down by rivers, is likely to be partially preserved. Terrestrial plants, therefore, occur in comparative rarity among stratified rocks, and furnish in consequence only limited means of comparison between the formations of different ages and countries (see pp. 1097, 1111). Of land animals, the vast majority perish, and leave no permanent trace of their existence. Predatory and other forms, whose remains may be looked for in caverns or peat-mosses, must occur more numerously in the fossil state than birds, and are correspondingly more valuable to the geologist for the comparison of different strata.

Another character determines the relative importance of fossils as geological monuments. All organisms have not the same inherent capability of persistence. The longevity of an organic type has, on the whole, been in inverse proportion to its perfection. The more complex its structure, the more susceptible has it been of change, and consequently the less likely to be able to withstand the influences of changing climate, and other physical conditions. A living species of foraminifer or brachiopod, endowed with comparative indifference to its environment, may spread over a vast area of the sea-floor, and the same want of sensibility enables it to endure through the changing physical conditions of successive geological periods. It may thus possess a great range, both in space and time. But a highly-specialized mammal is usually confined to but a limited extent of country, and to a narrow chronological range.[16]

[16] The great value of mammalian remains for purposes of geological chronology has been well enforced by Prof. Marsh. See especially his address to the American Association for the Advancement of Science, 30th August, 1877, and a subsequent paper in Amer. Journ. Sci. xlii. 1891, p. 336. Mr. W. T. Blanford points out that, in some cases at least, fluviatile mollusks have been more short-lived than terrestrial mammals. Address, Geol. Section, Brit. Assoc. 1884.