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. Z.

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

was not reached from October to April inclusive. The daily range is small, as was to be expected, on account of high latitude, position on the sea-coast, and great cloudiness of the warmer weather. The greatest difference of the warmest and coldest hour is 6°.4, in April. The small amount of cloud in winter, and the large amount in the warmer weather, are to be noted. The latter is in great measure due to fog or low clouds. The mean temperature at a depth of 0.4 metre in the ground was much higher in the yearly mean than the mean temperature of the air (—11°.6 against —17°.4). It is interesting to see, thus, how even the small covering of snow mentioned by the observers acts in protecting the ground from the frosts. The relative humidity is great in all months, as was to be expected.

	Extremes of temperature.		Mean pressure.[1]	Amount of cloud.	Prevailing wind.[2]	Mean velocity of wind.[3]
	Min.	Max.				
September	—12.3	11.0	753.9	9.0	W 26	6.7
October	—29.6	—2.5	759.3	7.2	E 25	6.5
November	—36.3	—18.3	758.9	6.0	S 23	5.6
December	—49.2	—19.4	761.7	5.1	S 23	5.3
January	—47.8	—25.9	761.5	3.7	S 28	4.3
February	—53.2	—27.1	764.9	2.6	S 30	5.0
March	—41.6	—18.6	763.9	3.3	S E 24	4.7
April	—32.8	—10.2	765.8	5.2	E 33	5.6
May	—24.2	3.3	755.6	8.6	E 29	6.9
June	—12.6	12.5	752.3	8.4	E 32	6.8
July	—0.2	12.1	757.8	7.6	E 37	8.9
August	—1.2	12.8	756.4	8.5	E 30	7.0
Year	—53.2	12.8	759.3	6.3	.....	6 1

[1] Barometer 4.9 metres above level of river.

[2] The figures show the percentage of the wind to the total number of observations (eight directions).

[3] In metres per second.

A preliminary map, based on the surveys of the expedition, accompanies the report, and gives new and important data, including the northern limit of forest. Generally it reaches to 71° north, but on both banks of the Lena to nearly 72°. The protection afforded by the high ground on the banks of the river is evidently the reason of this; the cold winds of summer, and small amount of sunshine, being the principal enemies of vegetation here, not the winter frosts, which are much more severe in the valleys of the interior, where forest-trees grow well.

At the Moscow university there was, a short time ago, a celebration of the thirty-five years' professorship of N. J. Davydow, one of the most distinguished mathematicians of Russia, his principal works being in theoretical mechanics and the theory of probabilities. Among scientific work going on there, we may mention that published recently by Professor Joukowsky, on the movements of a solid with compartments filled by incompressible liquids.

The Russian universities give their degrees of 'magister' and 'doctor' after a public disputation sustained by the recipient. The latter was recently conferred on I. S. Nasimow, for his dissertation 'On the application of the theory of elliptic functions to the theory of numbers,'—a distinguished work, say the specialists.

At St. Petersburg there was in October a brilliant 'disputation,' after which the doctor degree of chemistry was conferred on Professor Koisowalow, for his work on 'Contact phenomena.' The hero of the day was Professor Mendelejef, one of the official opponents, who made a brilliant speech of more than an hour. On Nov. 15 the degree of magister of astronomy was conferred on Prince Dolgorowsky for his work on 'The secular irregularities in the movement of the moon,' of which our astronomers have a high opinion.

O. E.

St. Petersburg, Nov. 15.

LONDON LETTER.

A DEPLORABLE accident has put an end to the career of one of the most active and useful scientific workers of our day, and has made a gap in scientific circles which will not readily be filled. On the night between Nov. 9 and 10, Dr. W. B. Carpenter, F.R.S., the eminent physiologist, was taking a hot-air bath to relieve rheumatic pains (from which he had more or less constantly suffered since his visit to America in 1882), when by some means the spirit-lamp was upset, and he was so fearfully burned that he died in four hours, in presence of his wife and his two eldest sons. There is good reason to hope that, after the first few minutes of agony, he did not suffer; his last words being, "I have had a good night, I should like to be left alone." The surgeon stated at the inquest that he "had never known so severe a case of burning, it was literally from head to foot." The funeral took place at Highgate, a hill in a northern suburb of London, on Nov. 13. Among those who assembled at the cemetery, notwithstanding the unfavorable weather, were Professor Huxley, the president, and Dr. Michael Foster, the secretary, of the Royal society; Mr. Percy Sladen, secretary of the Linnean society; Professor Judd, representing the Geological society; Professor Stewart, the president of the Microscopic society; Prof. H. N. Moseley of Oxford, representing the officers of the Challenger expedition; Prof. W. H. Flower, of the British museum; Mr. Lecky; Rev. Page Roberts, a well-known representative of the 'Broad church;' Sir Joseph Hooker