

### Science Notes.

RESEARCH on the subject of snake poison and of the discovery of an antidote, continues to make progress. One interesting point in the matter is what is termed the vicarious action of certain antitoxic serums. Thus, the serum of a rabbit immunised against cobra or viper venom acts equally well in the case of poison from other snakes, or against diphtheria or tetanus poison. Again, a rabbit vaccinated against rabies can withstand four or five times the lethal dose of cobra venom.

It has been suggested that there is probably a resemblance between all poisons which can be destroyed by the same antitoxin, and hence their physiological action, as shown by the symptoms of patients suffering from them, should be similar.

A great deal of mystery still attaches to the question of how snakes themselves resist their poison. It is said that all snakes are proof against their own poison, and against that of one of the same species, but a rattlesnake easily falls a victim to the bite of a cobra. Notwithstanding this fact, it has been said that the serum of an animal immunised against cobra poison is also active against rattlesnake poison.

A writer in the *Psychological Review* suggests that the higher intellectuality of civilised races may have been gained at the sacrifice of quickness of response to sensory stimuli. He states it to be a matter of familiar observation that negro children are quicker in their movements than white children. Some experiments with regard to reaction time in response to auditory stimuli appear to confirm these views, but unfortunately the number of persons of each race experimented upon is very small. The reaction times (in thousandths of a second) were as follows: American Indian, 116.27; African, 130; Caucasian, 146.92.

It appears only natural that the further removed a man is from a condition where quickness of perception and response are daily a matter of life or death, the more probable will be variations in reaction time.

If experiments on the lower animals were possible, we should perhaps find that in some of them the reaction time is less than in any man. According to Rudyard Kipling, a domesticated dog sleeping in the road, will escape being run over by a wheel after being awakened by its touch, and dogs in a state of domestication cannot compare with their wild relatives in the matter of quickness.

A botanist, in the course of his investigations on the penetrating power of roots, has succeeded in growing a pea as a parasite. The roots of the pea grew into the tissues of the host whence its nourishment was derived, and in this condition the pea flowered, although the stem was somewhat stunted. The same experimenter, having cut a potato in halves, put some seeds between the halves and bound them close together with string. When the potato was planted with the cut surfaces in a horizontal position some of the germinating seeds sent their roots vertically downwards through the substance of the potato, and succeeded in reaching the soil beneath.

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### A Book of the Week.

#### "NAPOLEON'S LAST VOYAGES."\*

THIS volume contains the diaries of Admiral Sir Thomas Ussher, R.N., K.C.B., that were written by him on board the "Undaunted" when that vessel conveyed Napoleon to Elba, and the diaries of John R. Glover, Secretary to Rear-Admiral Cockburn, on board the "Northumberland," during the period of the voyage out to St. Helena with the vanquished Napoleon on board.

The record of Napoleon's familiar conversations with the officers on board the "Undaunted" is full of interest to the student of human nature as well as to anyone who is interested in the history of the great Bonaparte, for Napoleon related to these English officers the plans that he had formed for invading England, but he said he never intended to attempt it without a superiority of fleet, but he thought this superiority would have been attained for a few days by leading ours out to the West Indies, and suddenly returning. If the French fleet arrived in the Channel three or four days before ours it would be sufficient. He was asked what he would have done had he succeeded in arriving in London, and he replied that it was a difficult question to answer: "For a people with spirit and energy like the English was not to be subdued even by taking the capital." He would certainly have separated Ireland from Great Britain, and the "occupying of the capital would have been a death-blow to our funds, credit, and commerce." He also said to Colonel Campbell: "If I had been Minister of England I would have tried to make her the greatest power in the world."

Of the two voyages described the St. Helena "trip" is the more remarkable. Mr. Glover's manuscript was headed by the following naïve summary of its contents: "A narrative of a voyage to St. Helena, particularly relating to the actions and conversations of Bonaparte, once the scourge of mankind, but now the *Détenu* of that nation whose attempted destruction had been the mainspring of his actions for many years."

There is something almost pathetic in the account of the ex-Emperor's efforts to maintain his imperial dignity. For instance, he wanted to tip the sailors a hundred napoleons in crossing the line, but the Admiral would only allow him to give five pounds, and the following extract from Mr. Glover's diary gives us a very graphic picture of the uncomfortable and strained conditions of affairs on board the "Northumberland": "Bonaparte sat but a short time at dinner, and then went on deck, where he walked, keeping his hat off, and looking round stedfastly and rather sternly to see if the British officers did the same. However, as the Admiral, after saluting the deck, put his hat on, the officers did the same (the Admiral having previously desired that the officers should not be uncovered), at which he was evidently piqued, and soon retired to the after-cabin. His fellow prisoners are ever uncovered in his presence, and in speaking to him they invariably address him either 'Sire,' or 'Votre Majesté,' but the Admiral, as well as the officers, at all times address him as 'General.' However, the difficulty of repressing the inclination to pay him marked attention was evident."

\* "Napoleon's Last Voyages." Fisher Unwin, 1895.

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