

least as high a temperature as that of the tropics, and probably in insular situations ; thus we obtain evidence of the existence during the carboniferous epoch, of a tropical Polynesia clothed with forests of palms, tree-ferns, and gigantic equisetaceæ and lycopodiaceæ.

42. FORMATION OF NEW COAL-MEASURES.—Let us now inquire what were the circumstances which gave rise to these prodigious layers of carbonized matter, unmixed with other materials—these immense beds of vegetables, from which animal remains appear to have been almost wholly excluded—and whether accumulations of vegetables, which in after ages shall present phenomena of a like nature, are now in progress? We have seen that the plants in the coal-measures are for the most part lying horizontally, as if whole groves and forests had been laid prostrate, and become matted together, the smaller and more delicate tribes being entangled in the general mass ; presenting, in fact, a very similar arrangement to that observable in the subterranean forests, peat-bogs, and other modern accumulations of vegetables. If we extend our observations to operations which are now going on in countries covered with a dense vegetation, abounding in lakes and marshes, and traversed by vast rivers, we shall no longer feel surprised at the immense quantities of vegetable matter which compose the coal-measures. In America, trees in prodigious numbers, the wrecks of whole forests, are