

would be interesting to know if others have observed anything like it in other localities.

About four inches of light dry snow fell during the afternoon and night of March 2. Towards the end of the storm the flakes were very large and the wind blew at a considerable velocity. This high wind continued most of the day of March 3. After the sun had been shining on the snow for three or four hours and had probably formed a thin layer of moist snow on top, the wind would catch up a portion of this moist snow and roll it over and over, forming a snowball of increasing size until the gust of wind had spent its energy, or the ball had become too large to be rolled any farther. Some people who saw this process taking place said that the fields were literally alive with moving snowballs. This peculiar phenomenon continued until about noon and the fields around Orono and Bangor were left with countless snowballs everywhere. Back of each snowball could be seen the triangular shaped path, from which the snow had been rolled up. In one instance this triangle was found to be approximately thirty-six feet in length, but that was for an unusually large snowball. The snowballs were of all sizes, from two or three inches in diameter up to nearly two feet. Of course the largest ones were formed where the ground sloped so that the ball rolled down hill, but even on the level some of the balls were a foot or more in diameter. One ball in particular, on which measurements were taken and recorded, was elliptical in shape, the horizontal diameter being twenty inches and the vertical diameter being fourteen inches.

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ON MEASURING THE DENSITY OF THE "17-YEAR LOCUST" POPULATION

TO THE EDITOR OF SCIENCE: According to the Bulletin of the Department of Agriculture No. 127, on the "17-year locust" of 1919 there was to be expected a very dense population of locusts this summer in the eastern and southern states. Brood 10 of the "17-year locust" and brood 18 of the "13-year locusts" are coincident this year. One of the items of inter-

est in the periodicity of these insects is the number of individuals appearing from time to time.

I wish to suggest a means of measuring the numbers of them in a manner that will make it easy to compare the density of them from year to year.

Wherever these cicadæ are there is produced an incessant screech. The intensity of this "screechy" sound is dependent upon the density of "locust" population. A measurement of the intensity of this sound may be referred to the density of the population in the environment where the intensity of the sound is produced. This is applying "sound ranging." The proper environment would have to be chosen.

This means would at least afford an excellent way to record the activity of the cicada during any one season; and might be developed to give relative seasonal activity also.

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SCIENTIFIC BOOKS

World-Power and Evolution. By ELLSWORTH HUNTINGTON. New Haven, Yale University Press, 287 pp., 30 figures. 1919.

This is a far-reaching book, written in an interesting style, and is suggestive of thought along new lines, not only to students of evolution (especially those interested in the accepted laws of heredity), but to biologists, paleontologists, physicians and statesmen as well. The underlying thesis of the study is organic change, largely brought about by the changing environment, chiefly climate, which affects the well being and health of organisms. "Training, heredity and physical environment are like food, drink and air." They are necessary materials and conditions that are at the basis of all life. Humanity "does not yet realize that the human species must be bred as carefully as race horses," and even when people inherit perfect constitutions their health must receive much care. That climate largely underlies human health, this book abundantly demonstrates, and that it is a *changing* climate that develops the strongest