Frémy to the increase in the proportion of the spongy tissue, the thickness of the hard and dense portion of the bones continually diminishing as age advances."

This has not been my experience. Transverse sections of the entire bone were made in each case, in order to test this very point, by observing the relative size of dense with spongy portion, and I certainly saw nothing to warrant Frémy's conclusion.

At the same time, small columns $\frac{1}{5} \times \frac{1}{5} \times \frac{3}{4}$ inch were cut from the dense portion of the shaft, and were broken transversely on a testing-machine, in order to determine the amount of brittleness. The most brittle specimen I had (No. 48), showed a rather thicker dense portion than usual.

I find the brittleness to be in the material rather than in the bone as a structure, and, in view of the analytical results, I cannot explain that brittleness, as Von Bibra does, by holding for the gradual increase in mineral salts.

I append a very imperfect table of the results obtained on the testing-machine. Every bone, as I received it, could not be cut so as to give a column of the size required for breaking. It will be noticed, that, in general, strength of bone diminishes as age advances.

Breaking-Weight for Column of Bone $\frac{1}{5} \times \frac{1}{5} \times \frac{3}{4}$ Inch, broken transversely.

	Pounds.
25 years of age	75
26 " "	74
31 " "	50
38 " "	64
43 " "	58
45 " "	60
61 " "	55
63 " "	30
70 " "	54

Loss of material by the burning of the laboratory affected, in a measure, the completeness of the work.

William P. Mason.

Rensselaer Polytechnic Institute,
Troy, N.Y., July 21.

Evidence of a Glacier-like Movement amongst Snow Particles.

It has been conclusively proved that glaciers have a movement corresponding in every way, except in amount, with that of water similarly situated. I wish here to point out that snow particles, under certain corresponding conditions, have the same movement but of greater amount.

It appears to me that it would be difficult to draw a line with certainty between those solids whose particles are capable of such movements, and those which are not. I will admit that it were easy to point out this limit for solids that would show sensible movement in limited time; but to do so for solids under unlimited time and large pressure might not be so easy or possible. It seems unlikely that the few solids we have evidence of should be the only ones possessing these movements, particularly when viewed in the light of the fact that so many solids, after being transformed from the molten to their solid condition, exhibit the effects of a movement amongst their particles in longer or shorter periods after their change of condition. It is not, however, with a consideration of this limit that we have to do at present.

In Hudson Strait we had banked around the foundation of our house-walls with moss and rocks, so as to protect ourselves against the weather. This bank had a slope inwards towards the walls from the base. When snow remained permanently on the ground, we made use of it to build up an outside wall, two feet thick and eight high, over this bank, as a further protection against the weather.

Snow, it may be necessary for me to explain, exists, in northern climates, under somewhat different conditions from that in which we are accustomed to see it; so that, very shortly after it has fallen, extreme temperatures and high winds so alter it, that, whilst essentially granular snow, it has become so hard that it requires an iron (not a wooden) shovel to cut it, when, with sufficient care, blocks of unlimited size can be hewn out of it and transported. The particles are now arranged in a high degree of tension; so much so, that, when a block is struck a blow, it gives out a sound such as could be compared with that given out by a brick tile. It was with snow in this condition that our protecting walls were built. My attention was first called to a movement of the snow by noticing that the snow walls were leaving the building, as I at first supposed, by a 'topping' movement: I therefore built relatively heavy buttresses of snow to retain them, and then found that buttress and wall had partaken of this movement, which was of course lessened, as the buttresses had been built on comparatively level ground. In addition to this, the arches which we had made over the windows out of blocks of snow, of about a foot square and four to five feet long, had, of their own weight, passed from the arch through the straight line into very pendant inverted arches, having left a space on top of the wall between the snow blocks on either side, and become considerably attenuated on account of the increased distance covered, and at the same time remained cemented to the layer next below in the wall. W. A. Ashe.

The Observatory, Quebec, Sept. 26.

Grindelia glutinosa in Wisconsin.

The note in *Science* of Sept. 23, on *Grindelia squarrosa*, reminds me of a curious fact concerning another species of *Grindelia*. Last July I found in the Menomonee valley, near the slaughter-houses west of the city of Milwaukee, a composite plant which I could not find in the list of Wisconsin plants published in the first volume of the 'Geology of Wisconsin.' The plant coincided completely with the description of *Grindelia glutinosa Dunal* in Gray's 'Flora of North America' (*Gamopetalæ*, p. 119). I found only one specimen, apparently in perfect health, growing on the Chicago, Milwaukee, and St. Paul Railroad track. Gray states that the species ranges along "the shore of California from Humboldt County and San Francisco to Santa Barbara Islands." The seed of this specimen must have been brought to eastern Wisconsin by one of the many trains which pass through the Menomonee valley to Milwaukee. It is certainly remarkable that two species of a genus not before represented in Illinois and Wisconsin should have migrated so far to the east of their original habitat, and should have both appeared in the same summer in both States.

W. M. Wheeler.

Milwaukee, Sept. 26.

Sections of Fossils.

Having lately had occasion to consult a paper published by the Geological and Natural History Survey of Canada, entitled 'Contributions to the Micro-Paleontology of the Cambro-Silurian Rocks of Canada,' by Mr. Arthur H. Foord, I wish to call attention to the method there pursued.

Having devoted considerable time to the monticuliporoid corals of the Cincinnati group, I have come to the conclusion that magnified views of the internal structure of these fossils are of little use in the determination of species. The paper in question deals entirely with these internal features. Several plates are given in illustration of new species, and, out of 67 figures of 12 species, 23 are of natural size. Many of these are very poor, and would be of little value in the determination of species. And as now more stress is laid upon the figure than the description, it follows that some of the species would be unrecognizable from either the one or the other. Thin sections to show the interior cannot be made without considerable skill, much labor, and time; and I think I am prepared to show, in a paper now in press, that even when made the features they show under the microscope are of no value whatever as specific characters.

Joseph F. James.

Miami University, Oxford, O., Sept. 27.

American Caves.

In the October *Scribner*, Professor Shaler states that the reason caves were not used as much in North America as in Europe, was, "the first peoples of this country had already attained an advancement in the arts which enabled them to make shelters," etc. This is not true. The first peoples of America were as rude as any in other continents; and the typical cave-dwellers of Europe were not any more primitive than Eskimos of recent date. It is much to be regretted that so erroneous an idea of ancient man in America should be set forth in a popular magazine. Chas. C. Abbott.

Trenton, N.J., Oct. 1.