

Sense of Direction in Animals.

HAVING noticed the recent articles in *Science* on this subject, I wish to add an item that may be to the point

When living near Neosho Falls, Kansas, a neighbor, who was a market bird-hunter, went from there to western Missouri for the purpose of hunting quails and prairie-chickens in the fall of the year. He took with him a favorite pointer dog. The route taken was southward some fifty miles to Parsons, Kansas, by railroad thence north-eastward to Fort Scott, and on into Missouri nearly due east from the latter point. All went very well for a few days after he began hunting, but by some means the dog became lost from him. He spent two days hunting it, and as it was no use to try to hunt without the dog he went home, and there found the dog all right. According to the report of his family, the dog had reached there within two days from the time he lost him, and, as the distance was more than 75 miles, it is quite certain that the dog took a near cut for home. Now if this dog had no sense of direction, what had he that led him to take what we may confidently believe to be the straight and true course for home when he had passed over the other two sides of the triangle by rail?

Who does not know that a cat, or even a half-grown kitten, taken a long way from home in a bag nearly always finds its way back? When living in northern Michigan I had a cat we were tired of. I took her in a boat directly across the lake about two miles and turned her loose. Although it was about six miles around the end of the lake, a circuitous course, and certainly one unknown to her by sight, the next morning she was back at the old place. Another case is just stated to me of a cat that was taken by rail fully twenty miles in south-west Missouri, and the next day he walked in all right at his former home.

H. E. VAN DEMAN.

Washington, D.C.

A Lamentable Case.

PERHAPS another case like the one here recorded will never appear in your columns. At least we may hope so. The person referred to, and whose name will not be mentioned, from the respect in which I held him, was a true lover of nature and an observer. I first knew him, over a score of years since, when to my boyish view he presented the prime features of a country naturalist's existence. He was a poor man and not well educated, but he was a lover of my pursuits, and he read excellent books.

Long years after, and upon returning from a residence in another quarter, I inquired about my nature-loving friend, and found that he was cared for at the County House. I went to call upon him and found that he was dead. One line in the poor-house register was all I could find concerning the blameless man, for the present proprietor came after he was gone and knew nothing of him. There it was: ———, aged — years, died ———.

In my fancy I compared him to Thoreau, and he undoubtedly had similar thoughts and feelings.

How lov'd, how honour'd once, avails thee not,
To whom related, or by whom begot;
A heap of dust alone remains of thee;
'Tis all thou art, and all the proud shall be!

M. G.

Flight of Archippus.

ON the morning of October 22, between eight and nine o'clock, I witnessed the largest flight of *Danaïs archippus* I have ever seen, and the only one I have observed in Texas. The morning was cloudy with little or no breeze. The direction of the flight was southward. The butterflies were not in such close masses as I have seen them previously, and were flying at various elevations from twenty feet to as great a height as the eye could reach. I counted one hundred passing a given line in less than one minute. After watching them for some time I drove across the line of flight a quarter, or perhaps one-third, of a mile and then northward with the line of flight for more than a mile. Over the whole distance the butterflies were fully as numerous as when I first saw them.

E. T. DUMBLE.

Austin, Tex., Nov. 1.

Codling-Moth Statistics from Oregon.

THE following points have been determined here this season, and may be of interest to the entomological readers of *Science*. Average life of moth, 10–15 days; egg-laying taking place during the latter part of that time. Time required for incubation, 4–10 days; length of life of larva in apple, 4 weeks (about); time passed in cocoon before emergence of moth, 23 days.

This tallies very closely with Riley's observations made a number of years ago in the East; but he makes the life in the cocoon considerably longer.

The first moths were observed here May 16, and the last egg noted, apparently fresh, on a pear September 19. The moth is at least four-brooded in Oregon.

F. L. WASHBURN.

State Experiment Station, Corvallis, Ore., Oct. 25.

Action of Electric-Light on Plants.

IN various reports of the effects of electric-light upon the growth of plants I have noticed nothing upon the, to me, interesting question of whether the effect of electric-light is to keep open at night flowers like the lily and evening primrose, which ordinarily close at departure of daylight. If this point has been discussed, can you kindly give me reference to such discussion?

C. H. AMES.

Boston, Mass., Nov. 8.

Chemical Nomenclature.

WOULD you kindly correct an error which inadvertently crept into my article on the "Spelling and Pronunciation of Chemical Terms" in the current issue? On page 273, column 1, line 16 from the top, instead of "by an American chemist" read "from a North American mineral."

T. H. NORTON.

Cincinnati, Nov. 12.

The Humming-Bird's Food.

DOCTOR MORRIS GIBBS's article recalls an observation which suggests that the humming-bird may find, in spring, an important supply of food in the sap of certain trees — particularly before flowers are abundant. In the case observed it was taking the sap of *Quercus rubra*. Other trees would furnish a more agreeable repast, doubtless.

H. L. BRUNER.

BOOK-REVIEWS.

Manners and Monuments of Prehistoric Peoples. By the MARQUIS DE NADAILLAC. Translated by NANCY BELL. Illustrated. 412 p. New York, G. P. Putnam's Sons. \$3.

The author of this work is already favorably known in this country by his excellent "Prehistoric America," and in France he ranks among the most active and respected of the students of prehistory. In this volume he endeavors to present a faithful and vivid portraiture of the life of man during the Stone Age, especially in Europe, though by no means confined to that continent. He does not undertake to assign a definite length to this phase of civilization, recognizing that it is not so much a period of duration as a stage in culture. He concedes, however, that it was in ancient Europe of great length, "countless centuries."

During the greater part of it man depended upon hunting, fishing, and the natural products. But even then his arts had begun. He made weapons and tools, he used clothing, pleased himself with ornaments, was acquainted with fire, dug canoes from trees, and at times produced creditable artistic sculptures and drawings. The origin and growth of these arts are illustrated by numerous examples drawn from a surprisingly wide familiarity with the literature of the branch.

An interesting chapter is devoted to the kitchen-middens, caves, pile-dwellings, and stone buildings, which served to protect the ancient natives. He describes the megalithic monuments, such as the dolmens, menhirs, and cromlechs, which have excited so much discussion, but declines to assign them to any known people. Yet if, as he intimates, many of those in France were constructed during the Bronze Age, it is difficult to avoid the conclusion that they were by the peoples whom Cæsar mentions as living there at the time of his conquest of Gaul.