

late Professor E. Forbes, p. 294. Many new figures of fossils characteristic of the subdivisions of the three Purbecks are introduced; and the discovery, in 1854, of a new mammifer alluded to, p. 295.

Representations also of fossils of the Upper, Middle, and Lower Oolite, and of the Lias, are added to those before given.

CHAP. XXII.—XXIII.—On the Triassic and Permian formations. The improvements consist chiefly of new illustrations of fossil remains.

CHAP. XXIV.—XXV.—Treating of the Carboniferous group, I have mentioned the subdivisions now generally adopted for the classification of the Irish strata (p. 359), and I have added new figures of fossil plants to explain, among other topics, the botanical characters of Calamites, Sternbergia, and Trigonocarpum, and their relation to Coniferæ (pp. 364, 365, 368). The grade also of the Coniferæ in the vegetable kingdom, and whether they hold a high or a low position among flowering plants, is discussed with reference to the opinions of several of the most eminent living botanists; and the bearing of these views on the theory of progressive development, p. 370.

The casts of rain-prints in coal-shale are represented in several woodcuts as illustrative of the nature and humidity of the carboniferous atmosphere, p. 381. The causes also of the purity of many seams of coal, p. 382, and the probable length of time which was required to allow the solid matter of certain coal-fields to accumulate, p. 383, are discussed for the first time.

Figures are given of Crustaceans and Insects from the Coal, pp. 385, 386; and the discovery of some new Reptiles is alluded to, p. 401.

I have also alluded to the causes of the rarity of vertebrate and invertebrate air-breathers in the coal, p. 401.

That division of this same chapter (Chap. XXV.) which relates to the Mountain Limestone has been also enlarged by figures of new fossils, and among others by representations of Corals of the Paleozoic, as distinguishable from those of the Neozoic, type, p. 403; also by woodcuts of several genera of shells which retain the patterns of their original colors, p. 406. The foreign equivalents of the Mountain Limestone are also alluded to, p. 409.

CHAP. XXVI.—In speaking of the Old Red Sandstone, or Devonian Group, the evidence of the occurrence of the skeleton of a Reptile and the footprints of a Chelonian in that series are reconsidered, p. 412. New plants found in Ireland in this formation are figured, p. 414; also the Pterygotus, or large crustacean of Forfarshire, p. 415; and, lastly, the division of the Devonian series in North Devon into Upper, Middle, and Lower, p. 420, the fossils of the same (p. 421 *et seq.*), and the equivalents of the Devonian beds in Russia and the United States, are treated of, p. 425 and 428.

CHAP. XXVII.—The classification and nomenclature of the Silurian rocks of Great Britain, the Continent of Europe, and North America, and the question whether they can be distinguished from the Cambrian, and