INTELLIGENCE FROM AMERICAN SCIENTIFIC STATIONS.

GOVERNMENT ORGANIZATIONS.

Geological survey.

Geology. — According to Prof. L. C. Johnson, who has been at work on the geology of Alabama (in the southern part of the state), the tertiary boundary will have to be moved from six to ten miles north of the limits usually assigned it on the maps. The lignitic, a sub-Claiborne division of the tertiary, will therefore appear much extended northward (ten miles at Allenton, six at Camden, and seventeen at Butler Springs). Professor Johnson has collections of fossils to prove his position. He has also recently investigated the boundary-line between the rotten-limestone group and the Eutaw group of the cretaceous, and between the latter and the older formations, and has made large and interesting collections of mammalian and saurian remains from the southern part of Alabama, principally from Autauga county.

Prof. R. D. Irving, who is devoting his attention to the copper-bearing rocks of Lake Superior, reports, that, in connection with Professor Winchell, he has personally examined the quartzites of Nicollet and Cottonwood counties, Minn. One hundred and forty thin sections of rocks have been made, mostly of Huronian quartzites; and more than half of these have been examined, with the result of proving that the quartzites of the original or typical Huronian of Lake Huron, and of the Huronian regions of Marquette and the Menominee River in Michigan and Wisconsin, are fragmental rocks, and that they have never undergone any metamorphism other than that involved in the deposit of interstitial quartz among the clastic grains, of which they are in the main composed. Professor Irving has also begun a comparative study of the greenstones, cherts and flints, and jaspery iron ores of the various Huronian regions examined by him.

Prof. T. C. Chamberlin, who has charge of the morainic investigations in the eastern United States, has recently examined the border of the later drift, principally in Indiana, and subordinately in Ohio, and has completed the tracing of the line from the Scioto to the Wabash, and more fully demonstrated the peculiar association of the remarkable bowlder-belts of those states with morainic aggregations. Prof. J. E. Todd, one of Professor Chamberlin's assistants, has determined more exactly the character of the morainic loop in the vicinity of Alexandria, in southern Dakota. He also found in that neighborhood an exposure of the Sioux quartzite with glacial striae, the direction of which is in harmony with the previous observations. Professor Todd also examined the drift-bluffs in the vicinity of the Big Sioux River, where the loess comes in contact with the drift. In October, Mr. R. D. Salisbury, who is also assisting Professor Chamberlin, made a detailed and specific study of the border of the driftless area in Wisconsin, Minnesota, and Iowa. This had heretofore been examined only cursorily by various observers; and Mr. Salisbury made a critical and connected examination, which developed some interesting points, one of which is to give the outline a form more in harmony with the moraines of the later epoch that lie opposite it on either hand.

Chemistry. — Mr. Hillebrand, the chemist in charge of the field-laboratory at Denver, has been investigating the so-called basic sulphates from Leadville. They are an important constituent of the ore deposits of that region, and occur as a rule under the ore bodies, seeming to be a product of secondary decomposition of the original sulphuretted ores. They appear to be a mixture of the mineral jarosite and basic sulphate of iron with hydrated arseniate of iron, anglesite, and pyromorphite.

A short time ago Prof. F. W. Clarke, chief chemist of the survey, visited and examined the Gilmore mica-mine in Montgomery county, Md., about twelve miles north of Washington, and found it of remarkable mineralogical interest.

Publications. — A few advance copies of the third annual report have been issued without the complete set of illustrations. Besides the report of the director and the various administrative reports, it contains the following papers: Birds with teeth, by Prof. O. C. Marsh; The copper-bearing rocks of Lake Superior, by Roland D. Irving; Sketch of the geological history of Lake Lahontan, by Israel C. Russell; Abstract of report on geology of the Eureka district, Nevada, by Arnold Hague; Preliminary paper on the terminal moraine of the second glacial epoch, by Thomas C. Chamberlin; A review of the non-marine fossil Mollusca of North America, by Dr. C. A. White.

A monograph on the geology of the region adjacent to Golden, Col., by Mr. C. Whitman Cross, is almost ready for the printer.

Geographical field-work. — The following notes of the geographic work of the survey during the season of 1883 are furnished by Mr. Henry Gannett, chief geographer.

Appalachian division. — In the southern Appalachians, five topographic and two triangulation parties have been at work during the season, and are now about returning to the office in Washington. Prof. W. C. Kerr has been in charge of the triangulation. The area embraced in the survey was the mountain region of North Carolina, exclusive of that worked in previous years; the northern half of the valley of east Tennessee; the south-western portion of Virginia; and that part of West Virginia lying between the Kanawha and Big Sandy rivers. In addition to the territory thus enumerated, the western part of Maryland, and adjacent portions of West Virginia and Virginia, were surveyed.

The total area thus comprised will be not less than twenty thousand square miles for the season. Work in this region is necessarily difficult and somewhat slow, on account of the scarcity of salient topographical points, the thick growth of timber, and the heavy rainfall. The latter is a fact that is ignored on most of the rain-charts published during the past ten years.

This work will be published on a scale of four miles to the inch, with contours two hundred feet apart vertically.

Massachusetts division. — In July a survey of Massachusetts was begun, under the direction of Prof. H. F. Walling. In this work the triangulation of the coast survey and the old Borden survey, and the topographical work of the past, are being utilized wherever practicable. The maps will be comparatively detailed, as the published scale is to be two miles to the inch. It is hoped that the work may be completed in about two years. Thus far, during the present season, about two thousand miles have been surveyed, work having been begun in the western part of the state, and extended eastward from the high country as cold weather began to come on.

Rocky-mountain division. — Mr. Anton Karl has surveyed part of the Elk Mountains in Colorado, extending the map made by Hayden in 1874, and has also been engaged in re-surveying the Maxwell grant in northern New Mexico for the interior department.

Wingate division. — This division, in charge of Prof. A. H. Thompson, has its headquarters at Fort Wingate, N.M., and has been working in the plateau country, principally in north-eastern Arizona. Field-work was begun early in May, and is now practically finished for the season. One triangulation party and three topographic parties have been at work, and have surveyed twenty-two thousand square miles. The region they covered is one of the most dreary and desolate within the limits of the United States; and, when its arid condition and the difficulties of transportation through it are considered, it will be seen that this division has accomplished a remarkable amount of work.

California division. — Mr. Gilbert Thompson, who is in charge of this division, began work last year in northern California, and completed the survey of about four thousand square miles. This year the work was extended in all directions from Mount Shasta, reaching to the Coast Range on the west, and into the lava-bed country on the east and south-east. This region lies between the parallels 38 and 42, and meridians 121 and 123. Although the atmosphere was smoky a large part of the time, this division has had a successful season.

Division of the Great basin. — The topographic surveys in the Great-basin district have been confined mainly to detailed work for special maps illustrating Mr. G. K. Gilbert's investigations of the lake-basins of this region. The principal work done has been the securing of notes for a map of the drainage area of Mono Lake, and for a number of special maps of ancient moraines.

Yellowstone-park division. — Mr. J. H. Renshawe has just come in from the field. He has been engaged in work for a detailed map of the Yellowstone national park. He began work early in June, and has covered fifteen hundred square miles, making plane-table sketches on a scale of two inches to the mile. He also remeasured, at Bozeman, a base-line laid out by Wheeler's survey in 1877. Mr. Renshawe expanded this base-line last season, but was prevented from remeasuring it then by the weather.

In California Mr. John D. Hoffman has been carrying on the survey of the quicksilver-mines steadily for more than a year.

NOTES AND NEWS.

Last summer, at the Zurich meeting of the standing committee of the International geological congress, Professor Neumayr of the Vienna university presented, by request, a plan for the preparation of a 'Nomenclator palaeontologicus,' to be issued under the auspices of the congress. His project was well received, and only awaits final indorsement at the meeting of the congress next year at Berlin. The scheme contemplates the appointment of an editor-in-chief (for which post no better person than Professor Neumayr himself could be selected); an editing committee, under whose general supervision the work will be carried on; national collaborators, who are to give special assistance in the literature of their own country; and special compilers, to each of whom a particular section of the work will be confided, and who will be placed in special relation with some one member of the editing committee.

The work, when completed, will probably consist of fourteen or more large octavo volumes. The mollusks are expected to require at least two volumes; one each will be given to cryptogams, phanerogams, protozoa, coelenterates, echinoderms, worms and molluscoida, arthropods, and vertebrates; two volumes will be given to a systematic enumerator, and one to an alphabetical register.

The nomenclator proper will consist of citations of all species (the nominal species in special type) published in scientific works, in accordance with recognized rules, with their synonymes; and the citations will include, *a*, the first publication; *b*, later descriptions which have really advanced the paleontological knowledge of the species, particularly such as give for the first time a satisfactory illustration; *c*, the illustrations found in the best known and most widely circulated 'fundamental work.'

Critical notes and newly proposed names will not be admitted, and conventional signs will be avoided. Abbreviations in the citations will be so given as to be readily understood by every one possessing some knowledge of the literature; and, for serial publications, the use of those employed in the Royal society's Catalogue of scientific papers is recommended. The geological horizon and geographical distribution will be indicated, the former according to the scale of the congress. The language employed will be Latin.

The plan, as presented by Professor Neumayr, is excellently conceived, and, if carried out in the same spirit, will be an immense boon to paleontologists. But one minor criticism occurs to us: it seems a pity to perpetuate the awkward abbreviations employed in the Royal society's Catalogue, in which are too frequently violated the two cardinal rules of proper abbreviations, — the preservation of the order of words