

and, indeed, any others who have any interest in the solution of the extremely intricate problems connected with the study of such phenomena, should send their observations to the U. S. geological survey. Very many observers who could easily give information which might be of great value when compared with other reports, often hesitate to do so because in itself it seems too vague or meagre to be worth the trouble. EVERETT HAYDEN.

U. S. geological survey, Oct. 18.

#### Barometer exposure.

In connection with the recent discussion of barometer exposure, the following results of observations made during the high wind of Oct. 14 may be of interest. The barometers are kept in the transit-room, east wing, of the observatory, and windows at north and south were open at the top a foot or more, allowing free access of outside air.

At 7 o'clock A.M. the reduced barometer reading was 29.181 inches, the lowest for many months. At 10 o'clock, when the wind (directly from the west), as indicated by a Robinson's anemometer and Gibbon's recorder, suddenly increased from five to thirty miles per hour, the reduced height was 29.199; and a constant increase was observed for the remainder of the day, although the wind velocity was nearly constant for four hours.

I carefully examined the barometer (Green, No. 2006) for sudden changes in height, and was able repeatedly to detect and measure with the vernier oscillations of .02 of an inch, and at one time a movement of .029 of an inch. The majority of these oscillations did not last over 1.5 seconds; a few as long as 2 seconds.

It was noticed in nearly every instance that the oscillation did not follow immediately upon each gust of wind, but about five or six seconds later. It is possible that the situation of the east wing, sheltered by the main building and dome, may have influenced the result. CHAS. A. BACON.

Beloit, Wis., Oct. 15.

#### A large squid.

The U. S. fish commission schooner Grampus, which recently arrived at Wood's Holl from a cruise to the eastern fishing-banks, brought in, among other things, a fine specimen of the large broad-finned squid, *Stenoteuthis megaptera*, Verrill. Although much smaller, this is next in size to the giant squids, and much larger than the common varieties. The one brought in by the Grampus is the first perfect specimen obtained in this country, and the second of its kind in the world. It is also slightly the largest, and, because it was taken alive, is probably the best preserved specimen extant.

The first known specimen was cast ashore near Cape Sable a number of years ago, and is now in the Provincial museum at Halifax. Since then four fragments of this species have been obtained by the Gloucester fishermen, and presented to the national museum, these consisting only of jaws and single arms. It therefore follows that the fine specimen of this animal which has now been secured by the fish commission will be a valuable acquisition to the collections in the national museum.

It was caught on a squid jig of the ordinary pattern, by John F. McDonald, one of the crew of the

schooner Mabel Leighton, of Gloucester, on the night of Sept. 25, while he was fishing for the common squid, *Ommastrephes illecebrosus*. At that time the vessel was off the southern part of Lee Have Bank, in north latitude 42° 45', and near the 64th meridian of west longitude. When fresh, the total length of the specimen was fifty-two inches from tip of tail to extremity of longest pair of tentacles, while its largest circumference was fifteen inches. The Halifax specimen was forty-three inches long from tip to tip, after having been in alcohol several days.

On the next day after the squid was caught, the Mabel Leighton met with the Grampus, and Captain Greenwood, of the former vessel, presented the animal to the officers of the fish commission schooner.

In this connection it is only just to remark that the Gloucester fishermen have exhibited a very intelligent interest in making collections for the commission. They are frequently able to detect peculiarities in unfamiliar species, and to save rarities. In consequence, their 'aids to science' have been of great value to many specialists in their study of the marine fauna off our coasts. J. W. COLLINS.

Wood's Holl, Oct. 15.

#### Visual illusion.

In *Science*, No. 176, doubt is expressed concerning the visual illusion noticed by M. Charpentier before the French academy: "After a small, feebly illuminated object has been attentively viewed for some time in complete darkness, it will often appear to move in some determined direction in the field of vision, at a speed varying from two to three degrees per second, and sometimes through a distance subtended by an angle of thirty degrees or more." This illusion has been frequently noticed by me during the last fifteen or twenty years. The motion is usually vertically upward; occasionally the object seems to retrace its path, moving downward, but only after very attentive observation. Recently I have made repeated trials of this illusion, with exactly the same results as were obtained years ago, before I had made the eye a subject of special study.

A. H. COLE.

Hightstown, N.J., Oct. 16.

#### The significance of coincident weather-conditions.

On Oct. 14 there was an outbreak of violent storms in Europe and America. As was suggested in my letter published in *Science* for Aug. 13, such an event affords an opportunity to test the theory that there is a relation of some sort between disturbances on the sun and storms on the earth. If this relation does exist, the sun should be disturbed in proportion to the magnitude of these exceptional atmospheric movements. That this was the case on Oct. 14 is shown by the fact that on that day there was an extremely rapid formation of spot-groups in the sun's eastern quadrant. On Oct. 15 the number increased to such an extent that on the 16th the entire group was fairly comparable to that which was visible during the great storms in May. During the great gulf storm just previous to Oct. 14, there had been various solar disturbances which upon that date had disappeared, for the most part, by solar rotation.

M. A. VEEDER.

Lyons, N.Y., Oct. 16.