

Correspondence.

A Snake Poison Remedy.

To the Editor of the SCIENTIFIC AMERICAN:

Having read the article in the August 13 number of the SCIENTIFIC AMERICAN on Dr. Vital's experiments with snake poison, I thought you might be interested to learn of another remedy for snake bites. A gentleman who has spent some time with the "cowboys" of the Indian Territory told me he had seen the remedy used many times with success. This remedy is the pure powdered indigo, which, when placed on the wound, seems to draw the poison entirely out. The "cowboys" carry little bags of indigo to be ready in case of emergency, either for themselves or any of their animals—horses, dogs, or cattle.

San José, Cal.

MRS. G. W. HILTON.

The Sun's Rays and the Black Race.

To the Editor of the SCIENTIFIC AMERICAN:

In the "Journal of Experimental Medicine," Vol. IV., page 279, and Vol. I., page 361, for 1896; and in the "American Journal of Physiology," Vol. II., page 291, for 1899; also a little volume by Rev. Dr. S. Stanhope Smith, the late president of Princeton College, Princeton, N. J., on the "causes of the variety of complexion in human species" are exhaustive contributions of scientific literature, which have a bearing upon the relation of the pigment of the dark-skinned races to the sun.

Drs. Abel and Dorrs, of the chemical laboratory, Johns Hopkins University, Baltimore, and Prof. Chittenden, of the physiological laboratory at Yale, both conclude that the pigment of the dark-skinned races protects them from the thermic rays of the sun.

In Prof. Keane's "Man Past and Present," in Ripley's "Races of Europe," in Dr. Giuseppe Sergi's "History of the Mediterranean Races," and in Lopinard's "Anthropology," are chapters of interesting light on "the effect of the sun upon the dark-skinned races." And while there are no black races indigenous outside of the tropics, the leading American, English, French, and Italian ethnologists boldly teach that the white races of the world are simply modified negroes, and that the Anglo-Saxon and other white races are of an African origin, having crossed over into Europe during the Neolithic age, and that their habits, character of food, environments, attitude of their homes, climate, occupation, their greater distance from the rays of the tropical sun, are some of the etiological factors which have bleached our skins and made us white.

Rev. JAS. M. BODDY,

Troy, N. Y. Liberty Street Presbyterian Church.

The Death of Prof. Neils R. Finsen.

Prof. Neils R. Finsen, discoverer of the method of curing lupus or tuberculosis of the skin and other skin diseases with light rays, and director of the Finsen Ray Institute in Copenhagen, is dead. For many years he suffered from a complication of diseases. So intense was his devotion to his work that he neglected himself day and night, to the despair of his friends, hardly sparing time enough from his duties for sleeping and eating. His death is attributed to overwork, aggravating the diseases from which he had suffered all his adult life. Prof. Finsen was forty-three years old, and a native of one of the Faroe Islands. The institute of which he had been the head since 1896 is supported through private benefactions and a Danish government endowment. For all this help, Prof. Finsen died poor.

Prof. Finsen's great discovery, that sunlight and electric light rays contain properties that can be used to cure skin diseases, was the outgrowth of his experiments begun as a student in Copenhagen University. In a small attic of the old surgical academy building the investigation started. A fellow student, Sophus Bang, shared Finsen's enthusiasm for a complete reform in therapeutics. When ill health came to both, Bang sought refuge in Switzerland, and since has become one of the foremost anatomists of Europe. Finsen remained at home to carry on his investigations in the foggy and cold climate of Copenhagen.

In 1890 Prof. Finsen was graduated from the Copenhagen University, receiving his doctor's degree. Three years later he published in a medical journal an article on "The Influence of Light on the Skin," which aroused general attention because of his assertion that cases of smallpox could be cured by putting red curtains at the windows of the sickroom. This was the beginning of the final triumph. Smallpox became epidemic in 1894 in Copenhagen, and the new method was put to the test. The red-room treatment became popular with both the medical profession and the public, for by it not only was the disease cured, but the red rays prevented suppuration, and left the patient unmarked by the dreaded scars.

The red-light treatment was but one application of Prof. Finsen's theory that light rays were healing, and at the best it was but a negative result; it cured only when the disease had run its course. To de-

velop the positive element of the light-ray cure, Prof. Finsen began experimenting with artificial light rays. Soon he found it possible to concentrate rays of the ordinary electric light in such a way as to cure a lupus patient, who for eight years had tried every known method. The cure attracted great attention, and both moral and financial support came to the young investigator and discoverer.

In 1896 the municipal hospital of Copenhagen gave room on its grounds for several small buildings, in which Prof. Finsen's experiments continued on an increasing scale. Then the Danish government came to the support of the institution, and it was enlarged and removed to Rosenvaenget, a pleasant suburb of Copenhagen.

In December, 1903, Prof. Finsen received the Nobel medical prize from the Norwegian parliament. This high testimonial to his great discovery is no less significant than the fact that although only nine years have elapsed since the first use of the Finsen rays, institutions for the use of the rays are now established in every civilized country.

Garnet for Abrasive Purposes.

The use of garnet as an abrasive has found a flattering reception among manufacturers; and while it meets the competition of quartz, corundum, crushed steel, and carborundum, these materials have not limited or decreased its popularity. According to the report of Mr. Pratt in the Mineral Resources of the United States for 1902, the total value of all natural abrasives produced in the United States for that year was \$1,326,755, and of this amount \$132,820 was represented by garnet, as against \$104,605 for corundum and emery.

Local shipping conditions influence the success of quarries of abrasive substances intimately. The Montana corundum deposits were practically shut out from the general market because of prejudicial freight rates. When these were removed, or modified, they began in July, 1903, to produce raw material at the rate of from 800 to 1,000 tons per year.

Mr. Pratt says that in 1902 the production of corundum in the United States was almost entirely of the emery variety. It was confined to Chester, Mass., and Peekskill, N. Y., the latter locality greatly increasing its output. The Canadian corundum is very largely imported into the United States, and this importation quite steadily increases. The total amount of commercial corundum produced in Canada in 1902 was 1,611,200 pounds, valued at \$88,616, or nearly \$110 per ton. It, for the most part, leaves Canada, and the United States is her largest customer.

Garnet as an abrasive has a good market. New localities of this material of fine quality and in accessible situations cannot fail to attract notice and reward development. An apparently rich deposit of garnet has been recently brought into business prominence, which is located on Little Pine Creek, Little Pine Creek Township, Madison County, North Carolina.

The garnets occur in a chloritic schist well developed and in large aggregates. They are the iron alumina variety—almandine—and not infrequently present superb gem surfaces, which furnish very superior cuttings.

The prospecting of this property began in January, 1904, and after the work of a month over twenty tons of good merchantable garnet was cleaned up. Work was resumed in March, and continued for two months. In this period over 160 tons were mined, and 140 tons shipped. The garnet is pronounced to be an excellent abrasive. The property promises important results, and will naturally attract some attention. The garnets resemble the famous Salida, Colorado, specimens, and furnish attractive mineral groups.

The company now engaged in the exploitation of this property is the North Carolina Garnet Company, incorporated under the laws of New York State.

M. Charley's \$20,000 Prize.

The offer which has been made by M. Charley, the Paris representative of the Mercedes Company, of the sum of \$20,000 for the first motor boat to cross the ocean has brought out considerable discussion in Paris, and most of it is favorable to the enterprise. This may be seen from the fact that there are already no less than seven entries, among whom are Henry Fournier and H. Farman. As there has been some misunderstanding about the matter, M. Charley stated in a recent interview that the present idea is the natural outcome of the development which the racing boats have now reached in Europe. At the Lucerne races the different small craft made a brilliant performance. The boats covered a distance of 70 miles with a mean speed of 25 miles an hour and arrived at the finish with only a few seconds difference between them. The present racing boats are nearly ready to make an ocean trip, and if they are not quite up to the point they will be so before long. As to the opinion that a supply of 2,000 gallons of petrol will be needed to cross the ocean, he thinks a good motor should not consume more than half this amount. As to the practical value

of such a performance, one point is that the transatlantic liners could carry a number of such small craft on board which would be greatly superior to the ordinary lifeboat and would run at 25 miles an hour toward the coast or to seek aid. It is understood that the Atlantic trip can be made starting either from New York or from Havre. Owing to the difference of opinion as to the original idea of the project, it may be well to state exactly what the promoters meant in proposing the \$20,000 prize. The question came up at the time of the Lucerne races during a conversation between M. Charley and a number of other sportsmen. The question of high speed was discussed, and some thought that the motor boat would soon develop like the automobile and would reach a speed of 50 miles an hour before long. Others thought such a speed was too high, and after some discussion M. Charley proposed to bring the matter to a head by opening a contest for high-speed boats. It was understood that the Atlantic trip was to be made by a high-speed automobile boat which would be a further development of the present class of racers and could approach the speed of the transatlantic liners. It was not a question of heavy slow-speed craft which would take a long time to cross and would carry a great quantity of supplies.

The rules which will be drawn up will follow this order of ideas, and their object will be to develop the high-speed racing boat. The question of supplies of gasoline will be one of the most important points. There is no doubt that relays of gasoline will be needed along the way, and this can only be carried out at a considerable expense, which will limit the number of entries. Besides the industrial question the event is to be largely one of sport and will bring out the skill and energy of the best pilots. It is to be stated that M. Charley does not stop at the \$20,000 prize, but now offers to found an International Atlantic Cup which will be held by the winner as usual. To show how favorably the idea is being received here, it need only be mentioned that up to the 16th of September there were already seven engagements received. One of these is from Fournier, the winner of the Lucerne cup with the Hetchkiss boat. It is his intention to undertake the Atlantic trip along the lines proposed by M. Charley. He expects to start next May or June with an automobile boat which will vary from 60 to 100 feet in length. The motor will be of nearly 100 horse-power, and a noteworthy point is that he expects to use heavy petroleum as fuel, with a specially designed carbureter. He has also provided for securing supplies of petroleum by the aid of five yachts along the route, as he does not expect to carry more than 200 or 250 gallons on board. Besides this, two Mercedes boats will be built for the occasion, along the lines which proved so successful in the "Mercedes IV." M. Quernel, the eminent naval engineer who laid out the plans of the latter craft, is thoroughly convinced that the idea is practicable. According to him, with a boat of 80 horse-power, a displacement of 20 tons, and a speed of 15 miles an hour, the trip would take 10 or 12 days. But allowing it to take on supplies en route, the boat could be considerably smaller and travel much faster. Another entry is that of M. Noé Boyer, of Paris, with the "Cananto Boyer." It is to have a 100-horse-power motor, built by Thevenin Bros., and Henri Loste will pilot it. Following these four engagements is a fifth from H. Farman and Wimille, a sixth from Thubron, who has entered the "Trèfle-à-Quatre" (Geo. Richard make), the winner in the Monte Carlo races. The seventh entry is that of M. Louis Ravel.

In England the question has awakened great interest. Mr. S. F. Edge, the constructor and pilot of the Napier boats, states that he approves the idea thoroughly, and even before this had thought of crossing the Atlantic. In fact, he had taken an order from an American sportsman for a 300-horse-power boat, which was to be delivered next March. It was stipulated in the contract that the boat was to come to New York by sea, so that M. Edge now proposes to enter the contest if the rules will permit, and thus accomplish a double purpose.

Prof. Van't Hoff, through the medium of the Zeitschrift für physikalische Chemie, offers a prize of \$300 for the best and most complete synopsis of the literature of catalytic phenomena. The last day for the receipt of papers in this competition is June 30, 1905; the papers must be addressed to the Editors of the Zeitschrift, 2 Linnéstrasse, Leipzig. The competition is to be decided by Profs. Van't Hoff, Arrhenius, and Ostwald.

In Madagascar, a motor car service, which was commenced on June 1, 1903, for the conveyance of mails and passengers between the East Coast and Antananarivo, has been worked with regularity and has given very satisfactory results. The road is 152 miles in length; its width is 16 feet 6 inches, of which 10 feet is macadamized. The maximum gradient is 1 in 12.5, and its minimum radius 11 yards.