obtained in their own words, over their own signatures. One can hardly over-estimate the value of the added enthusiasm which assistants will bring to their work under this method. Not only will they do more work, but it will be of a much higher quality; and the office in which they are engaged will be able at an early day to command the services of a corps of specialists instead of mere day-laborers. At the same time a large part of the work of each individual in an office of this kind must be merged into what shall go out as the work of the office. And it is not the assistants alone who suffer from this; for the chief must devote much attention to executive duties, which shorten greatly his time for study.

In this report there are two papers by Professor Forbes's assistants. The first is an important article on the gall-mites, by Mr. H. Garman. It deals with the general characteristics of structure and habits of the Phytopti, and includes descriptions of seven new species, and the cecidii of several species for which names are not proposed. Previous to this, but three species have been indicated by name in the United States. The second paper is by Mr. F. M. Webster, and is an excellent account of the angoumois grain-moth and its parasites. There is also an account by Prof. T. J. Burrill, of the habits of Agrilus granulatus, which he has found to be a destructive borer of the Lombardy poplar.

First annual report on the injurious and other insects of the state of New York. By J. A. Lintner, state entomologist. Albany, 1882. Senate doc. No. 93. (Issued October, 1883.) 381 p., 84 cuts. 8°.

After an interval of eleven years, we are again favored with a report of a state entomologist of New York. This first report by Mr. Lintner is a large one, and evidently represents a great amount of work. The first eighty pages are devoted to a history of American economic entomology, and a discussion of the more important insecticides now in use. Then follow accounts of thirty species of insects. Of especial interest among these are those of Polype laricis, Crambus vulgivagellus, and some species of Anthomyiidae. In an appendix there is a very complete account of the writings of Dr. Fitch.

INTELLIGENCE FROM AMERICAN SCIENTIFIC STATIONS.

GOVERNMENT ORGANIZATIONS.

Geological survey.

Paleontology. — During the field-season of 1883, Prof. W. W. Fontaine was detailed to collect and study fossil plants in Virginia. Late in July he began an examination of the tertiary strata in the vicinity of Richmond. Throughout the remainder of the season his field-work was continued on the mesozoic and tertiary of eastern Virginia, after which he was occupied in the preparation of drawings of the specimens collected.

Prof. L. C. Johnson, who has been working in the South Atlantic district, principally in Alabama, has returned to Washington after a most successful season. He is now engaged in unpacking and arranging the large collections that he secured during the summer and autumn. Several barrelfuls of material from the Claiborne group in Alabama were obtained; and the sorting of the extremely interesting collection included in them has kept him busy since his return from the field.

Mr. J. B. Marcou (assistant to Dr. C. A. White, in charge of the department of mesozoic paleontology) reports that a collection of very interesting fossils has been sent to the National museum from Skonum Point, British Columbia, by Mr. James G. Swan of Port Townsend, W. T. These fossils are being examined by Mr. Marcou, who says some of them are new, and that others are evidently identical with specimens from the coal-bearing rocks of Queen Charlotte Island, described for the Canada geological survey by Dr. J. F. Whiteaves in his 'Mesozoic fossils of Queen Charlotte Island.' Mr. Marcou says that the collection presents quite an oolitic facies.

Miscellaneous. — Mr. F. M. Pearson, topographer, who has been working in eastern Tennessee, says that the waste of valuable timber in that region, which has only recently ceased, is almost inconceivable. The finest specimens of walnut and cherry timber are found, and are used by the inhabitants for fence-rails, fire-wood, and other wasteful purposes. Since the survey has been working in the country, it has been instrumental in working a change in this respect, and the people are beginning to appreciate the value of their timber resources. Another result is, that the mineral resources are becoming known, and investments both in timber and in mineral properties are now being made where but a short time ago they would have been considered unprofitable.

Dr. Thomas M. Chatard of Baltimore has been appointed assistant chemist on the survey, and will be in the laboratory at Washington with Prof. F. W. Clarke.

Educational rock suites. — The survey proposes to collect suites of about one hundred representative rocks, to be used in teaching the elements of lithology. Two hundred specimens of each kind of rock will be

gathered; and they will be obtained as nearly identical as practicable, according to a scale adopted by the survey. Eventually, therefore, two hundred suites, of about a hundred specimens each, will be made up. They are to be accompanied by descriptive text, and issued to colleges and other educational institutions. The work of collection will be divided among the members of the survey, and will be distributed through about two years' time.

Additions to collections. — During the season of 1883 two hundred boxes of specimens were sent in to the main office of the survey by the various field-parties. They included rocks, minerals, fossils, and mineral waters. This number by no means comprises all the collections made, as a large number have not as yet been forwarded to Washington.

In the Rocky Mountain district, in charge of Mr. S. F. Emmons, with headquarters at Denver, Col., twelve hundred specimens of rocks from the Silver Creek mining-district were collected, and series of the type-specimens of hypersthene-andesite of Buffalo Peaks were secured.

After the close of field-work in the Yellowstone National Park, Mr. Joseph P. Iddings was sent to the Eureka district in Nevada to make collections of rocks for the educational rock series. He obtained sufficient material for two hundred cabinet specimens of five characteristic rocks. Three of them illustrate types of igneous rocks from the Great Basin, and two belong to the sedimentary series. They will all be fully described in the 'Geology of the Eureka district.'

Harvard college herbarium.

Additions. — Of the 8,755 sheets incorporated during the year, over 5,000 (holding probably 7,000 specimens) were derived from the rich herbarium of the late George Curling Joad of Wimbledon, near London, from which at least 3,000 more are still to be selected. For this most valuable collection of the plants of Europe and adjacent parts of Africa and Asia, or rather for such portion of it as will be retained, the herbarium is indebted to Sir Joseph Hooker, director of the Royal gardens at Kew, to which establishment it was bequeathed, and by whom, after certain selections had been made from it for the Kew herbarium, it was generously made over to this herbarium for the supply of its needs, the residue to be passed on to the National museum at Washington. So rich and abundant this collection proves to be, — containing, as it does, the principal published *exsiccata*, and most of the critical or local species of Europe, in authentic and attractive specimens, — that, notwithstanding the ample appropriation on our part, the materials which pass from our hands will still well represent the principal part of the European flora. This collection is supplemented by the presentation (in continuation of former gifts) of several hundred plants of Algeria and Tunisia, on the part of Dr. Cosson of Paris, who is engaged upon a Flora of Algeria.

The demand which such foreign collections make upon the time of the curator, Mr. Sereno Watson, and the director, Dr. Asa Gray, although very considerable, is small in comparison with that which has to be devoted to the critical examination and naming of the multifarious collections, large or small, which are incessantly poured in from all parts of our own country. A response to these demands cannot be avoided, generally cannot be deferred, in justice to the collectors and donors, and without risk of diverting the streams, which, flowing in ever since its establishment, have enriched this herbarium, and rendered it adequate to its leading purpose. But they press so heavily and unceasingly upon the officers, that they greatly retard progress in the preparation of works undertaken, and which ought to be proceeded with.

RECENT PROCEEDINGS OF SCIENTIFIC SOCIETIES.

Ottawa field-naturalists' club, Canada.

Feb. 14. — Mr. W. Hague Harrington presented a list of Coleoptera captured in the neighborhood of the city during the past six years, and read a brief paper introductory to it. The list was stated to contain 926 species; but, as a large number remain yet undetermined, the list, when published, will include about 1,050 species. Many species are recorded which were formerly unknown in Canada, and there are three or four beetles which are probably new species. Mention was made of a few of the rarer forms which had been captured, such as Chrysobothris pusilla, Phymatodes thoracicus, Fornax badius, F. Hornii, and Sarpedon scabrosus. Of the latter, two females had been taken, which were now in the respective collections of Drs. Horn and LeConte. The collection was stated to be poor in Carabidae, Dytiscidae, etc., and comparatively rich in Buprestidae, Elateridae, Cerambycidae, and other families which had been specially investigated as containing species destructive to vegetation. The Ottawa fauna was briefly compared with that of several other districts, and was shown to resemble most closely that of Lake Superior. —— Mr. J. B. Tyrrell read a paper on the 'Revision of the Suctoria,' giving an outline of the different opinions held by entomologists in regard to the fleas, and the results of his own microscopical researches. A brief mention was made of some of the species which occur upon Canadian animals, and of the fact that other species had been found, both on mammals and birds, which it had been as yet impossible to determine. ——After an interesting discussion, the report of the conchological branch was read by Mr. F. R. Latchford. One species, Patula asteriscus Morse, had been added to the list of shells, and additional specimens of several very rare species had been obtained. Of the new shells, several specimens