In a short discussion which followed, Prof. Forsyth said it was desirable that they should not hurry changes. It did not lie with the public schools or the preparatory schools to make changes. There was a vast body of teachers in the small schools, but the great difficulty was to get at such teachers and induce them to adopt new methods. The report was adopted.

AMONG the many interesting papers read at the conference of the Froebel Society and the Child-Study Association on Saturday was one by Dr. W. B. Drummond, of Edinburgh, who dwelt upon the preparation for child-study as a piece of proper scientific investigation carried on according to modern methods. He laid down that a course of training in biology, that is to say, in the practical study of plants and animals, was the first essential to success. His reason was that the observations made on children are in reality part of biology. Next a course of psychology should follow, and then one in methods of education, for many of these have been based upon an intimate acquaintance with the ways and needs of children. He pointed out how advantage was taken of the peculiarities of the child mind in the Bible, and instanced the setting up of the twelve stones from Jordan so that when they had aroused the curiosity of the children, and this had been satisfied, the monument would always be a reminder to them of the crossing of Jordan as on dry land. The educational results of many celebrations, customs and games which we are ourselves familiar with were touched upon, though it was pointed out that these were not always intentional at the beginning. The danger was pointed out of asking children ill-considered questions which might excite their imagination in a way detrimental to them, or which by suggesting an answer or confusing the young persons might defeat the object of the experiment. During the course of the paper, the characteristics of primeval man were touched upon, as indeed they had been previously during the conference, and in the concluding discussion, Mr. Lewis Paton, head-master of University College School, expressed the opinion that much light could be thrown upon the ways of boys by a study of savages. Another and possibly more serious point was that he found by the time his pupils had reached the age of nine and came to him, their characters were formed or more often deformed, and this is a very strong argument for the advancement of child-study.

AN article by Sir William Ramsay, in the January number of *East and West*, deals with the recent Report of the Indian Universities Commission, and contains several suggestions which ought to be read by all who are interested in the aims and character of university education. The commissioners had not the courage of their convictions, for after forming an accurate conception of the function of a university, they refused to act upon it and accepted old ideals as offering the path of least resistance for the universities of India to follow. As regards the government of the universities, Sir William Ramsay shows that the commissioners could have found abundant precedent for a recommendation that a small number of persons, not exceeding ten, should have been given control of the funds of the university, leaving to the teachers—that is, heads of departments—the entire management of academical affairs. The large number of colleges—many of them really secondary schools—in so-called affiliation with Indian universities presents a difficulty, but the suggestion is put forward that it could be overcome by making the B.A. and B.Sc. degrees, or the former only, equivalent to a leaving examination for secondary schools. Students who wished to pursue their studies would do so at the universities. There would thus be a separation of the college from the university, as in the United States, where numerous colleges give the degrees of A.B. and S.B., and the students afterwards proceed to such places of post-graduate study as the Johns Hopkins University or the university side of Harvard. Some American universities have both college and university sides, but the students in the latter are those proceeding to higher degrees. As to the objection that unless external examiners are called in the examination for degrees by colleges could not be contemplated, Sir William Ramsay urges that the teacher ought to be trusted to gauge the capacity of his students, though it would be advisable for him to act in conjunction with an external examiner for all the colleges to secure uniformity of standard. Finally, he remarks:—"The true prosperity and success of colleges and of universities in training men for their later careers, and in creating and disseminating knowledge, depend on the observance of two fundamental maxims:—First, choose for professors men who have made some reputation and are engaged in active prosecution of research; second, give such men a wide liberty in dealing with their subjects and with their students. Where these maxims have been acted on, university education has been a conspicuous success, and the creation and progress of knowledge have been maintained. May India see fit to adopt and practise these maxims."

SCIENTIFIC SERIALS.

American Journal of Science, January.—The morphogenesis of Platystrophia. A study of the evolution of a Palæozoic brachiopod, by E. R. Cumings.—On ruling concave gratings, by W. Rollins. It has been shown that the Rowland concave gratings give false spectral lines so sharp and clear that there is probability and some evidence that they have been mistaken for real lines. The cause of this is examined, and suggestions are made for a new design of ruling machine in which these defects are overcome. The machine has not yet been constructed.—The variations of potential along a wire transmitting electric waves, by C. A. Chant.—Rickardite, a new mineral, by W. E. Ford. The mineral occurs in the Good Hope mine at Vulcan, Colorado, and consists of a nearly pure copper telluride, Cu_4Te_3.—On the occurrence of free phosphorus in the Saline Township meteorite, by Oliver C. Farrington. The phosphorus was noticed on drilling a hole into the meteorite for the purpose of breaking off a piece, and was proved to exist in the free state by its smell, luminosity, action on silver nitrate and conversion into ammonium phosphomolybdate.

Bulletin of the American Mathematical Society (2), ix., No. 3 (December, 1902).—W. B. Fite, commutator subgroups of groups whose orders are powers of primes.—L. I. Hewes, note on irregular determinants.—G. O. James, on the projections of the absolute accelerations in relative motion.—E. P. Eisenhart, on infinitesimal deformation of the skew helicoid.—S. Epoteen, on integrability by quadratures.—E. B. Wilson, account of the Abel centenary.—Reviews: English and French translations of Hilbert's "Grundlagen der Geometrie" (E. R. Hedrick); Dickson's "Linear Groups" (G. A. Miller); Buckingham's "Thermodynamics" (E. H. Hall).—No. 4 (January, 1903).—F. Cajori, on series whose product is absolutely convergent.—L. E. Dickson, on the abstract simple groups of orders 504 and 660.—C. M. Mason, account of the Carlsbad meeting of the Deutsche Mathematiker-Vereinigung.

SOCIETIES AND ACADEMIES.

LONDON.

Anthropological Institute, January 13.—Dr. A. C. Haddon, F.R.S., in the chair.—Dr. C. S. **Myers** read a paper on the future of anthropometry. He suggested that the work in which anthropometry had hitherto been concerned, viz. the determination of the average metric differences between the various peoples of the world, must ultimately yield before improved methods and new problems. The frequency-distribution of any one character in a series of individuals must be studied with greater accuracy. The mean of the deviations of individuals from the mean of the whole series and the form of the binomial frequency-curve require to be determined both for relatively pure and mixed peoples. Frequency-curves will almost invariably show more than one point of maximal frequency. But before the usual inference is drawn that these several peaks represent heterogeneous elements in the series, care must be taken that the irregularities of distribution are not the result of examining an insufficient number of individuals. The future will see the precise investigation of the degree of correlation of various characters, the mode of inheritance of characters, the fertility and characters of cross-breds, and the effect of migration and evolution on mankind. Mr. Francis Galton, Prof. Karl Pearson and others have already made a start. Anthropometry has first to look for aid to the infant science of biometry, which can employ experimental and therefore simpler conditions. The whole study of natural history is passing from the descriptive to the quantitative aspect. In this, physical anthropology must join.