all over the world a much higher temperature than now, dependent on the internal condition of our planet. But it appears to me that the variation of climate which a change in the distribution of the land and water would occasion, as suggested by Mr. Lyell,*—and a difference in the radiation of heat from internal sources, as explained by Sir J. Herschel and Mr. Babbage (page 97),—may account for the phenomena which our examination of the tertiary formation has revealed.

The occurrence of groups of animals of the same families, in certain districts, is in strict conformity with the distribution of living species, in regions not under the control of man. Thus when ancient France presented a system of lakes, animals fitted for such physical conditions found there the means of subsistence—when the vast plains and forests of America were adapted for colossal mammalia, there the mastodon and the mammoth obtained food and shelter—and when the former continent of Europe swarmed with herbivora, the carnivorous tribes, as the lion and the tiger, the bear and the hyena, obtained the support which their habits and economy required.

One striking feature in the events that have passed in review before us, is the immense scale on which the extinction of species and genera has been effected: but it must be remembered that our observations have extended over a period of vast

* Principles of Geology, vol. i. chap. vii.