

organisms, as for example the Medusæ, the naked molluscs without shells, a large portion of the articulated animals, almost all worms, and even the lowest vertebrate animals, possess no firm and hard parts capable of being petrified. In like manner the most important parts of plants, such as the flowers, are for the most part so soft and tender that they cannot be preserved in a recognizable form. We therefore cannot expect to find any petrified remains of these important organisms. Moreover, all organisms at an early stage of life are so soft and tender that they are quite incapable of being petrified. Consequently all the petrifications found in the neptunic stratifications of the earth's crust comprise altogether but a very few forms, and of these for the most part only isolated fragments.

We must next bear in mind that the dead bodies of the inhabitants of the sea are much more likely to be preserved and petrified in the deposits of mud than those of the inhabitants of fresh water and of the land. Organisms living on land can, as a rule, become petrified only when their corpses fall accidentally into the water and are buried at the bottom in the hardening layers of mud. But this event depends upon very many conditions. We cannot therefore be astonished that by far the majority of petrifications belong to organisms which have lived in the sea, and that of the inhabitants of the land proportionately only very few are preserved in a fossil state. How many contingencies come into play here we may infer from the single fact that of many fossil mammals, in fact of all the mammals of the secondary, or mesozoic epoch, nothing is known except the lower jawbone. This bone is in the first place comparatively solid, and in the second place very easily separates