a class. The coloring will be the same as in Hitchcock's geological map of the United States.

— The *Journal of the Royal Society of New South Wales* for 1886 contains a very interesting sketch of the history of the floods in Lake George, by H. C. Russell. The lake has no outlet, and since its discovery in 1820 it has been dry twice. According to reports of the natives, the basin contained no water for some time previous to 1820. In 1823 it reached its highest level, attaining a maximum depth of twenty-four feet. Then it commenced to dry up, and in 1838 and 1839 it contained no water. In 1840 four feet of water were found in the basin, which, however, from 1845 to 1849, was again completely dry. During the ensuing ten years the lake began to fill, but in 1859 it was dry for the third time. Since that time it steadily increased in size until 1874, when it reached the same height as in 1823. This record is of great interest, as it shows the alternating periods of humidity and dryness. It is particularly important in connection with Seibt's and Brückner's studies of similar changes in the levels of lakes in the northern hemisphere, which were noticed in No. 232 of *Science*. Brückner arrived at the conclusion that the whole of the northern hemisphere passed through a dry period between 1830 and 1840. This was followed by a period of increased humidity about 1850. A new dry period developed between 1860 and 1865, while after 1875 the precipitation increased. The periodical changes of Lake George agree with these results. From these and several other facts, Brückner infers, in reviewing Russell's paper, that the whole earth takes part in these periodical changes.

— Domingos Soares Ferreira Penna, the Brazilian naturalist, died at Pará, Brazil, on the 8th of January. During the last twenty-five or thirty years not a naturalist has done any work in the Amazon region who is not more or less indebted to Snr. Penna in one way or another. Agassiz and Hartt and the members of the late geological survey of Brazil were greatly aided by his valuable personal knowledge of the region, and by his useful suggestions. He was at one time secretary of the province of Pará, and at the time of his death was director of the Provincial Museum at Pará.

LETTERS TO THE EDITOR.

*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

Twenty copies of the number containing his communication will be furnished free to any correspondent on request.

The editor will be glad to publish any queries consonant with the character of the journal.

Ratio between Men and Women.

PROF. W. K. BROOKS of Baltimore has discovered that a favorable environment tends to produce an excess of females among animals and plants, and an unfavorable environment an excess of males. If this be true, a race or species which is on the point of extinction should have an excess of males.

The population of Australia consists of a small and decreasing number of aborigines, and a prosperous and increasing population of foreign settlers and their descendants, amounting, in all, to nearly three millions of persons. As the native population is rapidly disappearing, we should expect to find the males more numerous among them, as compared with the females, than among the inhabitants of foreign origin, provided other conditions are equal. For each 100 females there were in Victoria, of native-born Australians, $100\frac{8}{10}$ males; and of foreigners, exclusive of Chinese, $129\frac{1}{10}$ males. The ratio of males to females in the population of foreign origin is therefore very much greater than it would be if it depended upon the birth-rate alone; and, as this modifying influence does not affect the aborigines, an excess of males among them no greater or even a little less than that found among the inhabitants of foreign origin would indicate that the excess of male births is much greater among them than among the people of foreign origin. Computation shows that the excess of males among the aborigines is, notwithstanding these neutralizing influences, very much greater than it is among the foreign population.

For all Australia there are 143.72 aboriginal males to each 100 females; there are only 118.64 males of foreign descent to each 100 females, notwithstanding the fact that 129 males settle in these colonies to each 100 females.

To those who wish to follow this subject further, it may be interesting to know that an enormous collection of statistics relative to the Indian tribes of the United States was made under the direction of Maj. J. W. Powell. The results of this census have not been published, but the material is still available, and would furnish a much better basis of comparison than the one chosen by Professor Brooks. O. T. MASON.

Washington, D.C., Feb. 27.

Classification of Diphtheria.

THERE is a very striking resemblance between the membrane of diphtheria and the fungi that produce dry rot, or more especially those forms that grow in living trees. A white or yellow leathery substance is produced, sometimes known as 'punk,'—the *Merulius lachrymalis* in dead wood, and some species of *Polyporus* in the living. The hyphæ, or roots, penetrate the cells of the wood in every direction, producing disintegration and decay.

Diphtheria is called an exudation, and classed as a bacterial disease, a *Schizomycetes*, when in fact it is a fungus of a higher order, a *Hyphomycetes*. It grows on the surface, and spreads by fibulations, and its roots penetrate deeply into the tissue, producing changes and decomposition, which becomes the soil for bacteria, generating poisons that are absorbed and powerfully affect the whole system. In this view its life-history has not been studied or found out. It is known that the membrane can be transplanted, and that the surface abrasions on which it grows are of a painful, smarting kind. How it is propagated by spores is unknown. There is evidently some peculiar condition required, as in the *Merulius*, which will not grow unless an alkali is present. It may be that an alkaline condition of the system is required, which is the reason of the capriciousness of its infection.

The treatment of the disease in this light assumes a new aspect, and gives purpose to thorough local antiseptic applications; i.e., thorough eradication of the fungi before it can have time to poison the system. P. J. FARNSWORTH.

Clinton, Io., Feb. 22.

Sex and Consumption.

I WAS delighted at seeing the main tendency of the article on sex and consumption, that appeared in *Science* of Feb. 3. The views that I have since 1882 been trying in vain to get investigated here, appear to be receiving serious attention in your great country. That this progress in a question of nothing less than the life or death of a large multitude of the civilized world may not be checked by the presence of one or two erroneous inferences in that article, I shall be glad if you will permit me to point them out.

Although for the present time it is true that the total male mortality exceeds that of the female, yet that neither applies to all periods of life, nor is the difference so great as to justify the term 'protected' to the female in any sense. From the age of five to fifteen, the female mortality from consumption is much greater than that of the male, and it is in the later periods of life that the latter preponderates. Further, in the strictly rural districts the female mortality exceeds that of the male; and it is only within a comparatively recent period that the total male mortality has exceeded that of the female, and that has been brought about by men who had been brought up and engaged in country pursuits, rushing into town employments. One word more. An organ that is subject to hyperæmia does not gradually waste away, and hence we must look elsewhere for an explanation of the mode in which those conditions of our civilization that tend to reduce the capacity of the chest produce consumption. G. W. HAMBLETON.

London, Feb. 16.

A Worm in a Hen's Egg.

THE nematoid worm sometimes found in the white of the hen's egg is not *Ascaris lumbricoides*, as your correspondent of last week supposes, but a *Heterakis*, generally *H. inflexa*, the normal habitat of which is the fowl's intestine, but which occasionally wanders into the oviduct. R. RAMSAY WRIGHT.

Toronto, Ont., Feb. 28.