1859 he began collecting plants in the Punjab, the flora of which he fully investigated; and later he collected in Scinde and some parts of Kashmir; but this was all done during his leisure hours. In the winter of 1878 he accompanied the troops under the command of General Sir F. Roberts in the advance on Kuram, and subsequently he was attached to the force as botanist, and commenced operations in April 1879. Botanists of all countries know full well what excellent and extensive collections he made during that and the following year, for, with assistance from the Government of India, the results were promptly published by the Linnean Society. Large and interesting as those collections were, the present equals them in extent and exceeds them in importance, inasmuch as Dr. Aitchison paid special attention to the investigation of the many