

CHAPTER 6 — NATURAL LAWS

In the phenomena presented to him, man must early notice two kinds of relation. Some things show themselves with other things, and some things follow other things. These two kinds of relation we call relations of coexistence and relations of succession or sequence. Since what continues is not so apt to attract our attention as what changes, it is probable that the first of these two relations to be noticed is that of succession. Light comes with the appearance of luminous bodies of the firmament, and darkness with their disappearance. Night succeeds day, and day night; spring the winter, and summer the spring; the leaf, the bud; and wind and rain the heavy threatening cloud.

But to note the relation of things in succession does not content man. The essential quality of reason leads him to ask why one thing follows another, and in the relation of sequence to assume or to seek for a relation of consequence.

Let us fix in our minds the meaning of these two words. For even by usually careful writers one of them is sometimes used when the other is really meant, which brings about confusion of thought where precision is needed.

The meaning of sequence is that which follows or succeeds. The meaning of consequence is that which follows from. To say that one thing is a consequence of another, is to say that one has to the other a relation not merely of succession, but of necessary succession, the relation namely of effect to cause.

Now of the sequences which we notice in external nature, some are variable, that is to say, they do not always follow what is given as the antecedent, while some are invariable, that is to say, they always follow what is given as the antecedent. As to these invariable sequences, which we properly call consequences, we give a name to the

causal connection between what we apprehend as effect and what we assume as cause by calling it a law of nature. What we mean by this term is a matter too important to be left in the uncertainty and confusion with which it is treated in the standard economic works. Let us therefore, before beginning to use the term, try to discover how it has come into use, that we may fully understand it.

When, proceeding from what we apprehend as effect or consequence, we begin to seek cause, it in most cases happens that the first cause we find, as accounting for the phenomena, we soon come to see to be in itself an effect or consequence of an antecedent which to it is cause. Thus our search for cause begins again, leading us from one link to another link in the chain of causation, until we come to a cause which we can apprehend as capable of setting in motion the series of which the particular result is the effect or consequence.

Now the only way in which we can hope to discover what to us is yet unknown is by reasoning to it from what to us is known. What we know most directly and immediately is that in us which feels and wills; that which to distinguish from our own organs, parts or powers we call the ego, or I; that which distinguishes us, ourselves, from the external world. That which really distinguishes man from external nature; that which seems to come into the world with the dawning of life and to depart from it with the death, is that whose identity I recognize as "me," through all changes of matter and motion. It is this which not only receives the impressions brought to it through the senses, but by the use of the power we call imagination contemplates itself, as one may look at his own face in a mirror. In this way the ego or I of man may reason, not only upon the phenomena of the external world as presented to it through the senses, but also its own nature, its own powers, and its own activities, and regard the world, external and internal, as a whole, having for its components not

merely matter and energy, but also spirit.

The simplest causal relation we perceive is that which we find in our own consciousness. I scratch my head, I slap my leg, and feel the effects. I drink, and my thirst is quenched. Here we have perhaps the closest connection between consequence and cause. Passing beyond the point where both cause and effect are known by consciousness, we carry the certainty thus derived to the explanation of phenomena as to which cause and effect; one or both, lie beyond consciousness. I throw a stone at a bird and it falls. This result, the fall of the bird, is made known to me indirectly through my sense of sight, and later when I pick it up, by my sense of touch. The bird falls because the stone hit it. The stone hit it because put in motion by the movement of my hand and arm. And the movement of my hand and arm was because of my exertion of will, known to me directly by consciousness.

What we apprehend as the beginning cause in any series, whether we call it primary cause or final cause, is always to us *the* cause or sufficient reason of the particular result. And this point in causation at which we rest satisfied is that which implies the element of spirit, the exertion of will. For it is of the nature of human reason never to rest content until it can come to something that may be conceived of as acting in itself, and not merely as a consequence of something else as antecedent, and thus be taken as the cause of the results or consequence from which the backward search began. Thus, in our instance, leaving out intermediate links in the chain of causation, and proceeding at once from results to ultimate cause, or sufficient reason, we say correctly that the bird fell because I hit it — that is, because I exerted in an effective way the will to hit it.

But I know, by consciousness, that in me the exertion of will proceeds from some motive or desire. And reasoning from what I know to explain what I wish to discover, I explain similar acts and

others by similar desires.

How early and how strong is the disposition to seek cause in exertion of will prompted by desire is shown in the prattle of children, and the folk-lore and fairy tales. We are at first apt to attribute even to what we afterwards learn are inanimate things the exertion of will and the promptings of desire such as we find in our own consciousness, and to say, not as figures of speech, but as recognitions of cause, that the sun smiles and the clouds threaten and the wind blows for this or that purpose or with this or that intent.

And in the earliest of such recognitions we find the moral element, which belongs alone to spirit. What mother has not soothed her child by threatening or pretending to whip the naughty chair or bad stone that caused her little girl or boy to stumble, and has not held the little thing in rapt silence with stories of talking animals and thinking trees? But as we look closer, we see that the power of reason is not in animals, nor volition in sticks and stones. Yet still seeking cause behind effect, and not satisfied that we have found cause until we have come to spirit, we find rest for awhile by accounting for effects that we cannot trace to will in man or animals, on the assumption of will in supersensible forms, and thus gratify the longing of the reason to discover cause, by peopling rivers and mountains and lakes and seas and trees and seasons with spirits and genii, and fairies and goblins, and angels and devils, and special gods.

Yet, in and through this stage of human thought grows the apprehension of an order and co-relation in things, which we can understand only by assuming unity of will and comprehensiveness of intent — of an all-embracing system or order which we personify as Nature, and of a great “I am” from whose exertion of will all things visible and invisible proceed, and which is the first or all-beginning cause. In every direction the effort of the reason to seek the cause of what it perceives, forces this upon the thoughtful mind.

The things that show most clearly the adaptation of means to ends, so that we can at once understand their genesis and divide their cause, are things made by man, such as houses, clothing, tools, and ornaments, machines; in short, what we call human productions. These, as evincing the adaptation of means to ends, have an unmistakable character. The coming upon a piece of clothing, or a brooch or ring, or tomahawk or bow, or the embers and fragments of a cooked meal, would have been as quick and even surer proof of the presence of man on his supposed desert island than were to Robinson Crusoe the footprints in the sand. For of all the beings that our senses give us knowledge of, man is the only one that in himself has the power of adapting means to ends by taking thought. Yet, so soon as man looks out, he finds in the world itself evidences of the same power of adapting means to ends that characterize his own works. Hence, recognizing in the sum of perceptible things — exclusive of himself, or rather of his essential principal or ego, but inclusive, not merely of his bodily, but also of his mental frame — a system or whole, composed of related parts, he personifies it in thought and calls it Nature.

We frequently use the word nature to avoid the necessity of naming that which we feel to be unnameable, in the sense of being beyond our comprehension, and therefore beyond our power of defining. Yet I think that not merely the almost universal, but the clearest and therefore best, perceptions of mankind, really distinguish what we call Nature from what we call God, just as we distinguish the ship, or other machine, that we personify, from the will which we recognize as exerted in its origination and being; and that at the bottom our idea is that of Pope:

*All are but parts of one stupendous whole,
Whose body nature is, and God the soul.*

It is from this conception of Nature as expressing or as animated by the highest will, that we derive, I think, the term "law of Nature." Whatever we observe as an invariable relation of things, of which in the last analysis we can affirm only that "it is always so," we call a law of Nature. But though we use this phrase to express the fact of invariable relation, something more than this is suggested. The term itself involves the idea of a causative will. As John Stuart Mill, trained to analysis from infancy, and from infancy exempt from theological bias, says:

The expression "law of Nature" is generally employed by scientific man with a sort of tacit reference to the original sense of the word law, namely, the expression of the will of the superior — the superior, in this instance, being the Ruler of the universe.

Thus, when we find in Nature certain invariable sequences, whose cause of being transcends the power of the will testified to by our own consciousness — such, for instance, as that stones and apples always fall towards the earth; that the square of a hypotenuse is always equal to the sum of the squares of its base and perpendicular; that gases always coalesce in certain definite proportions; that one pole of the magnet always attracts what the other always repels; that at a certain stage of infancy teeth appear, and later decay and drop out; and so on through the list of invariable sequences that these will suggest — we say, for it is really all that we can say, that these sequences are invariable because they belong to the order or system of Nature; or, in short, that they are "laws of Nature."

The dog and cow sometimes look wise enough to be meditating. If they really could bother their heads with such matters or express their ideas in speech, they would probably say that such sequences are invariable, and then rest. But a man is impelled by his endowment of reason to seek behind fact for cause. Thus, whether civi-

lized or uncivilized, man is compelled to look for cause beneath the phenomena that he begins really to consider, and no matter what intermediate cause he may find, cannot be content until he reaches will and finds or assumes intent. This necessity is universal to human nature, for it belongs to that quality or principle of reason which essentially distinguishes man from the brute.

Beneath the belief of the savage in totems and amulets and charms and witchcraft works the recognition of spirit; and the philosophies that have hardened into grotesque forms of religion contain at bottom that idea of an originating will which the Hebrew Scriptures express in their opening sentence: "In the beginning God created the heaven and the earth."

To such recognition of will or spirit, reason, as it searches from effect for cause, must come before it can rest content. Beyond this, reason cannot go. Why is it that some things always coexist with other things? and that some things always follow other things? The Mohammedan will answer: "it is the will of God." The man of our Western civilization will answer: "it is a law of Nature." The phrase is different, but the answer one.