

any considerable distance to the spots where they are now imbedded.

In addition to this argument against the transport of the plants of the coal measures, it is stated that they must all have been much more injured than they are if they had been thus brought to their present situations. A plant of delicate texture cannot be long in the water, unless at a depth beneath the surface, without suffering at least a mechanical decomposition, and having its characters destroyed. But the vegetables found in the coal measures have not suffered in this way; their leaves are beautifully preserved, and their markings are exceedingly distinct.

These considerations induce some persons to believe that the vegetable remains of the coal measures could not have been transported from a distance, and consequently that they grew on or near the places where they are found, and that the surface temperature of the earth has been changed.

The question that now presents itself is, what causes have decreased the surface temperature of the earth in such places? It is supposed by many geologists that the interior of the earth has, at a former period, had a much more intense heat than it now has, and that its decrease has occasioned the alteration. This opinion, maintained by Baron Humboldt and many other eminent geologists, would evidently be sufficient to account for the change that has happened since the supposed period when the tropical plants of the coal measures grew on our soil.

Mr. Lyell accounts for the change of temperature upon another principle. He considers the temperature of a place to depend upon the relative proportions of high land and sea near the poles. The higher the polar land, the greater will be the cold; the more the land at or near the equator, and the greater the quantity of sea at the poles, the higher will be the temperature, and the more equably will it be diffused. In proof of this he states that arborescent ferns are found in Van Diemen's Land, in 42° south latitude, which is a much higher latitude than they reach in the northern hemisphere, where the climate is not so equable. This is attributable, he thinks, to the circumstance that there is more and higher land towards the north than towards the south pole. Mr. Lyell's theory will therefore resolve itself into the following statement:—that the superficies of the earth has been and is still