

the mines with the Atlantic Ocean, the ore can be delivered in England as cheaply as any supplies now available on a large scale. Another important subject to be discussed is the action of explosives on the tubes of steel guns, as to which Professor Roberts-Austen, C.B., of the Mint, will read a paper based on important recent experiments, while the proper composition of steel rails, which will also be debated, will be of unusual importance, in view of the inquiry by the departmental committee of the Board of Trade. Several other papers of a more highly technical character will be considered, while the hospitality to be offered to the visitors will include a reception by King Oscar at his summer palace, and a banquet by the Association of Swedish Ironmasters. Dr. H. S. Lunn has specially fitted up the steam yacht *Argonaut* to convey the members to Sweden, and she will serve as a floating hotel during their stay.

IN introducing an article on 'The Species, the Sex and the Individual,' by Mr. J. T. Cunningham, the editor of *Natural Science* makes the following remarks: "With reference to this paper Mr. Cunningham has given us the following information, which we have verified. The paper was written at the beginning of 1897, and after some time was submitted to the Zoological Society, but not accepted, even for reading, on the ground that the Society did not usually publish papers of a theoretical and controversial character. The manuscript was then sent to the Linnean Society, where it was read on May 6th of the present year, and a brief description of it was published in the report of the meeting in the *Athenæum* and in *Nature*. But this Society also refused to publish the complete paper, the alleged reason being the pressure of other papers and illustrations. It is due to Mr. Cunningham that these facts should be known, for on June 7, 1898, there was read before the Zoological Society a paper by Mr. L. W. Wigglesworth, containing conclusions as to sexual dimorphism very similar to those of the present paper. In particular, as published abstracts show, the author maintained that secondary sexual characters in birds were due to the stimulation of parts through use, or external violence, or irritation. So much for

Mr. Cunningham's title to priority. As for the refusal to publish his paper we understand that the Zoological Society has equally refused that favor to Mr. Wigglesworth, although he was more fortunate in having his views placed before a meeting and published in abstract. There is a general feeling among those who hold views opposed to the current strictly Darwinian notions that they cannot get fair play from our learned societies. It is a pity that they should be able to adduce so many facts in support of this opinion, however erroneous the opinion itself may be."

UNIVERSITY AND EDUCATIONAL NEWS.

THE corporation of Brown University has accepted the resignation of Dr. E. Benjamin Andrews as President, passing resolutions expressing appreciation of his services, and has elected a committee of six to choose his successor. Professor Benjamin F. Clark, A.M., has been made Acting President.

DR. W. WALDEYER, professor of anatomy, has been appointed Rector of the University of Berlin, for the coming year; Dr. von Lonnel, professor of physics, Rector at Munich, and Professor Luigi Luciani, the physiologist, Rector of the University of Rome.

THE vacancies in the fellowships of the Teachers College caused by the resignation of Dr. Cleveland Abbe, Jr., and Mr. E. B. Bryan, have been filled by the appointment of David R. Major, Ph. D. (Cornell), and B. B. Breeze, A. M. (Harvard). Mr. Breeze has been for the past two years assistant in the Harvard Psychological Laboratory.

MISS KATHERINE VON TUSSCHENBROCK has been appointed to a chair of gynæcology in the University of Utrecht. The University of Genoa has given its M.D. to Miss E. Bonomi, which is said to be the first time the degree has been given to a woman by an Italian University.

DR. GEORG KLEBS, professor of botany at Basle, has been called to Halle and is succeeded at Basle by Dr. Wilhelm Schimper, associate professor at Bonn.

THE position of instructor in histology at the Harvard Medical School is vacant. The appointment is an annual one with a salary of

four hundred dollars. The holder is expected to give twenty hours a week to the work of the laboratory, and to devote the remainder of the time to original investigation in histology or embryology under the supervision of the senior officers of the department. Applications should be addressed at once to Professor Charles S. Minot, Harvard Medical School, Boston.

DISCUSSION AND CORRESPONDENCE.

PRE-COLUMBIAN MUSIC AGAIN.

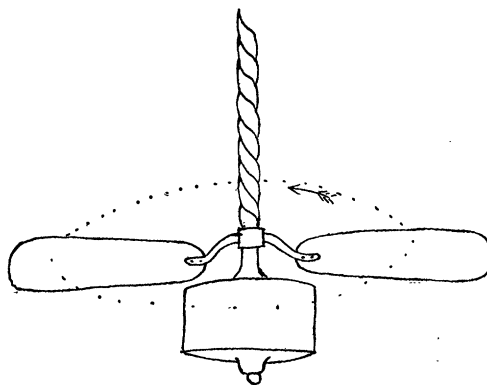
TO THE EDITOR OF SCIENCE: The question of pre-Columbian stringed instruments of music in America comes up again, this time from Carl Sapper, the distinguished geologist in Coban, Guatemala. He had learned of my former letter on the distribution of the musical bow and concedes with regard to the *Loltun Hool*, of the Mayas, that it was surely introduced from Africa, since the Kekchi call it *marimbadie*, or *caramba*. The same instrument is in use among the Xicaques, in Honduras, but they attach a *guacal* as a resonator. Dr. Sapper does not agree with me that the stringed musical instrument was entirely absent from the western hemisphere, for, says he, the Lacandones have a two-armed guitar, which he thinks not to have been borrowed. The Kekchi also, says Sapper, uses strings on the scraping instrument, called 'su.' This is entirely new to me. As to the double-necked guitar, Mr. E. H. Hawley says that they were common in Europe and may be seen in collections. These have the necks projecting from the same end and parallel or slightly diverging. The Fans have a variety in which the two necks start from opposite sides of the body. One example is made from the stem of a palm leaf 55 inches long. Four strings are cut from the outer skin, their ends being left attached. A little way from the middle a stick is set up perpendicular to the palm stem. On one margin of this are cut four notches or steps, about half an inch apart, to receive the strings. Braided bands of palm fibre encircle stem and strings, and by moving these the latter are tuned. Opposite the upright stick or bridge is tied an open gourd for resonator. I should be glad to receive descriptions of these Central American

instruments or drawings. Most of all, would I like to examine specimens. If by the scraped instruments Dr. Sapper means some modification of the notched fiddle, then he has found a prize, but not necessarily a pre-Columbian one.

O. T. MASON.

A CURIOUS OPTICAL ILLUSION CONNECTED WITH AN ELECTRIC FAN.

A CURIOUS illusion connected with an ordinary two-winged pendant fan, such as are commonly employed in restaurants, barber shops, etc., attracted my attention some years ago, and lately, upon my return to the same place, was just as evident as formerly. Very much at a loss for an explanation, the phenomenon was described to one of our leading psychologists and educators, but no satisfactory explanation was obtained. Hence, it is supposed that possibly the phenomenon has not been noticed by others, and is described here for the benefit of those concerned and with the hope of drawing out similar observations by others.



The illusion consists in the fan appearing to rotate in the opposite direction from the real one. Sitting some thirty feet away and looking at the fan, which is moving at a moderate speed, it is plainly seen to be moving in the direction opposite to that of the hands of a watch. The plane of rotation appears to be horizontal. But as one continues looking the vanes suddenly seem to move in the opposite direction and the plane of rotation to change so as to incline towards the observer. The change is under the control of the will and may