

in the Accipitres, species of *Falco* and *Cerchneis* were found gorged with them; the Secretary bird (*Serpentarius secretarius*) is an orthopteral glutton; bustards, especially the "Gom Paauw" (*Otis kori*) can apparently exist on them alone, while flocks of the common "Spreo" (*Spreo bicolor*) make vast inroads in the immense swarms of the smaller species.

Their survival in the struggle for existence would seem to have been almost entirely dependent on their extraordinary fecundity. Only species with great vitality and immense power of reproduction could withstand the requirements of this mighty avian banquet. The origin of the brightly colored wings cannot, however, be placed to the credit of abundant vitality, as some genera of large and active species exhibit brightly and also sombre and modestly colored wings.

W. L. DISTANT.

Purley, Surrey, England, April 3, 1893.

A Puzzle for Future Archæologists.

NEAR Enon, in Clark County, Ohio, is a well-known artificial mound, commonly called "Prairie Knob," while the level tract on which it is situated is called "Knob Prairie." A former pupil of mine informed me that when he was a boy his grandfather sunk a shaft in the centre of the mound down to the underlying black soil, without finding any thing of consequence. The old gentleman was disappointed, not to say disgusted, to find this cherished landmark, which he had so long held in high esteem as the supposed receptacle of the regulation quantity of "Indian" relics, so utterly barren. He thereupon determined, in the generosity of his heart, that future explorers should not go unrewarded. He therefore deposited in the hole a miscellaneous collection of stone implements, pottery, shells, old bones, etc., such as he imagined a properly constructed mound ought to contain. This done, he carefully refilled the shaft, and restored the mound to its former appearance.

Imagine the sensation that such a find as this is likely to make when brought to light by some enterprising mound explorer of the twentieth century!

CHARLES B. PALMER.

Columbus, Ohio.

Pre-Historic Remains in America.

NOTWITHSTANDING Dr. Brinton's protest in *Science*, April 14, I think most readers will agree that the language I quoted from his "Races and Peoples" (not "American Race") is clearly open to the incidental criticism offered. That the physical conditions of the American continent have been a potent agency in forming a distinct race, as he explains his language, is readily admitted. I also believe they have moulded the *heterogeneous* elements which peopled the continent from different quarters, at different eras, into a comparatively "homogeneous race," but it is difficult to understand the process of rendering "homogeneous" those already one in race and derivation.

If Dr. Brinton has failed to observe a marked difference between the Atlantic and Pacific types, I presume it is because he has not made the comparison with this thought in view, as it is certainly very apparent. His reference to the few shells and copper articles found in Tennessee and Georgia bearing Mexican and Central American designs is unfortunate for his position. He knows, or ought to know, that these are looked upon by all archæologists as puzzling objects because of their remarkable departure from the types of the Atlantic slope. This fact is, of itself, evidence of the general impression in the minds of archæologists of the differences between the art types of the two regions.

He asks, "Is he [Thomas] not aware that both the Nahuatl and Maya languages trace their affinities exclusively to the eastern and not the western water-shed?" Not claiming to be a linguist, I must present as my reply the words of one who is.

Dr. D. G. Brinton says, in his "Races and Peoples," p. 248: "All the higher civilizations are contained in the Pacific group, the Mexican really belonging to it by *derivation* and *original location*. Between the members of the Pacific and Atlantic groups there was very little communication at any period, the high Sierras walling them apart; but among the members of each Pacific and each Atlantic group the intercourse was constant and

extensive. The Nahuas, for instance, spread down the Pacific from Sonora to the Straits of Panama; the Inca power stretched along the coast for two thousand miles; but neither of these reached into the Atlantic plains." Observe that he says "all the higher civilizations," which, of course, includes the Maya as well as Mexican people. Even in his later work he reiterates this opinion. In speaking of the groups into which he classifies the stocks, he remarks: "This arrangement is not one of convenience only, I attach a certain ethnographic importance to this classification. There is a distinct resemblance between the two Atlantic groups and an equally *distinct contrast between them and the Pacific groups*, extending to temperament, culture, and physical traits" ("American Race," p. 58). Now, when it is remembered that he classes the Mexicans, and, by the above-quoted language, the Mayas also, with the Pacific group, it would seem that, at the date the book referred to was published (1891), he was advocating precisely the same view as that advanced in my letter to *Science*, as he directly contrasts the Atlantic and Pacific groups as to temperament, *culture*, and physical traits, and holds that there was very little communication between the people of the two regions. He says further of the Mayas, that "So far no relationship has been detected with any northern stock," but is inclined to look to the Mississippi Valley for their priscan home.

If Dr. Brinton still holds the view indicated in the above quotations, which are from his most recent works, I cannot understand the position he takes in his note to *Science*, as the one is in direct conflict with the other. I have not appealed to the numerous statements in his older works which differ from the views indicated in *Science*, as it appears that in the light of new data, and for reasons satisfactory to himself, he has, since 1887, entirely changed his views in reference to the origin of the people of the American continent and the course of migration so far as affected thereby. (See "Myths of the New World," 2d ed., pp. 34-35, and Address at Meeting of A. A. A. S., Salem, 1887.)

I may remark, in closing this communication, that it is very singular the numerous resemblances between the customs and arts of the West Coast Indians and Pacific Islanders, which descend even to unusual designs, have no special significance and are disposed of with the single word "illusory," while the resemblances in a few designs on shells and copper, though unusual, are sufficient to warrant us in looking to the valley of the Mississippi for the priscan home of the Mayas. Distance has, of course, to be taken into consideration in deciding as to the signification of these resemblances. What I assert is that the types of the West Coast, including Mexico and Central America, taken as a whole, have a more marked resemblance to the customs and art of what we may call the Pacific region (especially the islands) than to those of the Atlantic slope. This indicates, at least, a culture influence affecting the inhabitants of the Pacific Coast not felt on the Atlantic slope. And no theory which fails to give it more value than the mere coincident result of the "human psychological development" can abide the test of thorough examination.

CYRUS THOMAS.

The Lobatcheffsky Centenary

OCTOBER 22, 1893, a century will have passed since the birth of the famous Russian geometer, Lobatcheffsky. The world is just beginning to understand that, as mental ancestors of the modern scientific theory of man and the universe, only two take rank with him, Copernicus and Darwin. Until 1826 nothing had been published to overthrow the dogma that man has absolutely exact knowledge of "the space of experience." Lobatcheffsky showed that we can never know that any rectilinear triangle in "the space of experience" has its angle-sum exactly equal to a straight angle. As one result, geometrical axioms have disappeared for ever, and are replaced by *assumptions*. Thus he re-made not only mathematics, but kenlore. The Imperial University of Kasan is justly proud of its pupil, whom it speaks of as "encompassing it with an immortal splendor." It has organized a committee to raise a Lobatcheffsky fund to establish, in honor of his birthday, a prize, open to the world, for researches pertaining to non-Euclidean geometry. As a member of this committee, I will be

glad to forward, in the name of the individual donor, any contribution toward this homage from all the enlightened world to one of the foremost names in "the pedigree of human thought."

GEORGE BRUCE HALSTED.

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Nesting of the Road-Runner.

THIS very peculiar long-tailed bird is common here throughout the year. It inhabits mainly the broad arroyos covered with chapparal thickets and scrub-oaks, as here is found its principal food, small snakes and lizards. The breeding season is from the middle of March to the last of July. The number of eggs laid varies in this locality from three to nine, though usually four to seven. The eggs are pure white, covered with a thick chalky coating which is often found partly scratched off.

The nests are built in thick chapparal bushes or scrub oaks, from two to five feet from the ground. They are composed of coarse sticks placed roughly across the supporting branches to the thickness of about two inches and a diameter of ten inches. Over this platform is placed a layer of sage leaves and twigs, forming a shallow, saucer-shaped depression. Then last, but invariably, is placed in the depression a small amount of dry horse-manure broken into small pieces. I do not know the reason of this last addition but it is nevertheless an invariable constituent of the Road-Runner's nest.

The nest of the Burrowing Owl presents the same peculiarity, though with an apparent reason. The nest cavity of the Burrowing Owl is always partly filled with green horse-manure. In this case the decaying vegetable matter probably forms heat enough to carry on the incubation. But in regard to the Road-Runner's nest I do not see the necessity of the dry horse-manure.

I would be pleased to hear from any one who is acquainted with the nesting habits of the Road-Runner. JOE GRINNELL.

Pasadena, Cal.

Ad Ignorantiam.

THE calumniators of Professor Wright have been fully met, and an animus for their attacks suggested. There are some critics remaining who have used an argument not found in logic,—that "ad ignorantiam,"—with freedom, and, to the users, with telling effect. A few words as to this argument may not be inopportune.

A. can neither recognize the peculiarly shaped pinnacles on the top of a glacier from day to day, nor can he remember the names of the people who are introduced to him at the receptions to which he goes. B. can do both readily, and states his ability to do so. Thereupon C. jumps up and says that it is impossible to B. to speak the truth, as it is notorious that A. can do neither, and A. is an authority on all subjects. A. finds it impossible on Monday to stake out the surface of a slippery sidewalk, and publishes the fact. On Tuesday B. comes along with knit socks over his boots and makes that sidewalk look like a dress-maker's pin-cushion. When this fact is published, the ubiquitous C. springs up and tells how often the frame of A. subsided in the attempts, and therefore B. never did what he claims to have done.

A whole tribe of A's fail to find Truth at the bottom of the well—all old authorities to the contrary notwithstanding—and thereupon dogmatize to the effect that she is not there or, if there, is a palimpsest edition, introduced by ex-Olympian means. When B. shins down the rope and brings up the damp and coy dame, he is met by shrieks of C., to the effect that he carried her down in his pocket, because all the A's, aided by the strongest microscopes, could not locate her within seven rows of apple trees of the place.

It may strike people as rather funny for men who have said that certain things do not exist, to prove that they do not exist by failing to find them. It is not their business to find them, or, rather, it would seriously hurt their business to find them. They cannot adduce their ignorance or inability against the knowledge and power of others who have done what they have failed to do, and what they wished to fail to do.

The writer does not think many of the questions as fully

settled as they might be; but he does not propose to believe a man because he poses as an ignoramus.

EDWARD H. WILLIAMS, JR.

Bethlehem, Penn., April 14.

Color in Flowers.

IN reply to the inquiry on p. 179 will say that the preservation of colors in flower is fully explained in Professor Bailey's "Horticultural Rule Book."

F. H. PLUMB.

Springfield, Mass., April 20.

BOOK-REVIEWS.

Idle Days in Patagonia. By W. H. HUDSON. New York, D. Appleton & Co., VIII. 256 p. 8°.

THE author of "The Naturalist in La Plata," reviewed on a previous occasion in these columns, has given us in the present volume another interesting book. At first sight the title seems somewhat misleading, inasmuch as the author met with an accident a few days after his arrival in the country and was confined to the house for a considerable period. As, however, he says the book would probably never have been written if the original intentions in visiting the country had been carried out, we may consider the accident a lucky one. His "Idle Days" gave him ample time for thought, and in this as in the previous volume we have many original ideas. The most of the time was spent in the valley of the Black River, and in his chapter upon the valley we note a fact that may be of interest at the present time in view of the controversy going on in relation to palæolithic man in America. In wandering along the banks of the stream he found many arrowheads on the ancient village sites. They were of two widely different kinds, "the large and rudely fashioned, resembling the palæolithic arrowheads of Europe, and the highly-finished, or neolithic arrowheads of various forms and sizes, but in most specimens an inch and a half to two inches long. Here there were the remains of the two great periods of the Stone Age, the last of which continued down till the discovery and colonization of the country by Europeans. The weapons and other objects of the latter period were the most abundant, and occurred in the valley: the ruder and more ancient weapons were found on the hillsides, in places where the river cuts into the plateau. The site where I picked up the largest number had been buried to a depth of seven or eight feet; only where the water after heavy rains had washed great masses of sand and gravel way, the arrowheads with other weapons and implements had been exposed. These deeply buried settlements were doubtless very ancient."

He found that to the inhabitants of the valley, the river was all in all. Beyond its banks spread the gray, desolate desert; within the valley's bounds were light and life. Just as all things were mirrored in its waters, so was the stream reflected in the minds of the people. "Even the European colonists," says he, "have not been unaffected psychologically by the peculiar conditions they live in, and by the river on which they are dependent. When first I became cognizant of this feeling, which was very soon, I was disposed to laugh a little at the very large place 'the river' occupied in all men's minds, but after a few months of life on its banks it was hardly less to me than to others, and I experienced a kind of shame when I recalled my former want of reverence, as if I had made a jest of something sacred. Nor to this day can I think of the Patagonian river merely as one of the rivers I know. Other streams, by comparison, seem vulgar, with no higher purpose than to water man and beast, or to serve, like canals, as a means of transport." So powerfully did the river impress the native minds that they became incapable of imagining any place to be habitable without it.

In one chapter we have an account of the habits of several breeds of dogs. A Scotch collie was found to take kindly to the wild life in the desert and soon became the leader of the ordinary dogs. But four pure-breed grayhounds, when tired of moping about the house, would take to the desert and course on their own