Remesal (Madrid, 1619), libro xi., cap. xviii.–xx., pp. 720–733, a province 'el Manché' mentioned as one of the provinces of Vera Paz, the Indians of which were converted in the years 1603 and 1604. Mr. Maudslay's map contains the Rio del Manché, an eastern tributary of the Rio Sta. Izabel, which latter, in its lower course, is called Rio de la Pasion. The province of Manché must evidently have been situated on the river of the same name, to the north of the village Cahabon, which was the starting-point of the Padres for their trip of conversion, as Remesal states.

Whether the name of this province, 'Manché,' has any connection with the word 'Menche,' as Mr. Rockstroh says the ruins on the Usumacinta (separated by a mountain chain from the central part of the Peten district) have, remains to be seen.

In regard to the notice in the same number and on the same page of *Science*, 'Explorations in Guatemala,' I beg to add, that the ruins of Tikal had been discovered in February, 1848, by Mr. Modesto Mendez, corregidor of the district of Peten, and by the gobernador Ambrosio Tut. Mr. Hesse, minister of Prussia in Central America, published the report of Mr. Mendez, dated March 8, 1848, in vol. i. of the 'Zeitschrift für allgemeine erdkunde' (Berlin, 1853, pp. 162–168), and added some general remarks, and two plates which he had carefully copied from Mr. Mendez's drawings. These plates contain the illustrations of four sculptures (in wood) and five monoliths discovered by Mr. Mendez in Tikal, and those of four monoliths discovered by him in 1852 in Dolores, — another town with ruins, to the south of Tikal, in the same district of Peten. The chairman of the Royal geographical society is therefore mistaken in stating (p. 203 of the Proceedings) that the ruins of Tikal were described for the first time by Mr. Maudslay.

The report of Modesto Mendez is mentioned by Mr. A. F. Bandelier in his Bibliography of Yucatan and Central America, in 'Proceedings of the American antiquarian society,' 1880, p. 92.

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Barn-owls in Missouri.

In *Science* for Jan. 11 the occurrence of the barn-owl in southern Ohio in unusual numbers the present winter is recorded. The same fact has been noticed here. Four have been caught in the city in as many different buildings, and a number took up their habitation in an unused chimney in one of the principal residences in the city. Another was killed a few miles out. They are so unusual here that no one knew what kind of owl they were when the first was captured.

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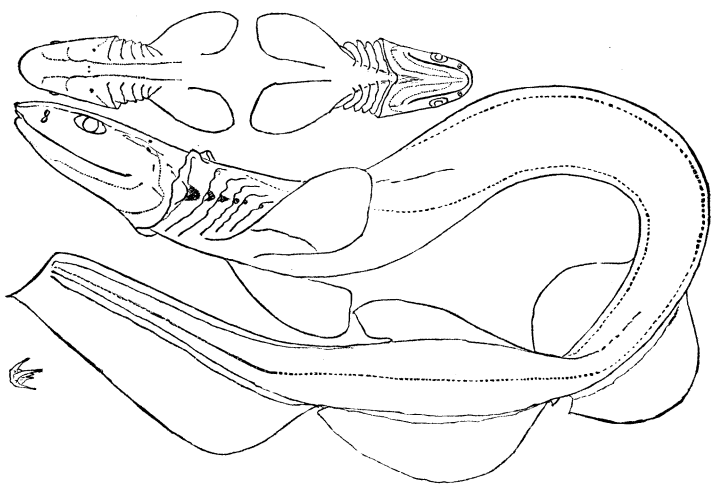
A PECULIAR SELACHIAN.

THE outlines given here are taken from a shark recently discovered in Japanese waters. It is a form of more than ordinary interest on account of the respects in which it differs from the majority of its kindred. 'Is it a sea-serpent?' is asked by all who see it. Those who believe in the existence of the ocean monster may certainly derive some encouragement from the discovery. About the throat the appearance is decidedly fish-like. The body is long and slender, five feet in total length, and less than four inches in greatest diameter; it becomes compressed and thin toward the tail. The head is broad, slightly convex on the crown, and has a look about it that reminds one of some of the venomous snakes. The mouth is anterior and very wide. As in other sharks, the teeth are arranged in rows across



CHLAMYDOSELACHUS ANGUINEUS.

the jaws; they are all alike. Each tooth has three slender, curved, inward-directed cusps, and a broad base, which extends back in a pair of points under the next tooth, thereby securing firmness, and preventing reversion. In the twenty-eight rows of the upper jaws, and twenty-seven of the lower, there are three times as many rows of the fangs or cusps. Of the six gill-openings, the anterior are very wide. Unlike other Selachians, in this the frill, or flap, covering the first opening is free across the isthmus, as in fishes, and hangs down about an inch. On the body the slime-canals — shown by the dotted lines in the sketch — form continuous grooves, as if the skin had been cut with a sharp knife; they extend to the extreme end of the tail. The spiracles are so small as to be useless; but, being present, they point toward an ancestor, a bottom-feeder, in

which they were more developed. In the nearly vertical nostril there is a peculiar arrangement. A fold reaching out from each side divides the opening into two, connected within, the upper of which looks forward, and, when moving ahead, catches the water, and turns it into the nasal cavity to pass over the membranes and escape by the lower aperture, which looks backward. Nictitating membranes are absent. The eyes are placed to look sidewise and downward. Above the anal fin, there is a small dorsal. The pectorals are of moderate size. Ventrals, anal, and caudal are large. From these fins, if it were not for lack of firmness toward the edges, one would conclude the animal was capable of great speed. However, taking into consideration the size of the branchial apertures — which allow the water entering the mouth free escape, whatever the rate of motion — and the position of the large fins, it seems as if the creature had the habit of bending the body and striking forward to to seize prey, as do the snakes. The broad fins, so far back on the body, secure a fulcrum from which to strike. At their margins the fins are very thin, and their extremities are produced in a sort of filament. The structure of the jaws and gill arches is such as to admit of swallowing a large object. At the same time the excessive sharpness of the teeth, and the smallness of the intestine, indicate that the prey is comparatively soft. The vertebrae and other cartilages are flexible, as those of the basking sharks Selache and Somniosus. A certain embryonic appearance in the specimen instigated a search among the fossils for allied species. Most resemblance was found in the teeth of Cladodus of the Devonian; but the cusps were erect instead of reclining, and the enamel was grooved or plicate instead of smooth. One is impressed by a study of this specimen with the idea, that, away back in times when Selachia and fishes were more alike, he would have a better chance to trace the affinities. The Bulletin of the Essex institute, vol. xvi., contains description and figures under the name Chlamydoselachus anguineus. I am inclined to consider this the type of a new order, to which the name Selachophichthyoidi might be given, and which stands nearer the true fishes than do the sharks proper. The shark was secured in Japan by Professor Ward, from whom it was purchased by the Museum of comparative zoölogy.

The sketch on the preceding page gives the entire outline, the upper and lower views of the head, and an upper view of one of the teeth.

S. GARMAN.

THE RUSSIAN METEOROLOGICAL SERVICE.

ALTHOUGH the idea that Russia is behind the other powers of Europe in civilization is true when we consider the people as a whole, yet, if we look at what has been done by the Russian government for the encouragement and advancement of science, it must be admitted that Russia plays a very important part in the total amount of scientific work accomplished by the world.

The Russians have the best astronomical observatory in the world: they have also the best meteorological observatory. The magnetical studies have been made in connection with the meteorological; and in the observations, as well as the theoretical discussions, we find the same men engaged, and the results are published side by side. In speaking of the meteorological work, one is forced, then, to at least mention the magnetical, on account of this close connection.

The Physical central observatory at St. Petersburg was founded in 1849 through the endeavors of Kupffer. The aim of this observatory was to institute physical observations and research in general, and to advance Russia in the line of physics; and, as part of the latter task, the conducting and publishing of meteorological and magnetical observations was undertaken.

So it will be seen that this observatory was not intended merely as a central office for a meteorological service; but it was to become a physical laboratory, where all sorts of physical investigations could be undertaken, and in such a manner that nothing more could be desired, that is, as far as apparatus and methods employed are concerned.

The first director, Kupffer, separated as much as possible the two departments of the observatory, as his publications show. His researches into the elasticity of metals, published in 1860, which were cut short by his death, show the nature of the purely physical investigations undertaken by him. He published an enormous mass of meteorological material in the *Annales de l'observatoire physique central*, 1847–64; also in the *Correspondance météorologique*, commenced in 1850.

In seven places hourly observations of the meteorological elements were instituted, and in six places of the magnetical elements. These and many of the observations from other stations, made a certain number of times a day, were published.

In speaking of this material, Professor Wild