

Correspondence.

Integration of the Negro by the American Nation.

To the Editor of the SCIENTIFIC AMERICAN:

A prominent New York clergyman recently stated that the American negro would never contribute toward forming the future American race, and because of the racial physical characteristics the negro would never be assimilated by the American nation. Already this eminent theologian has been quoted as an authority in the science of anthropology. Is there a scientific or historic warrant for the views expressed? As a matter of purely scientific interest, it seems that this eminent and scholarly theologian is a stranger to the science of ethnology.

If the results of the painstaking researches of such scientific minds as Dr. Guiseppe Sergi, professor of anthropology in the University of Rome, at Rome, Italy (in his history of Mediterranean races); the late Dr. Brinton, of the Philadelphia Academy of Natural Sciences; Prof. William H. Holmes, of the Bureau of American Ethnology, Washington, D. C.; Dr. Lester F. Ward, of the Department of Anthropology of the United States National Museum, at Washington, D. C.—if the combined results of the scientific inquiry of these eminent ethnologists are true, then we must be led to believe that the American nation can and it has assimilated the negro and alien races besides.

Sergi and Brinton hold that the Caucasian races of Europe, in some prehistoric time, originally came from Northern Africa; hence these eminent scientists call them Euro-Africans, denoting their African origin. Science further teaches that the prominent physical characteristics which now seem to be the prominent demarkation between the African and European races are due to the active rays of the sun; and as the Europeans have been removed from the conditions which produce the characteristics, viz., sun, altitude, dwelling in a colder climate, habits, education, environment, etc., have modified the European's original appearance. Will not these same conditions in America produce on the negro the same modifications as they produce upon the Euro-African? If not, why? Then, again, what is assimilation? It is the process of making one element harmonize with the other. Scientific observers have shown us that it is both a physiological and psychological process. Lester F. Ward, in the current issue of the American Journal of Sociology (May, 1903, page 732), says of physiological assimilation: "Great efforts are made to prevent the mixing of the white with the black races, but they are only partially successful. Whatever may be the present condition of things, and however great may be the obstacles to race mixture, it is clear race integration will go on until all the races shall be blended into one." The intellectual process which goes on day by day in the public schools; oneness of national ideals, traditions, and language; contact with our civil, religious and political institutions, tend to harmonize racial proclivities and singularities, and produce a type of mankind to which all the races have contributed their integral share. It is a matter of purely scientific interest to the ethnologist and scientific observer to note the progress of the American assimilation.

JAMES M. BODDY.

Troy, N. Y., May 25, 1903.

The Freaks of Lightning.

To the Editor of the SCIENTIFIC AMERICAN:

Anent the article in your issue of May 30 under the heading "A man who was struck by lightning and lives" (his clothes torn into shreds), I would say that some fifty and odd years ago I was witness to the fact that one Polette, of St. Michel de Bellechasse, P. Q., and then about eighty years of age, while in kneeling attitude in the little chapel of Ste. Anne, about a quarter of a mile eastward of the parish church, was struck by lightning, with the effect that while he was only dazed for a while by the stroke, his clothes were torn asunder all along his backbone from neck to base of trunk, where the lightning bifurcated, and thence following the marrow along each of his legs, finally escaped through the heels of his boots.

This tendency to bifurcation of the current, from trunk to limbs, when, as in the human system, the nerves of the legs exert an equal pull upon the central column, is further illustrated by the fact that at Peoria, Ill., an individual, struck by lightning and who was otherwise uninjured, except by being for a moment dazed as in the case of old Polette, found that the electric fluid, after traversing his nervous system from head to foot, or rather feet, had finally passed out through the soles of his boots. Again, as in the Polette case, the fact was evidenced by two tiny holes, one in each sole, through which the fluid had tunneled for itself an exit.

Some twenty years ago the apex of the roof of a house in the same village of St. Michel was struck by lightning, which trifurcated or divided into three branches or currents: the one descending west along the roof sloping toward that side, the second north, and the third south respectively, tearing away the shingles

on their way to and following down the central bolts or iron fastenings of as many windows situated one on each of the three sides of the house, tearing away the fastenings and portions of the woodwork of each window in their respective trajectories toward the earth.

At St. Michel again, near Beaumont, I was witness to the fact that, as I passed by during a thunder storm, a man trending toward his home in an adjoining field, was struck dead by a flash of the electric fluid from the clouds, and remained suddenly motionless, erect and in the same attitude as when overtaken by the death-dealing shaft.

But the strangest and most beautiful display of lightning or atmospheric electric currents, which it was my good fortune to witness, it being the only time in my life I ever saw anything of the kind, was out on the Beauport flats near Quebec, when, as I then wrote to Flammarion, of the Société d'Astronomie de France, two electrically-laden clouds, as though two trees, their heads toward each other, and their longer branches interwoven, kept on for fully more than ten minutes, interchanging horizontal flashes of beautifully-colored fire, not one of which ever reached the earth; while occasionally a flash would shoot upward as if toward some cloud in that direction, but which I could see no sign of.

You would have given almost anything, Mr. Editor, to have been witness to this, of all the displays of my long life, the most enchanting.

C. BAILLARGÉ.

Quebec, June 7, 1903.

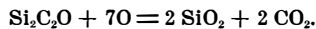
Siloxicon—A Word from Its Discoverer.

To the Editor of the SCIENTIFIC AMERICAN:

The descriptions of the new refractory substance, siloxicon, that have recently appeared in the newspapers have created such a widespread interest, as evidenced by the numerous inquiries received from all parts of the country and all lines of industry, that it is desirable to correct a statement that was contained in these publications.

It was there stated that siloxicon was inoxidizable, but recent investigations have shown that this is not true. When it is heated to, or above, 2,674 deg. F. in an atmosphere containing a large amount of free oxygen, decomposition occurs.

Siloxicon, while variable in composition, may be represented by the formula Si_2C_2O ; and when heated, as above stated, in presence of free oxygen, decomposition takes place, probably in accordance with the following equation:



If the siloxicon be in the form of a brick or other molded mass, the reaction occurs on the surface, producing a vitreous glaze, which in most instances is tinged light green from the presence of iron.

In the absence of free oxygen or in a reducing atmosphere no such decomposition occurs, and the temperature may be raised to the point of the formation of carborundum, or approximately 5,000 deg. F., before any change occurs, and then it takes place, it is thought, in accordance with this equation:



Solid carborundum remaining, while the vapor of silicon and carbon monoxide are given off.

It is interesting to note that after having discovered this oxidation of siloxicon, tests were made with carborundum, and it was found to be affected in a manner exactly similar to siloxicon; this notwithstanding the fact that for more than twelve years it had been generally considered inoxidizable.

Niagara Falls.

EDWARD G. ACHESON.

The Jointed Snake Again.

To the Editor of the SCIENTIFIC AMERICAN:

Under the caption "A Jointed Snake," in your issue of May 16, page 374, the positive assertion is made that there is no animal known to science that has power to reattach any amputated portion of its anatomy. However this may be, the writer lived in Florida several seasons, and at different times came across a small snake-like appearing animal, about the size of an ordinary lead pencil, but about fifteen inches long. This animal was of reddish milk-like color, or resembled in color the dull glow of the opal. When struck with a sharp instrument, like a hoe, part of its body would be severed, but would immediately come together again. The first time the writer saw this unusual occurrence, his attention was called to the object by his father, and he has frequently seen the same thing since that time. The animal does not live on the surface, but is generally found in loose sandy soil.

Snake stories are generally associated with "little brown jugs," and by some people considered the aftermath of "high jinks" of a spirituous nature, but the fact is that these observations were made when the writer was not more than twelve years of age. Your explanation of the lizard and tail-growing ability is evidenced in many ways in Florida almost every day to the careful observer, who can watch these spry little animals dart in and out under the board sidewalks.

But this snake-like animal is different, inasmuch as it has all the general attributes of the snake.

Chicago, Ill., May 21, 1903.

H. HARRIS, JR.

Results of the Gordon Bennett Cup Race.

The fourth international automobile race for the Gordon Bennett cup, which took place in Ireland on July 2, was won for Germany by a 60 horse power Mercedes car owned by an American—Mr. Clarence Gray Dinsmore—and driven by the intrepid Belgian engineer, M. Jenetzy. Jenetzy's elapsed time for the course of 368 miles, 765 yards, was about 10 hours, 8 minutes; but, with the deductions for controls taken out, his running time is reduced to 6 hours, 36 minutes, 9 seconds, or an average of 56¼ miles an hour, as against Gabriel's average of 65 miles an hour in the recent race from Paris to Bordeaux. Chevalier René de Knyff, on a Panhard, finished first, two minutes ahead of Jenetzy, but as he started fourteen minutes ahead of the latter, he was beaten by 10 minutes. Henri Farman, on another Panhard, won third place, making only about four minutes slower time than Knyff; and Gabriel, on a Mors machine, was fourth. Edge, on his Napier, was the only member of the English team to finish, and he came in long after the race was officially ended. He was the fifth and last of the competitors to finish. As far as the American team was concerned, the race was even more dismal a failure than it was for the English. Winton had trouble starting his eight-cylinder motor, and was over three-quarters of an hour getting it going, after he had been officially started by being pushed over the line. He complained that there was water in the gasoline. Mooers' machine broke down while making the second circuit; while Owen only completed five out of the seven loops to be covered.

The course was, roughly speaking, in the shape of a figure 8, there being two loops—an eastern and a western one. Each competitor was to go three times around each loop, and once in addition around the larger, or western one. The course was well guarded, as a result of which there were no accidents to spectators, and but one to any of the contestants. This one happened to Jarrott while he was going around the larger loop for the second time. His steering gear broke, and he ran into a bank, was pitched out, and broke his collar bone. His mechanic was more badly injured, but Jarrott managed to get him out from under the car and have him taken to a hospital.

While repairing a punctured tire in the early part of the race, Foxhall Keene discovered the rear axle of his Mercedes car was cracked, so he quit the race, fearing a breakdown. The rear axle of Baron de Caters' Mercedes broke when he was but 10 miles from the finish and stood a good chance of winning second place. So this makes it appear as if the Daimler Company had gone beyond the safe limit in light construction of their racing cars. The machines they entered in the race were of 60 horse power, the 90 horse power racers that were specially built for it being unfortunately destroyed by a disastrous fire in their Cannstatt works a few weeks ago.

The bad performance of the American cars is stated to be due, also, to too light construction, although both of the Winton machines had trouble with their gasoline system.

Henri Farman, who came in third only a few minutes behind Knyff, said that he had all the little troubles with the motor, etc., that could possibly befall him without putting him out of the race.

The race has furnished one more proof of the soundness of construction of the leading French and German machines, and has shown quite definitely the limits of lightness beyond which it is not safe to go. Once again the race has gone not to the new and untried cars of excessive power, but to those of standard manufacture and comparative medium powers, which have been developed and brought to their present approximate perfection by a number of years' experience in road racing.

A Correction.

In the article on railroad ties and our forest supply, in our issue of June 27, the total number of ties on all the railroads of the United States should read 563,200,000, and the ties required annually, 112,640,000, the other figures, relating to linear measure, being modified accordingly.

Among the patents granted recently was one in the name of Elisha Gray, of telephone fame, who died some time ago. The patent referred to was for an electromechanical governor to be used on locomotives, which, it is said, will save much wear and tear on the engine and roadbed. One of its most important functions is to prevent the slipping of the wheels when the locomotive is engaged in starting a heavy train. As the wheels commence to revolve beyond a fixed rate the steam supply is instantly cut down by the action of the governor, so as to overcome the difficulty mentioned. As soon as the slipping has ceased the steam supply is automatically increased.