

east, so the seeming preference for the willow may be owing to lack of drinking-places elsewhere.

It would be interesting to know if the other species of this genus were addicted to the same habit. Who knows?

ALVAH A. EATON.

Riverdale, Fresno County, Cal., Dec. 26.

A Peculiar Fire.

In *The Ladies' Home Journal* for January is an account of a fire from gasoline that originated in a rather peculiar manner. A lady was cleaning a Brussels carpet with gasoline. She had cleaned about one-third of the carpet when she noticed one spot that looked a little dull and which must have a little more rubbing. She says, "I gave one quick, hard rub, the cloth in my hand ignited. There was a sort of a puff, and the flames went creeping all over the carpet I had cleaned." The explanation suggested was that the friction ignited the gasoline, but no suggestion is made as to whether that was caused by raising the temperature to a high degree as might ordinarily happen by friction or whether it was otherwise.

Some of my experience in the cold, dry climate of Minnesota has suggested a very plausible explanation for this accident, which seems surprising that such accidents are not more frequent. Our sleeping-room has an ingrain carpet from which we get marked electrical experiences. On a cold morning one can hardly take a step without being strongly electrified. By shuffling across the carpet, taking only two steps, I have many times drawn a spark one-eighth of an inch long. By taking a dozen shuffling steps and touching the water faucet I have several times drawn a spark nearly one-half of an inch long. Indeed, it is so common and so excessive that it is quite uncomfortable. I have several times thought seriously of getting up some arrangement for gradually dissipating the charge on one's body, so that we can avoid the unpleasant shock when using the water. It should be stated that this high degree of electrification is not an every-day experience, but it is very common when the thermometer in the room goes below 50° or 40° Fahr.

A similar experience is very common here when one is putting on a fur overcoat or one simply with a fur collar. The simple rubbing of the fur in putting on the coat will so electrify it that one gets a prickly sensation from the charge from the collar when it is turned up against one's neck. Quite frequently simply picking up a flannel undergarment will so electrify it that one hears a decided crackling. These experiences are very common here in Minnesota with the dry atmosphere, and are quite surprising to one accustomed to the more moist climate of New York of the sea-coast.

This experience suggests at once that the gasoline in the case above noted was ignited by an electric spark caused by rubbing the carpet.

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Electrical Phenomena on Mountains.

THE experience of Mr. Chariton and the relation of Mr. Stone, as given in *Science* Sept. 23 and Dec. 2, have a parallel in the account of a traveller in Italy in 1814, who is quoted in the volume of *Inne's Telescope* for 1827, under the heading of "Curious Effects of Electricity upon Mount *Ætna*," and from which I extract as under.

"June 2, 1814. Before midday two travellers were returning from the mountain, guided by Vicenza Carbonaro, one of the guides from Nicolesi. They had arrived in the Piano del Huga, when, expecting a hail-storm, they quickened their pace. Walking on frozen snow, Carbonaro was the most advanced of the party, he felt his hair stand on end, his forehead and the skin of his face felt benumbed, and he heard a hissing noise. He took off his cap and his hair became more bristled, and the whistling noise more powerful. The traveller nearest to Carbonaro also heard a humming sound, and asked the guide what it was; he could not give any reason for it, and he stopped, supposing he was dizzy. In the meantime they approached each other and were pleased with the magic sound. The traveller turned to call his companion,

who was at a little distance, and made a sign to him with his hand, the hand when raised produced a much stronger sound, so much so, that moving the fingers singularly modulated it. The traveller approached and heard the sound produced by the head and body of his companion, but, not having entered the current of electric air, his repeated attempts produced no sound. Finally, the three persons having joined, they experienced great pleasure, as with moving their fingers they produced the above extraordinary effect. In the meantime the hail-storm fell on them, and, being rather curious than erudite, they resolved to prosecute their journey downwards, without caring to make further investigation. Scarcely had they gone a few paces, advancing beyond the electric air, than the sounds ceased."

GEO. CLULOW.

51 Bel-lize Avenue, Hampstead, N. W., London, Jan. 2.

Maya Codices.

As the controversy between Dr. Seler and myself has drifted into mere criticisms of each others' statements, and no serious attempt to test my interpretations or to show that they are incorrect has been made, I think a continuance on this line would be unprofitable. I therefore close it, on my part, by suggesting to students of the Maya Codices that it might be worth the trouble to test my interpretations by an attempt to apply them in deciphering other combinations. I also call Dr. Seler's attention to the fact, that, notwithstanding his firm belief to the contrary, there is a numeral designation with a cross *between* the dots in the bottom line of Dres. 46, — 2 *Kayab*. Moreover, it is precisely of the form shown in his Figs. 17, 19, and 20, *Science*, Jan. 6, 1893.

CYRUS THOMAS.

Washington, D.C., Jan. 16.

BOOK-REVIEWS.

Experimental Evolution. By HENRY de VARIGNY. London and New York, Macmillan & Co. \$1.50.

THROUGHOUT the whole line of biological research the progress of advance has been from statical to dynamical science. The first study is always a study of facts of nature as they exist, of their relations to each other and of their history. Later follows the study of nature in motion accompanied by experimental work and an endeavor to modify the activities of nature. Already biologists have inaugurated the science of experimental evolution, and this book by De Varigny is designed to start biologists to the study of a new science which the author calls experimental evolution. This work consists of a series of lectures originally delivered by the author before the Summer School of Art and Science at Edinburgh. The author points out that while the various lines of biological research, embryological, paleontological and morphological, all point in the direction of evolutionary theory, they fail to be conclusive demonstrations of evolution, because no one of them shows us the process of evolution in action. Evolution is an inference from the facts, but not a demonstrated truth. There is needed as a final test experimental study in regard to the production of new species by process of nature. To the discussion of the possibility of this branch of experimentation, these lectures are devoted. The author first summarizes, in an extremely interesting fashion, the chief lines of fact which have been collected in connection with variations of animals in nature. Second, in a similar way, he summarizes and discusses variations which are known in animals under domestication. Third, he endeavors to show how these variations are under the influence of conditions; conditions of environment, conditions of heredity, conditions of interbreeding, etc.; and, last, he tries to point out how it may be possible in the future for the experimenter so to regulate these conditions of environment as to cause at will actual changes to take place in the structure and characteristics of animals and plants which may result in the not too greatly distant future in the production of new species and hence in the final demonstration of a doctrine of evolution. Although largely a compilation the work is withal interspersed with many new and interesting observations made by the author in connection with the subjects discussed, the changes in the structure and