

and especially that part of it which is requisite for the induction of laws from facts, emerges slowly and with difficulty from the crowd of adverse influences, even under the most favorable circumstances. We have seen that in the ancient world, the Greeks alone showed themselves to possess this talent; and what they thus attained to, amounted only to a few sound doctrines in astronomy, and one or two extremely imperfect truths in mechanics, optics, and music, which their successors were unable to retain. No other nation, till we come to the dawn of a better day in modern Europe, made any positive step at all in sound physical speculation. Empty dreams or useless exhibitions of ingenuity, formed the whole of their essays at such knowledge.

It must, therefore, independently of positive evidence, be considered as extremely improbable, that any of these nations should, at an early period, have arrived, by observation and induction, at wide general truths, such as the philosophers of modern times have only satisfied themselves of by long and patient labor and thought. If resemblances should be discovered between the assertions of ancient writers and the discoveries of modern science, the probability in all cases, the certainty in most, is that these are accidental coincidences;—that the ancient opinion is no anticipation of the modern discovery, but is one guess among many, not a whit the more valuable because its expression agrees with a truth. The author of the guess could not intend the truth, because his mind was not prepared to comprehend it. Those of the ancients who spoke of the *harmony* which binds all things together, could not mean the Newtonian gravitation, because they had never been led to conceive an attractive force, governed by definite mathematical laws in its quantity and operation.

In agreement with these views, we must, I conceive, estimate the opinions which we find among the ancients, respecting the changes which the earth's surface has undergone. These opinions, when they are at all of a general kind, are arbitrary fictions of the fancy, showing man's love of generality indeed, but indulging it without that expense of labor and thought which alone can render it legitimate.

We might, therefore, pass by all the traditions and speculations of Oriental, Egyptian, and Greek cosmogony, as extraneous to our subject. But since these have recently been spoken of, as conclusions collected, however vaguely, from observed facts,¹ we may make a remark or two upon them.

¹ Lyell, B. i. c. ii. p. 8. (4th ed.)