*To the Editor of* "SCIENCE."

In view of Mr. A. N. Skinner's criticism of my attempted correction of certain dates of Prof. Watson's discoveries as given in "SCIENCE," p. 283, it seems perhaps due to all concerned to state how my note, p. 305, originated. Having occasion to learn the full extent of Prof. Watson's discoveries, I noticed that those of the dates given on p. 283 did not correspond with dates in Prof. Watson's own announcements of discoveries bearing the same serial numbers; and that Prof. Watson made no corrections of these announcements in the Journal which contains them. As the list, p. 283, was "compiled by the aid of the list of Minor Planets published by Mr. A. N. Skinner," in *Am. Jour. Sci.* III., xviii, and Mr. Skinner's list gives no dates, the inference was unavoidable that the dates were supplied by the compiler. Assuming this to be the editor, I noted down the discrepancies observed, sent the memorandum to the editor for his private use, and proceeded with my business. Had I been led to infer that the dates had been communicated from Washington, I should have exercised more caution. In any event, my memorandum was intended simply as a suggestion to the editor to re-examine the records; and it did not contain any reference to "your correspondent." Still more unfortunately, after deciding to publish my note, a change was made from "Aug. 16" to "Aug. 14," and this typographical error is one of the wrong dates which attracts Mr. Skinner's attention.

These misunderstandings have arisen from using my memorandum more conspicuously than was intended; and yet as it was not marked "private" or "personal," it cannot be insinuated that such use was unwarranted.

ALEXANDER WINCHELL.

UNIVERSITY OF MICHIGAN, ANN ARBOR, Dec. 27, 1880.

[NOTE.—We would remind Professor Winchell that the Astronomical Note which he attributed to the editor was signed, and dated from Washington, D. C. As to Professor Winchell's first letter, if it had been addressed personally to the editor, he would have been justified in using some discretion in regard to its publication, but a short note addressed to the "Editor of SCIENCE," directing attention to supposed errors in a previous number, seemed to demand immediate publication.

The suppression of the letter might have been interpreted adversely to the spirit in which this Journal is conducted, and as not conceding that respect for Professor Winchell's communications which is universally accorded in all scientific circles.

We think Professor Winchell has nothing to regret in writing the letter in question; the dates on which Professor Watson discovered the planets referred to, had clearly been mis-stated in several journals usually credited with exactness of statement. Professor Winchell's communication has directed attention to this fact, and we are glad that the correspondent who favors us with astronomical notes has been successful in correcting these errors in such a manner, and that their repetition is not probable in the future.—Ed.]

Prof. R. S. Ball, the Astronomer Royal for Ireland, delivered, recently, two lectures on the Life and Work of Sir W. Herschel, under the auspices of the Edinburgh Philosophical Institution. With the aid of large diagrams and the limelight he made his large audience conversant with the means adopted by Herschel in making his discoveries, and thoroughly impressed them with the magnitude of the labor. Speaking of Herschel's discovery that the sun was rapidly moving towards a point in the constellation Hercules, Prof. Ball said that at the end of the lecture his audience would be 5000 miles nearer to it than they were at the beginning.

## THE ROYAL SOCIETY.

The following is the list of Officers and Council for the ensuing year:—

*President*—William Spottiswoode, M. A., D. C. L., LL. D.

*Treasurer*—John Evans, D. C. L., LL.D.

*Secretaries*—Professor George Gabriel Stoke, M. A., D. C. L., LL.D.; Professor Thomas Henry Huxley, LL.D.

*Foreign Secretary*—Professor Alexander William Williamson, Ph. D.

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## CHEMICAL NOTES.

CHEMICAL CONSTITUENTS OF *Stereocaulon Vesuvianum*.—The question has been raised whether the succinic acid obtained from this lichen is a product of the decomposition of atranoric acid, which, however, on treatment with baryta, furnishes a product totally different.

DETECTION OF HONEY WITH STARCH-SUGAR.—A. Planta determines the grape-sugar present in honey before and after inversion. In pure honey the proportion of pre-existing grape-sugar is from 63 to 71, whilst in samples it is 29 to 37. But the starch-sugars of commerce contain a much higher proportion of pure grape-sugar than he assumes.

COLORIMETRIC DETERMINATION OF CHLORINE IN POTASSIUM BROMIDE.—One grm. potassium bromide is ground to a powder with an approximately equal quantity of potassium bichromate, placed in a flask holding 100 c.c. and covered with 5 c.c. concentrated sulphuric acid. The flask is then connected air-tight, by means of an adaptor ground to fit its mouth, with a receiver containing 100 c.c. very dilute ammonia (5 or 6 drops of caustic ammonia to 100 c.c. of water). A gentle heat is applied and raised to about 128°, There should be two large bulbs blown on the connection tube to prevent the reflux of the liquid. When all the chlorine has thus been expelled, the distillate is compared with solutions of ammonium chromate of known strength prepared for the purpose. C. ROTH.

SIMPLE METHOD FOR DETERMINING THE TEMPORARY HARDNESS OF WATER.—The most accurate method is to titrate at the boiling point, in a silver capsule with normal hydrochloric acid, using as indicator a solution of alizarin or extract of logwood. As a more convenient method when travelling, &c., A. Wartha uses a tube 30 to 40 c.m. in length, closed and rounded at one end, and with a lower mark showing 10 c.c. From this mark, upwards towards the mouth, the tube is graduated in 0.1 of a c.c. For use, the tube is filled up to the lowest mark with the water in question and a little piece of filter-paper is added which has been previously saturated with extract of logwood and dried again. This gives the water a violet color. Centinormal hydrochloric acid is then added from a dropping bottle till the color of the liquid approaches an orange. The tube is then closed with the thumb and well shaken. Carbonic acid escapes and the liquid grows red again. Acid is again added, and the tube is again shaken till a single drop of acid changes the color of the liquid to a pure lemon yellow. The quantity of centinormal acid used is then read off on the graduated tube, and can be calculated into calcium carbonate.