conferred, has presented the Association with a gift of 10,000 francs. The Association has been able to distribute assistance to those engaged in scientific research to the extent of 7,000 francs during the past year; of this sum 5,000 francs was accorded to Dr. Janssen as a contribution to the expenses of his recent voyages, and 2,000 francs to M. Chapelas-Coulvier-Gravier, to enable him to continue his researches on shooting stars. M. Cornu referred to the great importance of the Puy-de-Dôme Observatory, of which we have frequently spoken, and the formal opening of which had been deferred in anticipation of the present meeting. He concluded by eloquently urging the Association to continue to be animated by the spirit in which it was begun in the days of France's sore distress, to keep free from all party spirit, and to seek to be spoken of only and always as the friend of science and of the country.

The treasurer, M. Masson, gave an account of the state of the funds, which is very satisfactory. The Association is prosperous, numbering 2,200 members, including 200 ladies. The receipts for the Nantes meeting were greater by 400*l.* than the expenses. The funds of the Association amount this year to 7,000*l.*

In the evening a reception was held at the Hôtel de Ville by the mayor, which was perfectly successful.

On Saturday, at two o'clock, the several sections met to appoint their officers. Among the strangers present were Lord Houghton, Dr. Gladstone, the Rev. S. J. Perry, Mr. Eaton, Prof. Boyd Dawkins, and several other Englishmen.

M. de Mortillet, the sub-director of St. Germains Museum, has been nominated the president of the section of Anthropology. He delivered an address on the origin of superstitions. He showed that the present superstitions must be mostly connected with old Celtic populations.—M. Tchebycheff, the Russian geometer, has been appointed president of the Section of Mathematics. M. Tchebycheff exhibited a machine for performing addition and subtraction with extraordinary rapidity.—M. de Lucas presented the designs for the construction of a machine intended for the fabrication of prime numbers.

The places of interest in and around Clermont are open to the inspection of the members of the Congress, as is the case at meetings of the British Association, consequently the Sunday excursions have been numerous and highly attractive. The prehistoric archæologists visited the palæolithic habitations recently discovered at Issoire. A pleasure trip was made to Vichy, and a large number of members went to Thiers. The excursionists to Vichy were welcomed by the Mayor, Dr. Cornil. Among the toasts proposed was that of Lord Houghton, as a Vice-President of the British Association, who made a suitable reply.

In the city of Clermont are located the celebrated incrusting fountains, which convert into stone, wood and even animals. A rich collection of specimens has been opened for inspection, and will be visited officially by the Section of Geology this week.

An incident has occurred which created a little sensation. The members were assembled in a general meeting to hear a lecture on the mountains of Auvergne, when an intimation was received that the lecturer had been taken ill. M. Claude Bernard, the well-known physiologist who was present, was therefore invited to deliver an address. He lectured on the sensibility of plants, a subject which he has been investigating.

SCIENCE IN GERMANY

(*From a German Correspondent*)

M. W. SIEMENS has recently endeavoured to determine the velocity of propagation of electricity in suspended wires. His method of observation consists in the employment of two insulated Leyden jars (or two charge tables), the outer coats of which are metallically connected together. The inner coating of one jar is directly connected by a short wire with a metallic point; that of the other is also connected with this point, but by a long circuit line. Opposite the point stands a rotating metallic cylinder connected with earth. When the outer coats of the jars are connected with earth, the electricity of the inner coating of both jars at that moment becomes free, and is discharged through the point and the rotating cylinder to earth. If the rotation is sufficiently rapid, and the line long enough, there are produced on the smoked cylinder two marks with an interval between them, which is the measure of the time the electricity took to pass through the wire line from the jar to the point. This arrangement was also modified by placing two points, instead of one, opposite the metallic cylinder; the one being connected directly with one jar, the other by the line with the other jar. A discharge of the jars was first obtained while the cylinder was at rest, and then the discharge was made with the rotating cylinder.

M. Siemens thought at first that the velocity of propagation of electricity must be proportional to the specific conductivity of the material. In discharge of a jar through a caoutchouc tube filled with water, or through a wet thread, no time difference could be perceived between the mark of the direct discharge, and that of the first partial discharge through the liquid. It was the same with discharge of the jar through a strong caoutchouc tube, 100 feet long, and 20 mm. clear diameter, which was filled with zinc vitriol solution. Now, since a difference of five millionths of a second might be distinctly perceived, it is thus proved that the velocity of electricity in liquids must be *over* 800 geographical miles per second. As the conductivity of copper is at least 200 million times greater than that of the zinc vitriol solution, the velocity of electricity in copper must be at least 160,000 geographical miles if the specific conductivity were synonymous with the velocity of electricity.

From experiments with longer telegraph lines it appeared that the propagation of electricity in conductors occurs with a determinate velocity independent of the length of the conductor; this is, in iron wires, between 30,000 and 35,000 geographical miles per second. (The length of the line was in one case 25·36 kilometres, in others 23·37 and 7·35 kilometres.)

M. Siemens proposes to make similar experiments with a copper circuit in order to decide, by direct experiment, the question whether the velocity of electricity depends on the nature of the metallic conductor or not. From the experiments made with the caoutchouc tube filled with zinc vitriol solution, he considers the latter the more probable. We may further remark that Prof. Kirchhoff (in establishing Weber's fundamental law for the motion of electricity) already previously obtained the number, 21,000 miles, for the velocity of electricity in conductors, and at the same time came to the result, that this velocity must be equally great in all conductors. Siemens's measurements come much nearer to Kirchhoff's values than to that obtained by Wheatstone, viz., 61,900 geographical miles. S. W.

GERMAN EXPEDITION TO SIBERIA

AS a sketch of the present state of Central and Northern Asia, it may perhaps not be uninteresting to our readers to have laid before them the following extract from a letter written by Dr. Finsch, who, together with Dr. Brehm and Count Waldburg-Zeil, is at present engaged in the scientific exploration of Southern Siberia, under the auspices of the German Arctic Society. The letter dates from Lepsa, near the Balkash-lake, May 13.

"We started for Lepsa on May 3, and camped the first night in 'yurts'—tents—ready for us at the foot of the Arkat Mountains. The yurt destined for our own use was splendidly decorated [for, thanks to the orders of the Czar, the travellers found at each station everything requisite for their comfort and the prosecution of their journey ready for them; in addition they were always accompanied by a picket of Cossacks, who had to provide horses for them, and to see them safely from station to station.]

"Many Kirghiz chiefs, dressed in their picturesque attire, were awaiting our arrival, and we found a repast of pillaf, lamb, and kumis, ready for us. The Arkat Mountains are a mass of