

It would thus appear that no one hypothesis is universally applicable for the explanation of the origin of coal, but that growth on the spot and transport from neighboring land have both in different regions contemporaneously and at successive periods come into play.

In this place reference may most conveniently be made to the probable climate in which these geological changes took place. The remarkable profusion of the vegetation of the Carboniferous period, not only in the Old World but in the New, suggested the idea that the atmosphere was then much more charged with carbonic acid than it now is. Undoubtedly there has been a continual abstraction of this gas from the atmosphere ever since land-plants began to live on the earth's surface, and it is allowable to infer that the proportion of it in the air in Palæozoic time may have been somewhat greater than now. But the difference could hardly have been serious, otherwise it seems incredible that the numerous insects, labyrinthodonts and other air-breathers, could have existed. Most probably the luxuriance of the flora is rather to be ascribed to the warm moist climate which in Carboniferous times appears to have spread over the globe even into Arctic latitudes. On the other hand, evidence has been adduced to support the view that in spite of the genial temperature indicated by the vegetation there were glaciers even in tropical and sub-tropical regions. Coarse boulder-conglomerates and striated stones have been cited from various parts of India, South Africa, and Eastern Australia, as evidence of ice-action. There appears, however, to be some element of doubt as to the interpretation of the facts adduced. It may be matter for consideration whether the boulder-beds could not be accumulated by torrential waters, and whether the striated surfaces on the