manner in which the morphological part of the work is treated, one is hardly prepared for the statement that in gymnosperms there is no alternation of generations, although traces of alternation are demonstrable, while in angiosperms the reduction of the prothallium has proceeded so far that sure homologies can no longer be shown and the alternation of generations has entirely disappeared. Of particular interest are the introductory pages on the evolutionary composition of groups, the homologies between them, and the causes of the changes in the homologous organs of the cormophytes.

The bryophytes are subdivided, as usual, into Musci and Hepaticae; in the pteridophytes three groups are recognized, the Filicinae, Equisetinae, and Lycopodinae; the gymnosperms are subdivided into six classes, Cycadinae, Bennettitinae, Cordaitieae, Ginkgoanae, Coniferae, and Gnetinae.—C. J. CHAMBERLAIN.

NOTES FOR STUDENTS.

RENAULT[6] concludes from the study of a number of plant sections that vegetative activity was greater in the Carboniferous age than at present. An extraordinary development of vascular and other tissues is recounted and figured.—H. C. COWLES.

ARBER[7] has recorded *Glossopteris Browniana* Brongn. from Sisi in Rhodesia, the containing formation being probably Permo-Carboniferous. A species of Calamites is recorded from the Tuli coalfield; and the Sengwe coalfield in northern Matabeleland yields an undetermined specimen of wood and two stems of the Eu-Sigillarian Rhytidolepis type.—E. W. BERRY.

MOLLIARD finds[8] that in pure cultures of *Ascobolus sp.* perithecia are not developed, although there is a considerable development of the vegetative mycelium. In all cases of fruiting individuals bacteria are present in abundance. He thinks that this is a fact of large significance, though he has no suggestion as to the exact office of the bacteria in this interesting case of symbiosis.—H. C. COWLES.

SEWARD[9] describes a new species of Dictyozamites from a low horizon in the Estuarine series of the Inferior Oolite of Yorkshire. The genus and its distribution in Jurassic times are discussed somewhat fully, and a comparison is instituted between the lower Mesozoic floras of Japan, Bornholm,

[6] RENAULT, B., Sur l'activité végétative aux époques anciennes. Compt. Rend. **136**: 401–403. 1903.

[7] ARBER, E. A. N., Notes on some fossil plants collected by Mr. Molyneux in Rhodesia. Quart. Jour. Geol. Soc. Lond. **59**: 288–290. 1903.

[8] MOLLIARD, Rôle des bactéries dans la production des périthèces des Ascobolus. Compt. Rend. **136**: 899–901. 1903.

[9] SEWARD, A. C., On the occurrence of Dictyozamites in England, with remarks on European and eastern Mesozoic floras. Quart. Jour. Geol. Soc. Lond. **59**: 217–232. *pl. 15*. 1903.