material was collected by Dr. P. Forchheimer during an exploring tour in Asia Minor, and was from Ephesus and Smyrna. The different specimens may have been from different periods, from several centuries before Christ to three centuries after Christ, but the general composition of all was the same. The mineral matter was chiefly calcium carbonate, but from 2 to 8 per cent. of organic material was present. This proved to be merely a mixture of fatty acids, and gave evidence that the cement was the oil-cement mentioned by early writers, as Pliny and Vitruvius. A series of experiments showed that a cement of burned lime and olive or linseed oil was not permanent, but that a mixture of two-thirds air-slacked lime and one-third olive oil hardened rapidly and was very durable. It is probable that this was approximately the mixture used in the ancient cements examined.

J. L. H.

BOTANICAL NOTES.

WOOD'S HOLL BOTANY.

IT is encouraging to note the continuation of the good work in botany which has been a feature of the Marine Biological Laboratory at Wood's Holl, Mass., and to observe that from year to year it is gaining in strength, both as to kind and quality. This year, beginning on the 5th of July, work is offered in the following lines, viz. :

1. Plant Morphology and Physiology, including the Cryptogams.
2. Lectures on the Algæ, with a study of many types.
3. Plant Cytology, for advanced students.
4. Special Investigations.

The first course should be especially helpful to students and teachers, since it will afford an opportunity of meeting and hearing many of the men who are adding to our knowledge of plants in many departments of botany. It is worth much to learn something of the personality, methods of work and point of view, of such men as B. M. Davis (algæ), E. F. Smith (bacteria), D. T. MacDougal (physiology), D. H. Campbell (evolution of plants), L. M. Underwood (liverworts), H. J. Webber (fecundation in gymnosperms), G. F. Atkinson (higher fungi), D. M. Mottier (cytology), and D. P. Penhallow (paleobotany), and the teacher who does so cannot fail to carry into his class room next year an inspiration to higher and better work.

CORN PLANTS.

MR. FREDERICK LEROY SARGENT has brought out a pretty and timely little book on 'Corn Plants, their Uses and Ways of Life,' which should be widely used as a supplementary reader in the schools. Unlike many supplementary readers, this one is written by a man who 'knows what he is writing about,' and hence the reader is not shocked by grossly inaccurate statements or crude misinterpretations. It is a thoroughly commendable little book.

The following headings of some of the sections of the book will give an idea of its scope and the treatment of the subject: 'What Corn Plants are'; 'Corn Plants in the Field'; 'How Corn Plants Provide for their Offspring'; 'Wheat, the King of Cereals'; 'Barley, the Brewer's Grain'; 'Rice, the Corn of the East'; 'Maize, the Corn of the West'; etc.

The publishers (Houghton, Mifflin & Co.) have done their share in typography and binding to make this one of the most attractive books of the season.

CANADIAN BOTANY.

FROM the Curator of the Herbarium of the Geological Survey of Canada we have recently received the following papers, viz. : 'Contributions to Canadian Botany,' XI. and XII., by James M. Macoun, containing many new or hitherto unrecorded species (nearly all the new species were previously described by Professor Greene in *Pittonia*) ; 'The Cryptogamic Flora of Ottawa,' by John Macoun, including 220 species of mosses, 55 liverworts and 152 lichens; 'Notes on Some Ottawa Violets,' by James M. Macoun, devoted to the seven species of violets formerly included under the familiar *Viola cucullata* of the older mammals. These species are *Viola septentrionalis*, *V. macounii*, *V. venustula*, *V. cucullata*, *V. cuspidata*, *V. affinis*, *V. populifolia*. Admirable plates accompany the descriptions and make clearer the characteristics by which they are distinguished.

THE SOCIETY FOR THE PROMOTION OF AGRICULTURAL SCIENCE.

NEARLY twenty years ago (September, 1879) half a dozen men conceived the idea of organizing a society of scientific men, the object of which should be to promote agriculture by fostering investigation in science applied to agriculture. As a result the Society for the Promotion of Agricultural Science came into existence, and its members have met once a year in connection with the American Association for Advancement of Science. Last August the Society held its nineteenth meeting, at which the President, Dr. B. D. Halsted, presented a historical summary of the work accomplished since its organization. In this time (not including the Boston meeting last year) the members presented and the Society published 278 papers. It is gratifying to the botanists to know that of this number 102 dealt with botanical problems. These were grouped as follows: Structure and physiology, 26; agrostology, 16; pathology, 43; weeds, 7; seeds, 10. The following titles taken almost at random from the list of botanical papers will show that the botanist who wishes to have copies of all important botanical publications must include those which have appeared in the Proceedings of this Society: 'Variations in Cultivated Plants,' 'Notes upon the Flowering Plants of Ohio,' 'Notes upon Bean and Pea Tubercles,' 'The Agricultural Grasses of Arizona,' 'Grasses and other Forage Plants best adapted to endure Drouth,' 'A Tomato Disease,' 'The Scab of Wheat Heads,' 'New Experiments with Fungicides for Smut of Wheat and Oats,' 'The Weedy Plants of Ohio,' 'The Vitality of Seeds Buried in the Soil,' 'Delayed Germination of Cocklebur.'

CHARLES E. BESSEY.

THE UNIVERSITY OF NEBRASKA.

THE FORESTS OF CANADA.

THE United States Consul at Montreal, Mr. Bittinger, has sent to the Department of State a report showing the distribution of forests in Canada and throughout the world. The following table shows the area of the forests in the different Provinces:

Province.	Total area.	Woodland.	Percentage of wood.
	Sq. miles.	*Sq. miles.*	*Per cent.*
Ontario	219,650	102,118	46.49
Quebec	227,500	116,521	51.22
New Brunswick	28,100	14,766	52 55
Nova Scotia	20,550	6,464	31.45
Prince Edw. Is	2,000	797	39.85
Manitoba	64,066	25,626	40
British Columbia	382,300	285,554	74.69
N'thwest Ter	2,371,481	696,952	29.38
Total	3,315,647	1,248,798	37.66

The quantity of pine is estimated, in Ontario, as 19,404,000,000 board feet; in Quebec, at 15,734,000,000 feet; in the other Provinces, at 2,200,000,000 feet; total, 37,338,000,000 feet. A low calculation of the annual cut is 1,000,000,000 feet, in which case Canada has not more than forty years' supply, and the growth of new wood, in spite of all regulations, is not nearly equal to the cut. It is impossible to give anything like a just return of the spruce limits, estimates being so diverse as to be useless.

The great tree of Ontario is the white, or Weymouth pine. There are also the red pine, spruce, hemlock, etc. The valuable black walnut, tulip, plane and coffee trees are almost extinct. The quantity or value of timber can not be given, as many millions of acres are utterly unexplored. In the known woods a return to the Ontario government states that there are 60,410,000,000 feet.

Quebec, with its newly added territory, is now an even larger Province than Ontario. Vast regions to the north are unknown. The white pine is the most important tree, as in Ontario; it is, however, rapidly disappearing. Rich spruce is noted in Bonaventure River au Bouleau, Chicoutimi county, River French and Bay Lake. There is great waste of hemlock, on account of its bark.

Some of the best cedar areas of the country are on the north shore of New Brunswick. An unsurveyed area of some 2,000,000 acres on the Upper Restigouche is reported to be full of good spruce and cedar. The pine forests, at one time rich, have been greatly impoverished. The same is true of Novia Scotia. A quantity of good spruce is left in the last-named Province, but it is being used in a similar way.