and the 'neolithic' stations were the same, while the stratigraphic relations of the deposits are inconclusive.

ARCHÆOLOGICAL SURVEY OF OHIO.

IN a neat pamphlet of 110 pages, reprinted from Vol. V. of the Ohio State Archæological and Historical Society, Mr. Warren K. Moorehead, Curator of the Society, gives a readable report of the field-work carried on in the Muskingum, Scioto and Ohio valleys during the year 1896. The exhibit is most creditable to his energy and judgment. The aim of his investigation is to produce a reliable archæological map of the State, and also to examine critically some of the most remarkable ancient monuments and to collect the art remains of the former inhabitants. In all these directions he has been quite successful. Nearly seven thousand monuments of the indigenous tribes have been located and mapped. A limited number have been carefully excavated, and the total number of specimens obtained runs up into the tens of thousands.

The report is illustrated with forty-five figures in the text of noteworthy mounds or valuable specimens, and much collateral information relating to them is inserted. One prominent advantage has been the educational influence of the survey on the population. It is gratifying to learn (p. 261) that there are now in Ohio 310 persons interested in its archæology! Can any other State equal this record?

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NOTES ON INORGANIC CHEMISTRY.

PROFESSOR MOISSAN and Professor Dewar publish in the *Comptes Rendus* further experiments on liquid fluorin. The boiling point is $-187°$; at $-210°$ it still remains liquid, showing no sign of solidification. The density was determined by suspending in it several different substances which are unacted upon; amber was found to rise and fall in the liquid, hence its specific gravity was 1.14. No absorption bands were found by the spectroscope, and between the poles of a powerful electromagnet it showed no magnetic phenomena. Its capillarity is less than that of liquid oxygen and only one-sixth of that of water. At $-210°$ it has no action on dry oxygen, water or mercury, but at this low temperature it still reacts violently with hydrogen, and even with the hydrogen in oil of turpentine. The explosive substance which in previous experiments they obtained when fluorin was led into liquid oxygen is not formed if oxygen is perfectly dry, and appears to be a hydrate of fluorin.

IN the *Pharmaceutische Zeitung* F. Sibbers, writing on the analysis of aluminum, claims that the proportion of silicon present is always underestimated, from the fact that when aluminum is dissolved in acid a considerable part of the silicon is evolved as hydrogen silicid and lost. The average amount of silicon usually found in aluminum is 0.3 %, but taking into consideration that which is lost in analysis the author considers that 0.6 % is usually present. As the presence of silicon is considered to be very detrimental to aluminum, these determinations of Sibbers deserve careful consideration.

DR. H. CARRINGTON BOLTON, whose Bibliographies of Chemistry and Scientific Periodicals have proved of so much value to chemists and other scientists, as well as to librarians, and who has done so much to throw light upon obscure points in the history of chemistry, has again put American chemists under obligation to him by a paper on 'Early American Chemical Societies,' which was recently read before the Washington Chemical Society, and now is reprinted from the *Journal* of the American Chemical Society. It appears that before

the end of the first quarter of the present century three chemical societies had been founded in this country, while the first chemical society of Europe, the Chemical Society of London, was not founded till 1841. Forty-nine years before this date, in 1792, the Chemical Society of Philadelphia was instituted. Its first President was Dr. James Hutchinson, and at his death he was succeeded by Dr. James Woodhouse, who was at that time professor of chemistry in the medical department of the University of Pennsylvania. Among the best-known members were Dr. Joseph Priestley and Robert Hare, the inventor of the oxy-hydrogen blowpipe. "The meeting of October 24, 1801, was made memorable by the appointment of a committee for the 'discovery of means by which a greater concentration of heat might be obtained for chemical purposes.'" On this committee was Robert Hare, then only twenty years old, and December 10th of the same year he reported, on behalf of the committee, his great invention. No memoirs were published by this Society, and how much longer it existed is a matter of conjecture. In August, 1811, the Columbian Chemical Society was founded, also at Philadelphia. It numbered sixty-nine 'Honorary' (regular) members, of whom thirty-one were Europeans, and thirteen 'Junior' (associate) members. Thomas Jefferson was patron; James Cutbush, President, and among the more distinguished members were Benjamin Smith Barton, Archibald Bruce, Joseph Cloud, Thomas Cooper, Robert Hare, James Madison, Benjamin Rush, Adam Seybert and Benjamin Silliman. The foreign members included the most distinguished chemists of England and France, and Proust of Madrid. No Germans were on the list, nor Berzelius. One volume of memoirs was published in 1813, now a very rare book. In his article Dr. Bolton gives interesting abstracts of the papers in this volume. September 6, 1821, there was founded at Delhi, New York, the Delaware Chemical and Geological Society, a local society of forty or fifty members, having 'for its object the improvement of the members in literature and science, especially in chemistry and mineralogy.' Considering "the limited facilities for acquiring chemical knowledge in the New World" (chiefly in the medical schools) "and the distance of amateurs from the European head-centers of learning, it is certainly noteworthy that American chemists combined to form associations for mutual improvement and the advancement of their calling at so early a period." The fourth chemical society in this country was the American Chemical Society, founded at New York in 1876, and broadened in its scope in 1892, until it now numbers 1,106 members, working in nine chartered sections, representing forty-seven States and Territories, and several countries of Europe, South America, and even Australia.

J. L. H.

SCIENTIFIC NOTES AND NEWS.

We record, with deep regret, the death at Philadelphia, on November 14th, of Dr. Harrison Allen, emeritus professor of comparative anatomy in the University of Pennsylvania.

The American Psychological Association will meet at Ithaca, in conjunction with 'The Naturalists' and affiliated societies, on Tuesday, December 29th, and the two following days, under the presidency of Professor J. Mark Baldwin, of Princeton University. It is intended to place papers on experimental and physiological psychology on the first day and on the final day papers having closer relations with philosophy. On Wednesday morning there will be a discussion on 'The Psychology of Invention,' which it is expected will be opened by Professor Josiah Royce, Harvard University; Professor John Dewey, University of Chicago, and Professor Joseph Jastrow, University of Wisconsin.

A committee of the American Chemical So-