solution of which will determine the status of hypnotism, of suggestion and of other varieties of mental states, is the problem of the subconscious and its relation to the ordinary form of mental action. Dr. Grasset's solution of this problem, or rather his attitude towards it, is not helpful. His discussion thereof is more like a logomachy than a psychological analysis, and his use of his favorite diagram decidedly illogical. He accepts the hypothesis, now current in such diverse forms, of two separate forms or types of psychic expression; by the letter *O* he designates the superior form of psychic action or the highest center; the *O* stands at the apex, and dependent thereon and with connections between them, are the members of the group of inferior psychic centers arranged in the form of a polygon. By this painfully artificial representation the words 'polygonal' and 'suspolygonal' become synonymous with subconscious and subvoluntary sources of action. We read of the 'dissociation of the polygon' of the individual, of 'polygonal spontaneity,' of 'polygonal patients or maladies' and other confusing and absurd expressions. This type of logicality is hardly pedagogical. It must also be added that the author's attitude towards many other questions of fact and interpretation are far from commendable. His reference to the independence of the action of the two hemispheres of the brain as proven by the phenomena of hypnosis, and his acceptance of questionable hypotheses in regard to the nervous substrata of hypnotic behavior, are instances in point. His entertainment of the hypothesis of telepathy and clairvoyance —though he believes that neither of these is proven—suggests weakness of grasp of their status, rather than judicial toleration.

The author's main positions are these: that there is a real hypnotic state, distinct from suggestion, marked by independent physical signs as well as by increased suggestibility; that the source of this state is in the dissociation or disaggregation of the subconscious psychic mechanism; that though normally the higher and lower psychic centers act in complexly coordinated, unified manner, in abnormal states—of which hypnosis is one great type—they act separately; that hypnosis does not present sufficient analogies to sleep or to any normal mental state to be affiliated with it or interpreted by it; that a significance may be given to spiritistic or mediumistic phenomena analogous to the various states and types of hypnosis; that the phenomena of normal suggestion, which in the conception of the Nancy school is made almost synonymous with the acquisition of ideas, are not truly analogous to the increased suggestibility characteristic of the true hypnosis. These are all debatable positions that yet await a more competent master to set forth their bearing and value for experimental psychology. Dr. Grasset contributes something of value to the consideration of these positions, but not what one has a right to expect of a volume that is presented as authoritative in character. It only remains to add that there are the usual chapters upon the medical and legal aspects of hypnotism, and interesting, though somewhat prolix and not properly systematized presentation of the facts of hypnotism, and a better index than the average of French books offers. It is to be hoped that the further volumes of this series, the contributors to which include a few American names, will meet a higher standard. The ten volumes already published give the impression of very unequal care in their preparation and merit in their authors. Some of the volumes are distinctly commendable. May the rest prove to be so!

J. J.

SCIENTIFIC JOURNALS AND ARTICLES.

The Plant World for April contains the fifth of the 'Extracts from the Note-Book of a Naturalist on the Island of Guam,' by W. E. Safford. 'Monocotyledons or Dicotyledons,' by J. Arthur Harris, calls attention to the fact that there are some plants whose position in this respect is very puzzling, and briefly discusses the question which of the two forms is the older. George V. Nash describes 'The Palm Collection at the New York Botanical Garden,' and there is much of interest in the section on 'The Home Garden and Greenhouse.'

Bird Lore for March–April has the story of 'A Sierra Nighthawk Family,' by Florence M. Bailey, and of 'A Family of Barn Owls,' by Thomas H. Jackson; an important brief article on 'The Heath Hen in New Jersey.' Anna Head describes the 'Nesting of the Ruby-crowned Kinglet' and Frank M. Chapman gives the third paper on 'How to Study Birds,' this being devoted to the nesting season. There is the third series of portraits of *Bird Lore's* Advisory Councilors. There are the customary notes, reviews and reports of the Audubon Societies, from which we learn of the spread of bird protection in various states.

SOCIETIES AND ACADEMIES.

PHILOSOPHICAL SOCIETY OF WASHINGTON.

The 567th meeting was held on April 11, 1903. Professor Marvin exhibited a seismograph sheet showing a slight earthquake wave on March 15. Professor Gore described the 'International Bibliography of Mathematics' now published at irregular intervals in card form. Thus far eleven sets of one hundred cards each have been published.

Professor T. J. J. See, U. S. Navy, read a 'Historical Sketch of Olaus Roemer, the Discoverer of the Velocity of Light.' Roemer was one of the greatest scientific geniuses, ranking with Aristarchus of Samos, Archimedes and Hipparchus, among the ancients, and with Galileo, Newton and Bessel, among the moderns. As almost all of his observations were consumed in the conflagration which destroyed a large part of Copenhagen in the year 1728, his memory has been greatly neglected. Yet it was Roemer who invented all the principal instruments of the modern observatory—the meridian circle, the prime vertical, the altazimuth and the equatorial telescope. He lived very much in advance of his age.

The discovery of the velocity of light in 1675 was treated at length. It was made from the eclipses of the first satellite of Jupiter. Most of Roemer's contemporaries rejected his theory of the finite velocity of light, or adopted it only after long years had elapsed. The French men of science were slower in accepting the new idea than men of science in other nations. Huygens and Newton adopted Roemer's results, while Fontenelle, the perpetual secretary of the Paris Academy of Sciences had even gone so far as publicly to congratulate himself on escaping the seductive error of believing in the gradual propagation of light! Roemer gave eleven minutes for the equation of light (time in coming from the sun to the earth), but Newton reduced the value to between seven and eight minutes. The true value found by the classic researches of Michelson and Newcomb is about 8.4 minutes, to which Newton's was a close approximation.

The speaker said that with the exception of the discovery of the law of gravitation, no sublimer discovery than that of the velocity of light had ever been made. Notwithstanding the incredulty of others, Roemer had never wavered in his belief in this discovery, and the speaker said that it paved the way for the investigation of the velocity of electricity, which had been found with much accuracy.

Roemer was born in 1644 and died in 1710, all of his life except nine years being spent in Denmark. He met Picard when he came to Denmark to determine the position of Tycho Brahé's Observatory in 1671, and the following year returned with him as his assistant, and spent nine years at the Paris Observatory, just started under J. D. Cassini. Picard was much the best astronomer of his age, but had been set aside by the government of Louis XIV., and a foreigner, Cassini of Bologna, called to be superintendent of the Royal Observatory at Paris. This circumstance injured astronomy in France for many years. Roemer's association with Picard was fortunate, as this gave him the best ideas of the times, though his own genius was even greater than that of Picard, who had acquired an imperishable reputation by measuring the arc of the meridian used by Newton for verifying the theory of universal gravitation in 1685.

A picture of Roemer was exhibited, kindly sent by Professor T. N. Thiele, director of the Royal Observatory of Copenhagen. This showed a striking resemblance to Newton.