

Electricity, too, in the form of galvanism, has never been idle. We have reason to think that it operates at this moment in accumulating metallic ores in veins; and this segregation appears to have operated in all ages, not only in filling veins, but also, probably, in giving a laminated character and jointed structure to mountains of slate, as well as a concretionary and prismatic form to others.

Last, though not least, we may reckon among the agents of geological change the forces of cohesion and affinity. When water and heat, gravity and galvanism, have brought the atoms of bodies into a proper state, these agents are always ready to change their form and constitution; and they have ever been at hand to operate by the same laws, and we witness their effects in the oldest as well as the newest rocks found in the earth's crust. This point, however, has been sufficiently considered, when treating of the unvarying uniformity of the laws of chemistry and crystallography.

But though the nature of the agencies above considered has never changed, the intensity or amount of their action has varied; how much is a point not yet settled among geologists. Some regard that intensity, as it has existed during the present or alluvial period, as a standard for all preceding periods; that is, the intensity of these forces has never varied more during any period of the earth's history than it has since the alluvial period commenced. Most geologists, however, regard this as an extreme opinion, and think they see evidence in geology of a far greater intensity in these agencies in past periods than exists at present. They think they have proof that the world was once only a molten mass of matter, and some evidence that previously it was in a state of vapour. They believe that vast mountains, and even continents, have sometimes been thrown up from the ocean's bed by a single mighty paroxysmal effort; and such effects they know to be far greater than the causes of change now in operation can produce, without a vast increase of their intensity. But this question need neither be discussed nor decided for the sake of my present argument, since my object is to prove an identity in the nature and laws, not in the intensity, of geological agencies.

*In the fourth place, the laws of zoology and botany have always been the same on the globe.*