

we call universal, or general, because it includes all the particulars and is found to be a characteristic of each. Induction says, "I must connect this particular thing or event with its law." I must join this particular to the universal that is its meaning—explains it and thus makes the two into a unity.

To illustrate: I see, for the first time, an apple fall from the tree to the ground. This is a fact having several elements in it. The one which arrests the attention may be the act of falling. I say that is a quality or characteristic of this apple that it falls to the ground. Nor do I stop there. I go on to declare that the other apples on the tree have the same tendency; that they, too, when freed from entangling alliances, will fall to the ground. Falling is the law of all the apples. I see not only apples, but other bodies fall. I say that falling is the law common to all unsupported bodies. This is a universal law. Newton takes it up here and affirms that it is the law of the earth as well as the apples. He declares that all the planets are constantly falling toward one another and toward the sun, and that their obedience to this law of falling, and to the other laws of their being, for example, that of inertia, determines their path in the solar system.

Now, is it not plain that the movement here is from a particular concrete thing to a law, and that at each step in the process the law becomes wider in its application, more far-reaching, bringing into a common unity many things that seemed not to belong together. The initiatory movement was that of analysis. So, too, the leading movement by which the law was found to apply to many other things was analytic. But the moment the judgment: "It is the nature of all bodies to fall," has been formed, the union between the particular with which I started and the all-embracing

law of gravity, which is the universal, has been completed.

I declare that the apple falls in obedience to the law of gravity. The explanation or meaning of the falling of the apple is "the universal law of gravitation." The movement that results in the discovery of this law is away from the particular thing. The attention is fixed upon the general notion, and the particular things are, to a degree, disregarded and obscured. The characteristic of inductive thinking is, therefore, analytic. Through the analysis of the particulars, the universal is revealed.

But there is no such thing as an analytic process that is not accompanied by a synthetic one. Analysis and synthesis are the two aspects or phases of one and the same act or process. At the same time that I am analyzing the particular things and discovering the law or general truth in them, I am adding to my former conception of these particulars this general truth and so enriching them. When I have identified an apple with a planet, in that the same universal is found in each, both the apple and the planet are enriched. The universal has been brought down into the particular thing, and it is seen to have a much larger meaning, a much wider relation than it had before. Its kinship has been extended. It has been brought into a much larger family. Something has been added to it that it did not have. This is synthesis.

For example: When Newton seized the law that all bodies tend to fall toward each other, he made application of this law to the planets. He said, "All bodies fall toward each other." The planets are bodies. Therefore, the planets fall. The simultaneous activity of the law of falling bodies and the law of inertia will explain or give the law by which the planets are held in their course round their respective centres. He