

more entertaining to a 'sporting man' than to one of scientific pursuits. In the *Contemporary review* there is a very interesting article, by Sir John Lubbock, on 'Some habits of ants, bees, and wasps,' in which the author tries to show that the instincts of flight in a 'bee line,' of cell-making, and of storing food for the young, really lie within very narrow lines, and are not inconsistent with the theory of natural selection. Some observations on the instinct and longevity of ants are added. There is an anonymous article on 'Fish out of water' in the *Cornhill magazine*, which is not worth reading, and another in the *Leisure hour*, by Mr. A. H. Molam, on 'Cornish coughs,' which is but little better. In this connection may perhaps be noticed a very readable paper by Ernest Ingersoll, in *Lippincott's magazine*, on 'The Peabody museum of archeology,' giving concisely the history and aims of this institution, with some account of the collections.

—The next meeting of the Society of naturalists of the eastern United States will be held on Tuesday and Wednesday, Dec. 29 and 30, at Boston. The executive committee has voted to recommend that the name of the society be changed to the American society of naturalists.

—At the last teacher's institute, held in Humboldt county, Cal., the Humboldt society of natural history was organized. Prof. J. B. Brown, principal of the schools at Eureka, was elected president, and Prof. Carl C. Marshall of Arcata, secretary. The secretary would be pleased to learn of names of works in various departments of natural history that are specially adapted to that region.

#### WASHINGTON LETTER.

THE museum of hygiene, in connection with the office of the surgeon-general of the navy, is not so generally or widely known as is the army medical museum. It has undertaken some investigations, however, which, if brought to a successful issue, will be of great value to the general public, and will not fail to bring it into a deserved prominence. The interest of a naval surgeon in hygienic matters arises primarily, no doubt, out of the fact that he has to do with the health conditions of men necessarily crowded into a small space. Whatever may have been the origin of this hygienic museum, it will be everywhere admitted that much can be accomplished by it if its management be wise and liberal. An important step has been announced by the surgeon-general in the statement that a complete system of iron and lead pipes, with fixtures, is being erected on the outside of the museum building for the purpose of making an exhaustive series of experi-

ments, covering all disputed points in reference to trap siphonage and the utility of the mechanism of water-closets, traps, water-basins, baths, sinks, etc. Observing stations have been established at each of the three stories, and the investigation is to include microscopical and chemical tests of the action of sewer air and different waters on pipes and tanks. When completed, the results are to be at the service of the public.

In connection with this it is interesting to note a few statements contained in the report of the health officer of the district. The year ending June 30, 1885, shows a slightly increased mortality, this increase having occurred 'in classes of disease not dependent on hygiene.' The most notable feature is the marked difference in the rates of mortality among the white and the colored population, the latter being, as everybody knows, relatively larger than in most large cities. Among white people the rate has not, during the past decade, reached as high a figure as 20, while among the colored people it has been more than 40, and never less than 30. The mean rate for ten years is, for the whites, 19.02; and for colored people, 34.99; and on the whole population, 24.38.

An item of interest relative to both the above, is the existence in the city of a training-school for nurses. It was established in 1877 by members of the medical society, assisted by benevolent people of the city. At present its students number about thirty, and it is stated that thus far no men have applied for admission. Fourteen have been graduated, of whom ten are now in practice. Lectures are given twice a week by members of the medical profession. These are free to the nurses, and persons who do not intend to enter the profession are admitted on the payment of a small fee.

Readers of *Science* are aware of the fact that a little more than a year ago the director of the geological survey determined to undertake actively the study of seismology in this country. A conference of those most interested in the work, including representatives from the signal service and the naval observatory, was held, which resulted in an agreement upon certain plans for the investigation. Another meeting of this conference was held a few days ago, those present being Captain Dutton and Mr. Hayden of the geological survey, Professors Rockwood of Princeton, Davis of Cambridge, Paul of the naval observatory, and Marvin and Mendenhall of the signal service. It was generally agreed that the most important and decided advance in the study of seismic phenomena was to be reached through a tolerably close distribution of seismoscopes, with sufficiently accurate clocks, over certain areas which have proved to be

most subject to disturbances from earthquakes. It was thought that this could best be done by the selection and appointment of local directors, each having general charge of the work in a limited area, and through whom persons at once qualified and willing to undertake the care of an instrumental equipment could be best reached. In addition it was thought desirable to organize a large corps of observers, working through the same local directors, who would report observations made without the aid of any special instruments, the system resembling somewhat that for the collection of information regarding thunder-storms, tornadoes, etc., now in use in the signal office and in the New England meteorological society. The questions addressed to such correspondents by the Swiss earthquake commission were discussed, as were also those used by Professor Rockwood in his studies of American seismology during the past fifteen years. The subject of the charting of earthquakes and the graphical representation of results of observation was considered, and a good deal of time was given to the examination of instruments, including one of the seismoscopes of the form recently described in *Science*, and some parts of a seismograph or seismometer now being constructed. Professor Davis reported upon the progress of the work of bibliography which he had undertaken a year ago, showing that much work had been done, and that the result might be ready for publication in the near future. Much confidence was expressed by members of the conference in the success of efforts being made by the geological survey to organize a systematic study of seismology.

The status of the coast survey remains unchanged up to date, although the air is by no means devoid of rumors as to the probable disposition of this, one of the oldest and one of the most efficient of the government scientific bureaus. One of these is that, to some extent at least, its work is to be divided up and transferred to other government services, and it need hardly be said that some anxiety for its future is felt by those who understand and appreciate its past.

The announcement of the resignation of General Eaton as commissioner of education was heard with regret by his many friends here. It is understood that he is to become the president of Marietta college, at Marietta, O.

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Washington, D.C., Nov. 30.

#### ST. PETERSBURG LETTER.

ON Nov. 8 the St. Petersburg society of naturalists held its first general meeting of the present winter season. A. N. Krasnow made a communication on the flora of the Kalmuck steppe (on

the left bank of the Volga), which he had visited this summer with the well-known geologist, Professor Muschketow. In vol. xvi. of the Proceedings of the society the most lengthy and important paper is that on dunes by Sokolow, a young geologist, who first studied them near Sestroretzk, on the Gulf of Finland, and became then so interested in the matter that he visited dunes of the interior in the governments of Kiev and Astrakhan. He made interesting observations of the force of the wind, as indicated by an anemometer placed but twelve centimetres above the ground, and compared these with the size, shape, etc., of the sand particles moved by the wind. Observations of that kind, if systematically conducted, may be very useful to travellers in permitting them to estimate the strength of the wind by the size of the objects moved. There is also in this volume a paper on the birds of the White Sea coast, by Nikolskij. The poverty of the tundra (treeless region) of the continent is contrasted with the rich bird-life of the seacoasts and islands. Here two regions are distinguished,—that of the colder waters of the White Sea, and of the ocean east of the Swiatoi Noss, rich in individuals, but not in species; and that on the west to the frontier of Norway, in waters warmed by the Gulf Stream, where the species also are more numerous.

The geographical society has had one interesting meeting of its section of mathematical and physical geography, in which Abich lectured on his explorations of the Caucasus, his life-work. The celebrated geologist has already, for more than five years, retired from active work in the field, and lives in Vienna, occupied by the working-out and publishing of the immense material collected in the Caucasus.

No. 4 of the *Isvestia* of the society, issued a few days ago, is nearly entirely occupied by the preliminary report of N. D. Jurgens on the Lena polar station, and the publication of the detailed results of the meteorological observations of the first year,—Sept. 1, 1882, to August, 1883. The daily means of the principal meteorological elements are given, as also the hourly means for every month. The mean monthly temperatures have already been noticed in *Science*. As to the extremes, their relative steadiness is to be mentioned. The greatest difference between them is 29°.8 C. (in December). It is below 24° in January, March, and April, below 20° in November, and below 15° in July and August. If the limited range in summer is common to all polar stations, the same is not true in winter, when it is larger, both in North America and in the interior of Russia, but especially farther to the east, on the coast of East Siberia (Nischnekolymsk, Pitlekaj). The freezing-point