all of its near relatives not possessing the character in question. For a time credulity balked and I was compelled to look upon character-units as figures of speech. The origin of forms from a common parent by the loss of dominancy in its several character-determinants accounts for the general presence of a recessive unit, corresponding with each dominant unit, in all the nearly related forms.

No suggestion has been made as to the nature of the change by which a dominant allelomorph becomes recessive, but if this change be looked upon as a degenerative one which may be followed later by complete disappearance of the unit it would account for the fact that hybrids between nearly related forms are usually Mendelian, while those between more distant ones are not.

I may summarize briefly as follows:

(*a*) What appear to be unit characters may be, and probably usually are, compound characters.

(*b*) New characters appear by the change of one or more character determinants from the dominant to the recessive condition.

(*c*) Some of the partial products resulting from this process of analysis have no externally apparent distinguishing characteristic, and these supply instances of so-called 'latent' characters.

(*d*) Mendelian hybridization results in an F_1 which is a partial or complete synthesis of an ancestral condition.

(*e*) This conception gives an explanation of the general presence of recessive units corresponding to the dominant units in each closely related form.

(*f*) If the change from the dominant to the recessive condition is a degenerative process which may be followed by complete disappearance of a unit, an explanation is found for the fact that Mendelian behavior is a function of nearly related forms but not of more distantly related ones.

George Harrison Shull
Station for Experimental Evolution,
Cold Spring Harbor, Long Island,
December, 1906

CURRENT NOTES ON METEOROLOGY AND CLIMATOLOGY

THE LOP-NOR DESERT

Ellsworth Huntington continues his papers on his recent explorations in Eastern Turkestan with a discussion of 'Lop-Nor—A Chinese Lake,' in the *Bulletin of the American Geographical Society* for February and March, 1907. Additional evidence is adduced regarding what seems to Huntington to be a progressive desiccation of the region within historical times. At Miran the ruins of an ancient Buddhist town, perhaps 1,500 years old, were discovered, covering an area of over five square miles. The town probably had a population of some thousands, but the "modern water supply is only sufficient to support seventy or eighty people." The saline water which the camels have to drink affects their flesh so markedly that the meat becomes 'corned' by reason of the salt accumulating in the animals' bodies from the water. The journey across the old lake bed was very tedious and difficult by reason of the irregularity of the large rock-salt blocks which cover the surface. Huntington remarks particularly upon the ability of his camel-man to endure hardship and fatigue with a minimum allowance of food and water. On one occasion the man traveled fifty miles in twenty hours without nourishment or water. This effect of a desert life in hardening man to the endurance of hunger, thirst and fatigue, as contrasted with the easier, softer life in more humid regions or in oases, has been commented on by other travelers, notably by Nachtigal some years ago. The history of Lop-Nor during the last 2,000 years seems to Huntington to show the following stages: First, a comparatively large lake, said to measure seventy-five miles each way. Next, during the early centuries of the Christian era, an increase in the recorded size of the lake, which can not have been due to diminished use of the rivers for irrigation, for the population at that time was larger than at present. Finally, in the last few hundred years there has been a decrease in the size of the lake and in the population about it. It may here be noted that not all

explorers of Central Asia are agreed as to the fact of climatic change. Thus Dr. Stein, the anthropologist, writing from Kiria to the *Geographical Journal* (January, 1907), reports concerning the desert east of Khotan that cultivation in the fertile Hanguya tract is steadily advancing towards areas previously abandoned to the desert, so that much of this desolate Tati is likely to be recovered by man from the desert at no distant time. Dr. Stein was much struck by the considerable extension of cultivated ground during the past six years. Extended areas lying waste or drift-covered in 1900–1, have again been brought under cultivation. The great advance in prosperity which is taking place in the western oasis of Chinese Turkestan seems to have had a marked effect in Khotan on the extent of the cultivated area and the numbers of the population.

FRANKLIN, THE KITE AND THE LIGHTNING ROD

'Did Benjamin Franklin fly his Electrical Kite before he invented the Lightning Rod' is the title of a paper read by Professor A. L. Rotch before the American Antiquarian Society in Worcester, Mass., October 24, 1906. Professor Rotch believes: (1) that the kite experiment was probably performed later than has been supposed; (2) that even before this experiment certain buildings in Philadelphia were provided with 'points,' probably as lightning conductors; (3) that prior to Franklin's first account of the kite experiment he had drawn up precise directions for placing lightning rods upon all kinds of buildings.

R. DEC. WARD

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A MONUMENT TO LAMARCK

THE professors of the Muséum national d'histoire naturelle, Paris, have undertaken to erect a monument in the Jardin des Plantes to their illustrious predecessor, the philosopher and naturalist Lamarck. To this end they have secured subscriptions in Paris and have formed a committee to enlist the support of botanists and zoologists throughout the world.

The proposed monument, designed by M. Fagel, gives a bronze bust of Lamarck, surmounting, after the fashion of recent French sculpture, a large granite pedestal with figures in relief. These portray the philosopher aged and blind, seated at the base of his monument, and close by, reading to him, his devoted daughter—a pathetic picture of Lamarck's last days when in poverty and in disfavor, on account of his evolutional writings, he was living as a recluse in the ancient house of Buffon, near which, probably on the very spot which he crossed in his daily walk, the monument is to stand.

It is only within recent years that the position of Lamarck among the pioneers of evolution has come to be understood. Darwin himself was distinctly unjust in his treatment of him. But from the work of the modern paleontologist on the one hand and the experimentalist on the other, tribute is coming to be paid to Lamarck's wonderful insight, imperfect though the materials of his inductions were, into the processes and factors of organic evolution. The 'American school of evolutionists,' headed by Cope, Osborn, Hyatt, Ryder, Packard, has indeed touched so closely the lines of his philosophy that it has often merited the title of 'Neo-Lamarckian.' And it is to our countryman, Packard, that we are indebted for the only work upon the life and teachings of Lamarck which has hitherto appeared.

The present project in memory of Lamarck is one, in short, which may justly enlist the cooperation and support of the botanists and zoologists throughout the United States—to give by this means tangible recognition of his services to science. The American zoologists who have been designated to receive subscriptions in behalf of the Committee in Paris are Professors Alexander Agassiz, Henry Fairfield Osborn and Bashford Dean.

THE SEVENTH INTERNATIONAL ZOOLOGICAL CONGRESS

THE revised program of the Seventh International Zoological Congress, to be held at Boston, August 19–23, under the presidency of Mr. Alexander Agassiz, is as follows: