injury. The onion was used for experiment, and the wounded and uninjured bulbs were placed in a saturated atmosphere. The normal turgor pressure in terms of KNO_3 solution is about 3.5 to 4 per cent.; after wounding this falls about 0.5 per cent. As the heating goes on, four or five days after the wounding, the turgor has increased again, and the wounded and unwounded onions are practically the same in this respect. Carrot, beet and radish were also used.

Dr. MacDougall exhibited plants of *Monotropsis odorata* sent by Professor Johnson, of Johns Hopkins. He also showed a basket made by the Pima Indians of Mexico, made of *Typha, Martynia* and *Salix*. He also exhibited the ayal or calabash fruit from Sonora, of the genus *Crescentia,* a fruit of economic importance.

Miss Angell, of Plainfield, New Jersey, exhibited living plants of *Viola Angellæ* in flower. When the plant is flowering the scapes exceed the leaves; but later in the season the leaves overtop the scapes.

S. H. BURNHAM,
Secretary pro tem.

UNIVERSITY OF WISCONSIN SCIENCE CLUB.

AT the monthly meeting of the club, held May 6, three papers were presented.

Professor Wm. H. Hobbs discussed the newly discovered Algoma meteorite. It was ploughed up in Ahnapee Township, Kewaunee County, Wisconsin, in 1887, and was recognized as a meteorite in March, 1902, when presented to the University of Wisconsin. It is an octahedral siderite weighing a little less than nine pounds. Its shape is that of an elliptical shield less than an inch in thickness. Its convex surface is fairly smooth, but exhibits strongly marked 'drift' markings consisting of radial striæ upon the front which proceed from a central flat boss to the periphery, slightly curving to form a lævo-rotatory spiral. Its concave surface is irregular and crusted. These facts indicate that the meteorite moved 'broadside on' through the atmosphere with its convex surface to the front. Casts of the meteorite in plaster may be obtained by museums and persons interested.

Professor C. S. Schlicter described the manner of flight through the atmosphere of a meteorite of the shape of the Algoma meteorite. A meteorite, discoidal in shape and possessing a rapid motion of rotation about its shortest axis, undergoes the following changes in its motion upon entering the atmosphere. The first effect of the impact is to give to the spinning body a motion of precession similar to that of a gyroscope. The next effect is the lessening of the angle of the cone described by the precessing axis, an effect entirely analogous to the 'sleeping' of a common top. In consequence of this the meteorite advances through the atmosphere with its flat side presented to the resisting medium.

Professor C. E. Mendenhall presented a paper entitled 'The Measurement of Radiant Heat.' The theory of the more important instruments for infra-red research—namely, the bolometer, thermopile, radiometer, radiomicrometer and pyrheliometer—was discussed, and examples of most of the instruments exhibited. The radiomicrometer, thermopile and pyrheliometer were shown in actual operation, and by means of the first named instrument arranged for projection the infra-red spectrum of a Nernst lamp was explored.

C. K. LEITH,
Secretary.

DISCUSSION AND CORRESPONDENCE.

NORTHWESTERN AMERICA AND NORTHEASTERN ASIA.* A CRITICISM.

THE current number (48, 1902, III., pp. 49–58) of Petermann's *Mitteilungen* contains an article of some length entitled 'Nordwest-Amerika und Nordost-Asien. Geographische Wechselbeziehung,' by Capt. Fr. Immanuel, which purports to be a brief summary of the most authentic information pertaining to the geography and mineral resources of the adjacent portions of the Asiatic and North American continents. Most of the article is devoted to Alaska, and to this part I desire to offer some criticism. Capt. Immanuel, in common with many compilers, has fallen into

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errors which one who had a personal familiarity with the region under discussion would have avoided. In his compilation he has not only included many statements which were based on unreliable authorities, but has totally misinterpreted the results of such investigators of the region as Dr. George M. Dawson. It is my purpose to point out some of the more glaring errors contained in this article, so that they may not become current in geographical literature.

The description of the northern Rockies, the St. Elias and Alaskan ranges, as composed of a series of volcanic peaks, hardly deserves comment, especially as they are described as a coastal fringe of volcanoes and compared with the volcanic peaks of the Japanese and Philippine Islands. A less apparent and therefore more serious blunder is the grouping together, as one range, of the Cascade, the St. Elias and the Alaskan ranges. The recent volcanoes of the Aleutian islands and the Alaskan peninsula are described as a southwesterly continuation of the volcanoes of the St. Elias and Alaskan ranges. As a matter of fact, the Alaskan range, so far as now known, is an entirely distinct feature, both geologically and geographically considered, from the belt of volcanoes which separates the Bering Sea from the Pacific ocean. The southwestward extension of the St. Elias range is found in the highlands of the Kenai Peninsula.

According to Capt. Immanuel, the glaciation of northwestern America was produced by an ice sheet which had its source in the high mountains of Greenland and moved westward across the lowlands of the northern part of the continent. He states that this ice sheet impinged on the Rocky Mountain front, and was split into two divergent glaciers, of which the southern one passed southward through the Columbian depression and into California, while the northern descended the Yukon valley. The ice sheet, during its long journey, is supposed to have ground up the auriferous quartz veins over which is passed, and their gold contents to have been deposited in the places now found in the Klondike and Nome regions. This astonishing theory is credited to Dawson and other American investigators. It is bad enough to have a statement of this nature appear in what purports to be a scientific article, but to credit it to American geologists, especially to such a thorough scientific investigator as Dawson, is the last straw.

The author in the course of the article shows himself to be as unreliable in regard to details as he is incapable of treating the broader geographic and geologic problems. For instance, he has given figures on the output of the Nome gold fields for two years, and in both cases these figures are a million or more dollars in error. For this there is no excuse, as official statements in regard to this production are in print.

The map of the Seward Peninsula which accompanies the paper, is a reproduction of one which was published in a recent report* of the U. S. Geological Survey. To this map, Capt. Immanuel has taken the liberty of adding some axes of mountain ranges of which there is no mention made in the original report. As the latter contains the results of the only surveys which have been made in the Seward Peninsula, it is impossible that there should be any authority for making these changes in the map.

There are many other misstatements which might be pointed out in this article, but I think I have given enough to show that it is an aggregation of glaring inaccuracies and faulty generalizations. Had it appeared in a lesser publication than Petermann's *Mitteilungen,* it would not have been worthy of consideration, but published as it was in one of the leading geographical journals of the world, it seemed to me that for the sake of geographic science attention should be called to its dilettante character.

Alfred H. Brooks.

VOLCANIC DUST.

To the Editor of Science: Analysis of some mineral dust from the Martinique erup-

* Apparently through an oversight, the report, entitled 'A Reconnaissance of the Nome and adjacent Gold Fields,' was omitted from the list of authorities quoted in this article.