The extensive plantings made by the Southern Pacific Railroad in the San Joaquin Valley region over twenty years ago and the lessons indicated thereby are not mentioned. General Stratton's forty-five acres in *E. globulus* and *E. viminalis* planted in 1869 in Alameda County, probably the first artificial forest west of the Rocky Mountains, seems to have escaped notice. The late B. B. Redding, for many years land agent of the Central Pacific Railroad, and Professor E. W. Hilgard, of the University of California, and others have written and preached much on the general text.

A useful addition to Professor McClatchie's memoir and one in harmony with its general scope would be a climatic map similar to that published some years ago by the Southern Pacific Railroad Co. In this the thermal zones of the state are exhibited; these zones are governed by topographic features and can not be understood by reference to latitude. One word more as to the propagation of the eucalypts from seed. Judging by my own experience from imported seed, *E. amygdalina* and *E. robusta* germinated as readily as radish or turnip seed, when sown in a cold frame.

Rob't E. C. Stearns.

Los Angeles,
February 21, 1903.

SCIENTIFIC JOURNALS AND ARTICLES.

The April number of the *Botanical Gazette* contains two cytological papers. The first is the beginning of an article on 'Oogenesis in *Saprolegnia*,' by Professor Bradley M. Davis, in which he presents newly observed facts regarding the formation of the egg and the behavior of the cœnocentrum. The concluding part of the paper will be devoted to theoretical considerations. The second is by Professor David M. Mottier, on the 'Behavior of the Chromosomes in the Spore Mother-cells of Higher Plants and the Homology of the Pollen and the Embryo-sac Mother-cells.' He describes mitoses in the microspore and megaspore mother-cell of typical angiosperms, and homologizes these processes. The occurrence of a single megaspore is regarded as a derived condition, four being the primitive number. In continuing his notes on North-American grasses, Mr. A. S. Hitchcock describes as a new species *Willkommia texana*. In view of the fact that the concluding paper in Professor F. O. Bower's important series on the 'Morphology of Spore-producing Members' is not likely to be published in full for some months, the editors have published in advance an abstract of the memoir, which contains a general discussion of the results reached in the four previous papers of the series, and of their bearing on a theory of sterilization in the sporophyte. MacDougal's memoir on the 'Influence of Light and Darkness upon Growth and Development of Plants' and Graebner's volume on the 'Heaths of Northern Germany,' are reviewed, together with other current literature. Among 'Notes for Students' Mr. J. Arthur Harris contributes a review of recent teratological literature.

The May number of the *Biological Bulletin* of the Marine Biological Laboratory contains the following articles:

Helen Dean King: 'The Formation of the Notochord in the Amphibia.'

Leo Loeb: 'On the Coagulation of the Blood of some Arthropods and on the Influence of Pressure and Traction on the Protoplasm of the Blood Cells of Arthropods.'

S. J. Holmes: 'Phototaxis in Volvox.'

SOCIETIES AND ACADEMIES.

THE SAN FRANCISCO SECTION OF THE AMERICAN MATHEMATICAL SOCIETY.

The third regular meeting of the San Francisco section of the American Mathematical Society was held at Stanford University on April 25, 1903. Fifteen members of the society were present. Professor Haskell was elected to succeed Professor Wilczynski on the program committee. The following papers were read during the two sessions of the section:

Professor E. J. Wilczynski: 'Invariants of systems of linear partial differential equations, and the theory of congruences.'

Dr. D. N. Lehmer: 'Preliminary report on a table of smallest divisors.'