suggesting at once comparisons with childhood and the phenomena of genius, is the marked alternation of intense activity and complete repose—activity measured by hours, intervals of rest measured by days. Equally noteworthy is the rapidity of change from one state to the other. According to Dr. McGee, "the Seri are at once the swiftest and the laziest, the strongest and the most inert, the most warlike and the most docile of tribesmen; and their transitions from rôle to rôle are singularly capricious and sudden" (p. 156). This throws a new light upon the question of savage laziness and hints how unfair some of the earlier writers have been in picturing primitive man as uniformly inert. This essay is emphatically a valuable addition to the scientific literature about primitive man. The appearance of the author's companion study of the Papagos will be awaited with great interest.

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Verhandlungen der deutschen Zoologischen Gesellschaft auf der zehnten Jahresversammlung zu Graz, den 18 bis 20 April, 1900. Im Auftrage der Gesellschaft herausgegeben von Prof. Dr. J. W. Spengel, Schriftführer der Gesellschaft. Mit in den Text gedruckten Figuren. Leipzig, Verlag von Wilhelm Englemann. 1900. Pp. 170. Preis M. 6.

The most important matter brought before the tenth meeting of the German Zoological Society at Graz was the report of Professor Franz Ellhard Schultze, editor-in-chief of *Das Tierreich*. The year preceding the report witnessed the publication of several sections of this great work upon systematic zoology, the most notable being that of Labbé upon the 'Sporozoa' and that of Michaelson upon the 'Oligochæta.' That substantial progress will be made in the near future is seen in the fact that the following manuscripts were ready for the press: 'Hydrachnida' by Piersig, 'Halicarida' by Lohmann, 'Nemertina' by Bürger, the first division of the 'Amphipoda' by Stebbing, the 'Palpigrada' and 'Solifuga' by Kraepelin, the 'Libytheida' by Pagenstecher. The following sections are now in the process of editorial revision: calcareous sponges by Breitfuss, the second division of the 'Copepoda' by Giesbrecht and Schmeil, the second division of the 'Decapoda' by Ortmann, the first division of the 'Formicida' by Emery, the 'Pneumonopoma' by Kobelt, the 'Rodentia' by Trouessart, the 'Rhizopoda reticulosa' by Rhumbler, and the first division of the 'Apida' by Friese.

To insure prompt publication of the accumulating manuscript is a problem for whose solution the recommendation is made that a competent 'Superreviser, Secretar, and Bureauchef' be appointed to assist the editorial bureau in the laborious work of securing uniformity in matters of terminology, nomenclature and bibliography, and to maintain the unity of this monumental work which the German society has undertaken. Arrangements were consummated whereby in the future the *Tierreich* will be issued conjointly by the Society and the Royal Prussian Academy of Sciences, as will be shown by the title page of future issues.

The principal address of the session was given by Professor Karl Heider on 'Das Determinationsproblem,' a masterly review of the whole subject of experimental morphology. In a second paper Professor Heider calls attention to a new and strange genus of trematodes parasitic in the dolphin. This new type, *Braunina*, is peculiar in possessing a pedicel and a mantle developed to a degree hitherto unknown in the group, while suckers are entirely lacking.

Herr Künkel has investigated the capacity of *Limax* for the absorption of water which enters the body not only through the mouth, but also through the skin by absorption. The volume of the slug may be increased by this process as much as 209% while the specific gravity is correspondingly decreased and feeding activities are suspended until the water is reduced. The consumption of oxygen in respiration was studied and the rate of exhaustion of the air was found to be 0.36 ccm. per hour for each cubic centimeter of the slug's body. The respiratory process is carried on not only in the air-chamber, but also on the surface of the body.

Dr. Hans Rabl finds no evidence to support the ectodermal origin of the pigment cells in embryos of cephalopods. From their first

appearance the chromatophores are found *only* in the mesoderm. They are single cells with a single large nucleus, appearing to be multi-nuclear only when in degeneration they are invaded by adjacent connective-tissue cells. The author explains the expansion of the cells by the contraction of the radial fibers around it and its contraction by the elasticity of the cell membrane.

Other papers are by Herr Thon on 'The Copulatory Organs of the Hydrachnid Genus *Arrhenurus* Dugès'; by Dr. Doflein on 'The Inheritance of Cell Characteristics'; by Dr. Simroth on 'Self-Fertilization in Pulmonates'; by Dr. Escherich on 'The Germ Layers in the Muscidæ'; and a history and description of the Graz 'Zoologisch-zoolomische Institut,' by Professor L. v. Graff.

The excursion of this session was made to the Austrian Zoological Station at Trieste founded twenty-five years before, largely through the efforts of Professor F. E. Schultze. Since the retirement, in 1896, of Professor Carl Claus, director of the station for many years, the control of the enterprise has been in the hands of a board representing the leading Austrian universities. With the change has come renewed activity, an enlarged building and increased equipment.

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A Select Bibliography of Chemistry 1492–1897. By Henry Carrington Bolton. Section VIII. — Academic Dissertations. City of Washington: published by the Smithsonian Institution. 1901. Pp. iv + 534.

This volume—number 1253 of the Smithsonian Miscellaneous Collections—is the third in Dr. Bolton's 'Bibliography of Chemistry.' It is devoted exclusively to those academic dissertations which have been printed independently, and especially to those from the universities of France, Germany, Russia and the United States. The number of the last is exceedingly small, for it seems not yet to be the custom of most American universities to require the printing of theses for the doctor's degree, although much of this work finds its way sooner or later into periodical literature. About seven thousand dissertations are catalogued in the volume, about four-fifths of the titles being German, and a large share of the remainder French.

The reviewer has been interested in tabulating the results of an examination of sample pages, scattered uniformly through the book. From this it appears that nearly five thousand of the dissertations are from German universities, slightly more than a thousand from French, and perhaps seven hundred and fifty from the Swiss, schools. Of the German universities, Erlangen, Berlin, Göttingen and Leipzig stand first, each furnishing about five hundred titles, while Freiburg and Heidelberg stand considerably lower, and are not very closely followed by Rostock, Tübingen, Jena and Würzburg. Of the Swiss universities, Zürich furnishes about as many titles as Rostock, and Berne as many as Jena. More than half the French dissertations are from l'École de pharmacie de Montpellier, most of the remainder being from Paris and from l'École de pharmacie de Paris, those from the latter being rather more in number than from the former. One hundred and thirteen titles are in Russian, and perhaps nearly as many more are from the University of Dorpat.

This glance reveals to us the position which Germany occupies in the teaching of chemistry, and, if the dissertations of the last few years alone were considered, it would be found that France stands much lower than is shown by the figures above.

Dr. Bolton will receive the thanks, especially of all chemists who are engaged in research, for this addition to his many valuable contributions to bibliography, for it affords access to a very important field of chemical literature, which, for want of an index, has hitherto been practically closed. The original dissertation is often of far more value to the investigator than the re-edited work which appears in the journals. The value of this book is still further increased by reference to those dissertations which are in the libraries of the Geological Survey and of the Smithsonian Institution; and also—this would certainly be missing in no book of Dr. Bolton's—by a very complete index, which fills ninety double-column pages.

While this volume completes the undertaking