

THE DEFINITION OF NATURAL LAW.

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Under existing circumstances an attempt to criticise the accepted definition of Natural Law is a somewhat venturesome undertaking. There is perhaps no single term which is at once so rigidly defined by the learned and so consistently misconceived by the ignorant. It has often been pointed out, and with perfect justice, that for a great deal of this confusion scientific men have nobody but themselves to blame. The term "Law" was most unfortunately selected by science to denote something which has hardly a feature in common with law in its ordinary meaning. In consequence of this latent ambiguity the scientific conception of Natural Law has had, and probably for a long time will have, to struggle with a mass of popular misconceptions, in addition to certain more legitimate criticisms. It is extremely hard to persuade people new to the subject that "Natural Law" in the scientific sense involves no notion of an over-ruling ordinance; and it is perfectly easy to appreciate the difficulty which such people feel. It is obviously unnecessary, however, to discuss this distinction for the benefit of my present readers, and I only propose here to suggest a special modification of the definition of Natural Law which I think in honesty the facts of the case require.

The definitions of Natural Law given by scientific writers are all substantially identical, and I only quote from two of the best-known in order to illustrate the point which I wish to enforce. Lewes (*Problems of Life and Mind*, p. 308) describes a law of nature (in the sense now under discussion) as "a notation of the process *observed* in phenomena". Again, "a law is simply the notation of *observed* facts". So too Mill (*Three Essays on Religion*, p. 14) says that laws of nature "are neither more nor less than *observed* uniformities in the occurrence of phenomena". (The italics in the above quotations are mine.) Other writers speak of them as generalisations from experience; and, in short, the notion of *previous observation* or *ascertainment* enters invariably into the scientific definition of Natural Law. But it is in this respect that I think all such definitions are faultily severe.

It is obvious, of course, that Ascertainment is a necessary pre-requisite to the classification of natural laws. We cannot pronounce upon the uniformity of a natural process until such uniformity has been observed: in other words, we cannot know a natural law till we *do* know it. But though this proposition is indisputably true, it is nevertheless indisputably barren; and it is surely needless to encumber a scientific definition with the paste-board armour of an empty truism.

So far, however, the mischief is not very serious; and, if this superfluous verbiage adds but little to the strength of the scientific position, it does not, *primâ facie*, weaken it against external attack. Indeed it may be admitted that it has had its uses in the past. *A priori* theories of the universe and its operations were enemies far more dangerous to the dawning conception of Natural Law than they are now; and it was at one time a positive necessity for science to exclude resolutely from its realm the whole host of unverified and unverifiable assumptions conjured up by the disorderly imaginings of theology. But at the present time this danger has practically disappeared. Erroneous views of the meaning of Natural Law no doubt exist, and in abundance; but they are not often to be found now in high places; and, as a general rule, the educated theological view of Natural Law is quite in accordance with the view of science. At the same time there is a good deal of antagonism on the subject between theology and science, which, perhaps, is partly due to this notion of Ascertainment on which scientific disputants insist as essential to Natural Law. And upon this point I venture to think that scientific disputants are wrong.

Admitting, as of course we must, that before we can describe any process of phenomena as uniform we must first succeed in observing its uniformity, I nevertheless think that the insertion of the ascertainment-clause into the definition of Natural Law is really illegitimate; and it is illegitimate because, at the very least, it obscures the point which science is concerned to enforce. It is perfectly accurate to describe all known natural laws as observed uniformities of process: but surely the essence of a law is its *uniformity*, and not the accidental fact that it has been *observed*. Science is perpetually adding to the number of discovered laws; but these laws existed from the time when the operations of nature began, and the mere fact of their discovery does not add a tittle to their validity. In short, ascertainment is necessary to our *knowledge* of natural laws, but it is not the least necessary to their *existence*.

Nor is this distinction a mere fastidious nicety of criticism. The ascertainment-clause may be, and often is, a positive obstacle to an increase of knowledge, because we are incurably apt to infer, in the case of the more familiar natural laws, that we are acquainted with *all* the possible antecedents of their operation. To every Englishman it is a familiar experience that, under requisite conditions, water will lose its fluidity and become ice. But to the Saracen in *The Talisman* such a phenomenon appeared an impossible portent, and he very logically hesitated to believe in it. It is perfectly true that this objection does not strictly affect the current definition of Natural Law, which only asserts that from certain antecedents, *neither more nor less*, certain consequents, *neither more nor less*, will follow; but, as I have said, this is apt to be forgotten, and a long and unbroken experience

tends to make us regard a natural law, not as a uniformity of process *under certain circumstances*, but as a uniformity of process *under all circumstances*.

The result of this misconception is obvious. The moment we lose sight of the limited and relative character of all human observation, and begin to regard natural laws as invariable, not only under previously ascertained conditions, but under all conditions whatever, we transcend the limits of legitimate inference, and practically shut up progress in a *cul-de-sac*.

I do not waver a hair's breadth from my faith in the absolute jurisdiction of Natural Law in its widest sense; I only demur to the fallacious assumption that "natural law" must be treated as equivalent to "ascertained natural law" only; in other words, to the assumption that the possibilities of things can be logically limited to the ascertained possibilities of experience. Experience is a sure guide so far as it goes, but nobody will pretend that the experience of the world to-day has exhausted all the possibilities of the experience of the future.

With regard to what I may call purely physical laws of nature, the ascertainment-clause is less likely to lead to serious error. But why? Simply because the conditions under which the commoner physical laws operate are, for practical purposes, already ascertained. We can pronounce with absolute confidence upon the phenomena of gravitation as shown by material bodies, because, from their comparative simplicity and the frequency of their occurrence, we are intimately acquainted with their necessary conditions. But the moment we turn from these to the phenomena of life and mind, we must needs leave our certainty behind us. Nor is this in any way a matter for surprise. Both the science of life and the science of mind are yet in their infancy; and, even apart from this, their phenomena display an intricate complexity in place of the comparative simplicity of the phenomena of physical laws. This difference appears on the very threshold, as the distinction between organic and inorganic chemistry sufficiently shows. We are doubtless entitled to attach as much weight to ascertained uniformities in the biological or the psychological branch of science as we allow to the ascertained uniformities of physical law. But in these comparatively unexplored spheres of inquiry we are not entitled to deny that an occurrence is possible, because it has not fallen within previous observation. Let me not be misunderstood. I do not impeach in the slightest degree the validity of ascertained biological or psychological laws. Such laws must be loyally admitted so far as they go. I only contend that they do not necessarily go far enough. They may be true accounts of certain biological or psychological facts, but they do not exclude the possibility of other and apparently conflicting biological or psychological facts.

Let me take a prominent instance in biology to illustrate this. The doctrine of 'Biogenesis' is probably accepted by ninety per

cent. at least of scientific authorities. Let us assume, *argumenti gratia* at all events, that the testimony of experience shows that life invariably springs only from some antecedent life. Can we therefore say that Biogenesis is a law of nature? In a sense we can; and—my postulate being granted—we are perfectly justified in so saying. But we must not lose sight of the fact that the justification for this assertion rests on experience only; and therefore, that we cannot legitimately extend the scope of the law beyond the realm which experience illumines for us. We may be entitled to say: All life springs from antecedent life *now*. We are not entitled to say: All life *has* sprung from antecedent life; for it is obvious, on any theory of the universe, that at some period or other life must have sprung either from non-life or from nothing. Under these circumstances therefore, whatever they may have been, not Biogenesis but ‘Archebiosis’ was the biological law of nature that then obtained.

The facts seem so simple when put before us *in extenso* that error appears impossible; and so long as we keep to the facts, error is impossible. But we have a persistent tendency to stretch the mantle of experience over conditions of existence which lie necessarily outside it; and in this way we come to pervert a natural law, which is merely an enunciation of what *is* under given conditions, into a prophetic enunciation of what *must* be under conditions of which experience can tell us little or nothing.

Take again the famous saying that “Miracles do not happen”. In a sense this is indisputable from a scientific point of view. We may even go further, and say that a miracle, in the sense of a violation of the order of nature, never could happen. But then comes the question, What is the order of nature? The order of nature is constant in the sense that causation pervades its minutest detail. Nature’s accounts, so to speak, are most strictly kept. No force appears on one side of a natural equation which is not fully accounted for on the other, even though it be not always within our power to analyse the force-distribution which takes place. But the order of nature, as we perceive it, is not constant in the sense of being identical—identical, that is, from the beginning till now, and from now into the future of eternity.

Just so far as science insists on applying the ascertainment-clause universally to the interpretation of nature, so far will theology be able to insist triumphantly on the occurrence of miracle. If from our present observation that life springs invariably from antecedent life, we proceed to declare that this *observed uniformity* is an absolute natural law, it is open to any critic to retort that in this case natural law must at some time or other have been violated, since at some time or other the original life must have arisen from some other than an antecedent living source. The error lies in restricting “Natural Law” to “an *observed uniformity*”; which amounts, in fact, to an attempt to impose the transient conditions of the present upon an unknown

past and an unknowable future. Such an attempt is really foredoomed to failure, and gives ample opportunities for the enemy to blaspheme. But once get rid of the qualification "*observed*" from the definition of Natural Law, and Science is placed at once in a sounder and more tenable position.

Moreover the ascertainment-clause is open to another objection. It is clear that our possibilities of observation are restricted not only by the limits which time imposes, but by the imperfection of our faculties. The moment we get beyond the commonest phenomena of every-day life, we can rarely be quite sure that a sufficient number of instances have been observed to justify a universal induction. But over and above this we have to take into account our possibilities of error in the process of observation. Such errors cannot be entirely excluded even from the laboratory, and, in cases in which experimental tests are impossible and we are confronted with the phenomena which uncontrolled nature presents to us, it is obvious that the possibilities of error are immensely increased. This is particularly true in the relations of body and mind. The antecedents ABC may be followed a million times within our experience by DEF as consequents. But on some occasion X is added, unknown to us, to the antecedents, and we are startled by the appearance of an unfamiliar Z in the consequents. There are two solutions in which our perplexity usually takes refuge, the one being that Z is a subjective illusion, the other that it is a mystery which smacks of the miraculous. Both, of course, are equally untrue, and both alike spring from a form of intellectual bondage. The man who is slave to a limited conception of Natural Law dismisses the difficulty by declaring the new appearance an illusion. The man who is slave to superstition, religious or otherwise, calls it a mystery, a supernatural something, whose coming and going is wholly independent of the orderly course of nature, and consequently an indirect proof of the particular form of superstition which he happens to revere. And yet all the time it is a perfectly orderly phenomenon, the product (if I may so call it at the expense of strict accuracy) of Natural though *unobserved* Law.

The correlations of body and mind are still most imperfectly understood, and till comparatively lately their existence was hardly known. Before it was understood that body and mind cohere, not as independent elements of a temporary combination, but as mutually dependent members of an organic whole, a large class of rare bodily phenomena were not unnaturally regarded by many as miraculous or supernatural. Stigmatisation, healing by faith, many of the phenomena of trance, mesmerism, clairvoyance, &c., formerly admitted of no other explanation. But now that we know the power of imagination and its related faculties to produce physical pain or even injury; when we find that gout may be cured by a sudden fit of emotion, warts charmed away by counting or being treated with coloured water, and a variety of

therapeutic results produced solely by means of subjective expectancy ; when stigmatisation has taken place under a close medical supervision ;¹ when hypnotism has become a scientific study, and in skilful hands can be employed with extraordinary precision ; when even the exceptional facts of clairvoyance seem to admit of explanation as the "transference of special sense" ;² with these and many similar discoveries to lighten our darkness, we now find little difficulty in bringing the mysteries of the past within the natural law of the present.

But satisfactory though it be that our *knowledge* of natural order should be enlarged by the recognition of these phenomena as orderly, it is obvious that, quite independently of our knowledge or ignorance of the fact, these same phenomena, though alternately blessed as miraculous or banned as superstitious, were never anything but orderly.

These experiences of our errors in the past ought to be useful for our guidance in the future. A vicious extension of the principle of the ascertainment-clause has led scientific thought to reject as impossible facts which a further inquiry has established, and the same tendency still prevails widely.

The phenomena to which I have alluded above are signal instances of what natural order may unexpectedly comprise ; and, with the sciences of psychology and physiology hardly half grown, there is every reason to believe that the list will be largely increased. With these considerations before us, it is surely unwise to pass sentence prematurely on phenomena which are strange to our experience, or to depreciate the research which strives to bring them to the light of day.

Again, as I have already intimated, the current definition of Natural Law seems to bear too hardly upon theology. The rigorous claims of previous ascertainment brand all the miracles of theology with the stigma of falseness. It is clear, I think, that this is unjustifiable. It is often possible enough that the reputed miracle may have taken place in the sense that, as an event, the record of its occurrence may be true. All that science need dispute is its miraculous character, and this of course is quite incompatible with any sound conception of Natural Law. Theology, it is true, sometimes seeks to evade this conclusion by recourse to the notion of a "higher" law, which is intended

¹ For these facts I refer generally to Dr. Carpenter's *Mental Physiology*, chap. 19 ("The Influence of Mental States on Organic Functions"). One striking instance which he mentions I briefly reproduce :—A lady while watching a child playing by a window saw the sash suddenly descend upon its hand. The violent emotion which this sight aroused in her produced a corresponding injury in her own hand so severe as to necessitate an operation. I may add, perhaps, that I have known a similar though less pronounced case happen to a friend of my own.

² A paper read before the Royal Society a few years back by Dr. Davey.

to preserve both the uniformity of nature and the miraculous character of the so-called miracle. The phrase, however, is extremely misleading, and in this connexion is almost meaningless. If an invariable order of nature exists at all, there can be no degrees of validity between its processes. All alike are invariably orderly, the simplest being just as stubborn in its regularity as the most abstruse. The theory of a "higher" law only derives what plausibility it possesses from an importation into the meaning of "Natural law" of the illegitimate sense of "ordinance". It is possible to imagine degrees of validity or authority between different ordinances or spells; it is quite impossible to imagine any such degrees between the various manifestations of Natural order. Moreover, even if the doctrine of a higher law were admissible, it would not save the miracle, *quâ* miracle. For, inasmuch as the miracle is still *ex hypothesi* referred to Natural Law, *i.e.*, is regarded as a link in some natural chain of causation, it is still a natural and not a miraculous phenomenon, and consequently its evidential value as a *miracle* is absolutely *nil*.

But this doctrine of "higher laws," erroneous though it be, does throw some useful light on that class of phenomena to which I have already referred, and which are apt to be excluded from acceptance by the strict definition of Natural Law. We cannot properly admit any variance of validity between laws of nature, any more than we can admit that such laws are occasionally irregular. But, on the other hand, we can hardly help admitting the possibility at any rate of orderly phenomena as yet unknown to us. Phenomena of this kind may have escaped observation, either by reason of the limitation of our own faculties, or because their antecedents are complex and therefore comparatively rare, or from a combination of both these reasons. Consequently the strangeness of a phenomenon does not justify us in pronouncing it either a delusion or a miracle, for its unusual character may well be referred to a combination of unusual but perfectly orderly conditions.

If this be so, the case against the ascertainment-clause is made out. If we believe Natural Law to prevail *universally*, it is incorrect to define it as an order which is *limited*—limited, that is, by the condition of previous observation. If, on the other hand, we desire to restrict its meaning to *observed* uniformities of process, it is inaccurate to call it *Natural Law*; seeing that, *ex hypothesi*, it does not extend to the *whole* of nature, but only to that small part of it which has fallen under human observation.