Great-Russians so considerable a difference exists. Vol. I. deals with the superstitions of the peasants, especially as regards witchcraft, to which subject Prof. Antonovich of Kief has devoted a long and interesting essay. According to him, the popular ideas about the subject are "not demonological, but pantheistic." And the authorities seem to have looked upon wizards and witches with some indulgence. In a hundred trials of persons accused of witchcraft in the eighteenth century, he finds scarcely any trace of such cruelty as was shown at an earlier period by British or German legal officials, or by the Inquisition in the south of Europe. Burnings were unknown. Convicted warlocks were generally mulcted in a fine paid to the Church. In the few cases in which they were punished more severely, the unusual harshness of the court was due to the fact that the complainant belonged to the class of nobles. The second volume contains a valuable collection of 146 skazki or folk-tales, 31 of which are classed as "mythical." It forms an important supplement to Rudchenko's excellent "Collection of South-Russian Tales." Vols. iii.–v. contains an immense number of folk-songs, and a list of days to which the peasants pay special attention. The sixth volume is devoted to popular jurisprudence in general and the village courts in particular, and the seventh to statistics, giving a complete account of the Little-Russians themselves, and of the rest of the population, whether of Polish, Jewish, or other extraction.

TEMPERATURE OF THE SOIL DURING WINTER

THE French physicists, Edmond and Henry Becquerel, took advantage of the intense cold prevailing at Paris last December, to study the changes in temperature below the surface of the soil under various conditions. It is a widely-spread belief among farmers, that when protected by a layer of snow, crops sown in the autumn are effectually guarded against freezing. This opinion, however, must lose much of its weight in view of these late observations, which we will briefly summarise.

The observations were made by means of Becquerel's electric thermometer, which consists simply of two wires isolated by a coating of gutta percha, and soldered together at their extremities. Differences in temperature between the two places of junction cause electric currents varying in intensity with the greatness of the difference. A magnetic needle, brought under the influence of the current, registers on a dial these differences. The wires were inserted in the Jardin des Plantes at various depths varying from 5 to 60 centimetres, and observations were made from November 26 to the close of December. Frost first appeared in the Garden November 26. December 3 snow fell in abundance, and the temperature of the air sank to – 11° C. The layer of snow was 25 centimetres deep. December 10, the temperature had sunk to – 21°, and commenced then gradually to rise. December 15, the snow was 19 centimetres in depth.

Coming now to the observations made below the surface of the ground under the above circumstances, we find at once a striking difference between the results obtained in soil covered with grass, and those obtained below a bare surface of the ground. In soil protected by grass, before as well as after the snowfall, at all depths below that of 5 centimetres, the temperature never descended below 0° C. Registering 3°·5 at the depth of 5 centimetres on November 26, it slowly sank to 0°·18 on December 14. The presence of grass would appear, then, to effectually protect the earth beneath it from freezing at the lowest temperatures attained in our climate. Quite different results, however, are yielded in the absence of grass. In this case at a depth of 5 centimetres the thermometer sank below zero on November 27. Two days later it registered – 2°·6. On December 3, just before the snowfall, it reached its minimum of – 3°·17. After being covered with snow it registered – 0°·8, and later – 1°·4. The snow here appears to act in a certain measure as a screen against changes in temperature, but its conductive properties are still too marked to prevent these changes from being felt sensibly at a certain depth in the earth. In the case of the agriculturist, this slow conduction, when united to the still slower conductive properties of a tolerably thick layer of dead shoots of cereal crops sown in autumn may frequently insure immunity from freezing to the roots below the surface. T. H. N.

NOTES

WE regret to have to announce the death of P. W. Schimper, the well-known Professor of Palæontology in the University of Strassburg, and of Dr. R. H. C. C. Scheffer, the amiable and accomplished director of the Botanic Garden, Buitenzorg, Java, at the early age of thirty-five. Also of two foreign entomologists —Herr Hellmuth von Kiesenwetter at Dresden, in the sixtieth year of his age, and Dr. Snellen van Vollenhoven, formerly Conservator of the Leyden Museum, one of the foremost entomologists of Holland, and author of "Faune Entomologique des Indes Orientales."

WITH reference to Prof. Smyth's communication in regard to the exhibition of aurora on March 17 (NATURE, vol. xxi. p. 492), we are informed that the photographic records of the Royal Observatory, Greenwich, show that there was also magnetic disturbance on that day.

DR. W. FARR has been made a C.B.

DR. C. WILLIAM SIEMENS has been elected an honorary member of the American Institute of Mining Engineers.

THERE has just appeared, as Vol. XII. of the Report of the United States Geological Survey of the Territories under Dr. F. V. Hayden, an important monograph on the Freshwater Rhizopods of North America by Dr. Joseph Leidy, the eminent comparative anatomist of Philadelphia. It is a well-printed quarto, and sumptuously illustrated with a series of forty-eight coloured plates. Containing the results of an investigation of materials partly collected during the prosecution of the Survey, it shows the broad scientific spirit in which the operations of Dr. Hayden's Survey were conducted. Dr. Leidy, almost elbowed out of the field of research among the fossil vertebrates of the West, where he was the earliest pioneer, has left that field in possession of his younger friends, Professors Cope and Marsh, and has betaken himself to another and very different domain of scientific research, with which he has long been familiar. To the monograph which he has now issued we hope to call attention in an early number of this journal.

A NEW School of Agriculture is to be opened, to be called the South Wiltshire and Hampshire Agricultural College, at Downton, near Salisbury, on April 26. Among the teaching staff will be: Prof. Wrightson for Agriculture, Prof. Church, Chemistry; Prof. Fream, Natural History and Geology; and Prof. Sheldon, Dairy Work. Attached to the college is a mixed farm of 540 acres, to be worked by the students themselves.

AT the Royal Institution on Tuesday next (April 6) Prof. Huxley will give the first of a course of two lectures on Dogs and the Problems connected with them; on Thursday (April 8) Prof. Tyndall will give the first of a course of six lectures on Light as a Mode of Motion; on Friday evening (April 9) Prof. Huxley will give a discourse on the Coming of Age of the Origin of Species; and on Saturday (April 10) Mr. James Sully will give the first of a course of three lectures on Art and Vision.