

to shew that such cities once existed; and that they were probably overthrown by the eruption of the year 79 of the Christian era, which gave occasion for the interesting letter of the younger Pliny, describing the death of his uncle, while observing the volcanic storm which proved fatal to him. In such cases, the coincidences of historical and other writings and the gleanings of tradition are indeed valuable and gratifying, and are of great utility in fixing not only the order, but the time of the events; but, the nature of the catastrophe, which buried the devoted cities, is perfectly intelligible from the appearances themselves, and needs no historical confirmation. No man ever imagined that Herculaneum and Pompeii, were created where we now find their ruins; no one hazards the conjecture that they are a *lusus naturæ*, but all unite in giving an explanation consistent, alike, with geology, history and common sense.

*Application of the Evidence.*

In the same manner then, we reason respecting the physical phenomena of our planet.

It is full of crystals and crystallized rocks; it is replete with the entombed remains of animals and vegetables, from entire trees to lichens, fuci and ferns—from coal beds to mere impressions of plants; it is stored with animals from the minutest shell fish to gigantic reptiles; it is chequered with fragments, from fine sand to enormous blocks of stone; it exhibits in the materials of its solid strata, every degree of attrition, from the slightest abrasion of a sharp edge or angle, to the perfect rounding which produces globes and spheroidal forms of exquisite finish: it abounds with dislocations and fractures; with injections and fillings up of fissures with foreign rocky matter; with elevations and depressions of strata, in every position, from horizontal to vertical; it is covered with the wreck and ruins of its upper surface; and finally, its ancient fires, sometimes for variable periods, dormant and relenting, have never been extinguished, but still struggle for an exit, through its two hundred volcanic mouths. The present crust is only the result of the conflicting energies of physical forces, governed by fixed laws; its changes began, from the dawn of the creation, and they will not cease till its materials and its physical laws are annihilated.

*Instances.*

'They are innumerable, and are every where at hand; every system of geology unfolds them; our author's preceding volume is rich in