satisfactory collections, and so prompt and useful a report, could not have come about without qualities of a high order in both the party and its chief. That the magnetic and astronomical observations were less precise than could be wished seems to have been the result of circumstances beyond the control of the members of the party.

HORSE-BREEDING.

M. ALASONIERE has written a very sensible little book upon horse-breeding, which has been honored with a medal by the French national agricultural society. He gives first a discriminating account of the points which mark a good horse, and then proceeds to characterize the two principal equine types, *speed* and *strength* being their respective characteristics, or, according to his more elaborate definition, 'type à étendue de contraction' and 'type à intensité de contraction.' His central idea as to the breeding is that the two types should not be mingled, because in the offspring incongruity results, one part of the animal inheriting its qualities from the mother, another part from the father. The wisdom of this precept he enforces by a discussion of the rules to be followed for the amelioration by breeding of special parts of the animal, and maintains that injudicious mixing of the two types produces horses of an incongruous build. To put the matter more bluntly, to get good colts the mare and stallion should resemble one another, else the colt will be a hodge-podge of qualities not harmonious.

The treatise is pleasantly written, and, though not properly a scientific work, is still valuable for, if we may be pardoned the phrase, its good horse sense, and we take pleasure in commending it to the notice of those engaged in rearing horses in this country.

ELECTROTECHNICAL HANDBOOK.

DR. KITTLER'S book, of which the first part of vol. i. has just appeared, will be welcomed by every one who has to do with any of the applications of electricity to the arts. It begins with a consideration of the phenomena and laws of induction, giving particular attention to the special cases that are of importance in the operation of the telephone and dynamo-machine, and then proceeds to discuss at length the various separate parts of the dynamo-machine, and indicates the points especially to be observed in their construction. The circumstances influencing the magnetization of soft iron — as the dimensions of the piece, the strength of the magnetizing current, and the quality of the iron — are next analyzed. Most of the remainder of that portion of the book as far as issued is occupied by a lengthy and detailed description of the principal forms of electrical measuring instruments. Their theory and construction are somewhat minutely considered, and most of the important special forms of instrument are figured. A list of a few of these will best show the character and completeness of the work. We notice, among others, Kohlrausch's bridge for use with a telephone, Siemens's modification of Thomson's bridge for measurement of low resistances, several forms of Wiedemann's galvanometer with copper dampers, Obach's cosine galvanometer, Siemens and Halske's convenient form of Thomson's mirror galvanometer, and D'Assarval and Deprez's aperiodic galvanometer. All of the leading forms of current and potential galvanometers for technical purposes are described, including several which we have not seen elsewhere, except in the original papers.

The work is written (as should be the case with a work of this kind) for students possessing a good knowledge of physics and mathematics. It would be of great advantage to American students of electrotechnics if some of our publishers would issue a translation of this work. We are sure that it would meet a much-felt want.

Amélioration de l'espèce chevaline par des accouplements raisonnés. Par L. ALASONIERE. Paris, *Baillière*, 1885. 15+156 p. 8°.

Handbuch der elektrotechnik. Bearbeitet von Dr. E. KITTLER. Stuttgart, *Enke*, 1885. 8°.

FROM PALERMO TO TUNIS.

ONE of the pleasantest of the many delightful trips aside from the beaten track—to which Americans in Europe carefully cling—is that from Naples to Tunis by way of Palermo and Malta. Besides seeing the Sicilian capital—a splendid city in itself and renowned throughout Italy for the beauty of its women—and Malta, the dwelling place of one of the most remarkabls races of the Mediterranean, one gets a glimpse of oriental life in all its filth and picturesqueness for a fraction of the time and money required for a visit to Cairo or Constantinople.

With regard to Malta, the fact which most impressed itself upon M. Melon's note-book—for this little volume pretends to be nothing but a collection of notes—was the signal failure of the English to assimilate the native population. To use his own words: "After eighty years of domination the line of demarcation between the Maltese and the English, their masters, is as sharply defined as on the first day." The greater

De Palerme à Tunis. By PAUL MELON. Paris, *Plon, Nourrit & Cie*, 1885. 212 p., illustr. 12°.

part of the book, however, is devoted to a description of Tunis and neighboring towns. Of course whatever a Frenchman writes about such a recent acquisition as Tunis must be received with caution, and much that is here said about the Roman ruins is probably exaggerated. The old Phoenician Carthage has entirely disappeared, and of the Roman town but little remains. Utica, too, is no more to be seen, and, in fact, the province of Carthage—once the granary of imperial Rome—is little more than a desert. Still as our author says: "Although there is scarcely a vestige of Carthage remaining, its site alone attracts the tourist to the top of the ancient Brysa." In conclusion, it may not be amiss to point out that the traveller who designs visiting Tunis for the sake of viewing eastern barbarism would better bestir himself, as the French are reported to be improving the place in the true Parisian fashion.

GEOGRAPHICAL NOTES.

A DISCUSSION of the hydrographic observations made on the expedition of 1883 to Greenland seas has been published by Nordenskiöld and Hamberg in the Proceedings of the Royal geographical society. There are numerous water sections; and the discussion is of much value and interest for the hydrographer, but too extensive to summarize here.

During the past summer, Captain David Gray, the well-known whaler and explorer, visited the east coast of Greenland at a high latitude. The floes extended this year very far west from Spitzbergen, at least 180 miles at Prince Charles Foreland. In latitude 74° the edge was in longitude 14° W.; and in latitude 71°, in 16° W. In August he sailed along the coast from Shannon Island to the entrance of Scoresby Sound, a distance of three hundred miles, sometimes in sight of the land-water, and sometimes farther off. On the Liverpool coast he passed between the land-ice, but found no whales. The land-ice was sufficiently open for a steamer to have forced her way through it, which is very rarely the case so early in the season.

The Danish expedition to east Greenland has returned to Copenhagen after an absence of twenty-nine months. The latitude reached was 66° 8′, about forty miles farther north than Nordenskiöld's vessel attained in 1883. There have been no casualties, and the health of the party is excellent. Many photographs and interesting ethnological objects were brought back. Lieutenant Holm, commanding, considers that it is now settled beyond a doubt that no early Scandinavian remains occur on the east coast.

'Island, land und leute, geschichte, litteratur und sprache,' by Dr. Ph. Schweitzer, has been published by W. Friedrich in Leipzig. There has been no complete work on Iceland in the German language hitherto; but the present one does not seem in all respects satisfactory, and parts of it are characterized as unscientific and fanciful by German critics.

A very useful and complete atlas of Russia has been prepared by J. Poddubnyi, and published by A. Deubner, St. Petersburg, under the title of a 'Russian school atlas,' at the small price of one ruble. It would seem to be far more than an ordinary school atlas in the sense commonly understood, and to be well worthy a place in the library of all interested in geography; being full of maps showing meteorology, distribution of races, religions, etc., and many diagrams.

J. Hughes and F. Dunsmuir have returned to Juneau, Alaska, from the head waters of the Yukon. They descended the Lewis branch to the Salmon River, which was ascended to its head waters. Good placers were found on the bars. Some twenty prospectors will remain in the region all winter. They were said to average seven or eight dollars a day per man in gold dust. These diggings are mostly in British territory.

News from the whaling fleet to Nov. 3 states that one hundred and seventy-four whales had been taken. No further casualties are reported, and the vessels are beginning to arrive at San Francisco.

Lieutenant Allen and party of the Copper River expedition, now returned, are said to be seriously affected by scurvy, due to their privations.

The revenue cutter Bear, formerly of the Greely relief expedition, has sailed from New York for the western coast, where she will be employed in Alaskan waters on revenue duties, and to assist disabled vessels of the whaling fleet during the season. She will hardly reach San Francisco before February, 1886.

Lieutenant Greely is in Scotland, the guest of Lord Roseberry, and is to deliver an address before the Scottish geographical society Nov. 19. His health is said to be improving.

Dr. Stejneger of the national museum has an illustrated article on the Commander Islands, containing much of interest, in the last number of the *Deutsche geographische blätter*.

ASTRONOMICAL NOTES.

Spectral analysis of atmospheric elements. — M. Janssen announces (*Comptes rendus*, ci. 649) that he has taken up the special study of the absorption spectra of gases, mostly those composing