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SCIENCE AND ETHICS

THE symposium on the relations between science and ethics, published in *Nature* of September 6, is undoubtedly useful as well as interesting, though far from conclusive. In view of the present burst-up of civilization and the heart-searchings thereby caused, the subject is of immediate and universal interest. We may be sure it will not be claimed for the discussion in *Nature* that it has exhausted all possible points of view; and this article is intended to indicate another line of thought for examination by scientists. But we must first furnish a summary of *Nature*'s symposium.

Dr. C. H. Waddington, a biologist, has initiated the discussion with the thesis that "ethics is based on facts of the kind with which science deals;" that "science is in a position to make a contribution to ethics;" that science's contribution is "the revelation of the nature of the character and direction of the evolutionary process in the world as a whole, and the elucidation of the consequences, in relation to that direction, of various courses of human action" This thesis Dr. Waddington seeks to base on the findings of Psycho-analysts, Anthropologists, Marxists and Logical Positivists. Their findings are together taken to indicate that "all characters are both inherited and acquired; that they are products of the interaction between the genes, which we usually consider internal, and the equally necessary factors, such as oxygen, nourishment, etc., which we usually consider external"; "that the origin of the propositions of ethics is the observation that the world is such, and the personality is such, that the individual must follow certain rules". The super-ego within and conditions of existence without have till now

been responsible, jointly and leaving no room for any other factor, for our rules of conduct called morality, ("super-ego" being the name given by psycho-analysts to what they suppose to be a fetishistic power—a god, a conscience, or an indeterminate something which may be a complex of many things and derives authority not from the known world). "No criterion external to the natural world is required to decide what is the 'good' direction of the evolution" of society. "An existence which is essentially evolutionary is itself the justification for an evolution towards a more comprehensive existence."

We are afraid the lay reader must complain, as indeed many of the participators in the debate have done, that Dr. Waddington's method of presentation has not served to bring out his point, whatever it is, very clearly and precisely, or to make his argument compulsive. It is surprising that in formulating a new theory in a matter of such vital significance, Dr. Waddington should have, firstly, placed unqualified reliance on sciences which are still in experimental stages and very far from being definitive; secondly, omitted to check their evidences in the light furnished by the many other pertinent witnesses that there are, such as physicists and chemists on one side, and metaphysicians, normal psychologists, poets, theologians, historians and so forth on another. He has, in his book on *The Scientific Attitude* (pp. 62–63), admitted that science has not yet come to speak with a unitary voice, that her tongues are many and therefore confusing. It should have occurred to him that science would be assuming too much responsibility in trying, at this stage, to lay down final dicta on the ultimate questions of life and destiny. Indeed, his very first premise,—that "ethics is based on facts of the kind with which science deals,"—is not easy to grant. Facts of science are only a part of the universe with which ethics is concerned. There are other facts and factors of intimate concern to ethics which are not available to the microscope and the test-tube.

The Bishop of Birmingham raises questions as to the soundness of some of the fundamental assumptions of Dr. Waddington. He asks:—"If an external world exists, is our picture of it correct? ..... Are our scientific laws accurate?" His answer is that the ethical standards we employ are, like our supposed knowledge of the universe, partial and transitional. He asks in conclusion:—

> "Are we wrong to find purposive activity behind the processes of change called evolution, to postulate God as its source, and to see in the ethical change which results from the growth of human experience His progressive revelation of Himself?"

The Dean of St. Paul's is even clearer in his dissent. He says:—If Dr. Waddington's point is that "the natural sciences have a valuable contribution to make to the study of ethics, few would deny it; if it is, as I think, the contention that the central problem for ethics can be solved by the method of natural science, that seems to me a disastrous error." The Dean's view is that "the moral experience in its authentic form is the opposite of compulsion" and that there is a responsibility of choice belonging to man. He is further of the view that there is "no reason to suppose that at any given moment, the actual direction of evolution is towards higher values", and

that "the voice of duty comes from a Source deeper and more intimate than the course of evolution."

Prof. W. G. deBurgh is categorical in his denial of the authority of the sciences relied upon by Dr. Waddington.

> Biology knows nothing of the qualitative distinction of higher and lower, better and worse; it can only display the continuity in the modifications of species through descent. ..... The cosmic process is wholly amoral. ..... The scientific study of it cannot teach us what is good or what we ought to do..... It cannot tell us that what will be is right or good.

Prof. C. E. M. Joad adduces an evidence strangely ignored by Dr. Waddington.

> The real agents of ethical change are to be found less in the factors of external nature or of economic motive (Marxism) than in the appearance of an ethical 'sport' in the shape of a Christ, a Buddha, a Socrates or a Blake who points the way to new levels of conduct and new standards of value.

Other dissentients from Dr. Waddington's view are Prof. L. S. Stebbing, Prof. A. D. Ritchie, and Prof. H. J. Fleure. Professor Stebbing says—"It is not compatible with Dr. Waddington's 'realist definition' of 'good' to speak of the course of evolution as morally offensive or morally admirable". Prof. Ritchie holds that by reason of its method, "the only values within the scope of science are truth and error as judged by logical consistency and conformity to fact." Dr. Waddington's theory "rests on *a priori* pre-suppositions, which it is best to be honest about" having regard to the limitations of the values of science just indicated. Prof. Fleure points to the unacceptability of Dr. Waddington's proposition that "to decide what is the 'good' direction of evolution, no criterion external to the natural world is required." Dr. Fleure's view is this:—

> Man is a social being and, within society, there is an unceasing and not always successful struggle towards freedom of conscience, towards replacement of external by internal factors..... The survival value of this freedom is related to the facts of observation and inference ..... Life's history on earth has been a process of ever recurring readjustments; and, with few exceptions, the fate of those forms which did not readjust has been extinction..... These developmental adjustments are selective; if some features are enhanced, others are atrophied. So, it is not very wise to suggest that the latter include the earlier that unduly simplifies the idea of change and suggests acceptance of the rather crude notion of the inevitability of progress.

The last contribution to the debate is that made by Prof. Julian Huxley, a biologist. He points out how sciences not taken into account by Dr. Waddington have contributed to the breakdown of traditional views on ethics.

> Evolutionary biology is one of them with all its implications as to human ancestry, the struggle for existence and the abolition of the idea of purpose in evolution. All the physical sciences have contributed, by providing a mechanistic explanation of natural phenomena previously attributed to supernatural powers and often invested with an ethical aura.

He agrees that it is possible to develop a new ethic, and to extend the categories of moral duties, in the wake of the extension of knowledge of nature which science achieves. But Prof. Huxley does not accept the theory of super-ego as an explanation of "certain aspects of morality which are felt as a categorical imperative." These aspects of morality he would appear to attribute to repression in early life.

> A great part of our ethical development will consist in demolishing the absoluteness

and compulsiveness of our early categorical imperatives and in altering the field to which they apply, in the light of reason and experience. ..... For constructive and truly humanistic ethics, we need to liberate psychological energies from the unconscious repression of early life, through reason and still more by appropriate education and by opportunities for fuller living.

On the whole, Prof. Huxley endorses Dr. Waddington's thesis that—

> Ethical systems are indispensable social organs, derived from the impact of a changing external world on the minds of indivisuals *via* the social environment, but themselves then helping to effect changes in the external world and the social environment.

The discussion is of value as indicative of certain points of view. If it should have been more than that, one cannot help thinking that the writers ought to have been more lucid in their style, more comprehensive in their survey and more coherent in the marshalling of their arguments. One thing significant is that no one speaks in accents of certitude and no one seems to have anything positive to communicate. To say that they have adopted the tone of diffidence and are negative in their intimations is not to find fault with them, but rather to acknowledge that they are not lacking in frankness as to the limitations of their position. Bluntly stated, the position is that the data which science in its present state can furnish, including even the "exact" sciences, for a theory of ethics or metaphysics, are a field of quicksand. Nothing in science is now without an element of uncertainty. The laws of nature so far proved and established relate only to the upper strata of phenomena. That the ultimate questions are still a long way from a final and universally acceptable solution is proved, for example, by the controversy between Sir James Jeans and Sir Arthur Eddington in the pages of *Nature*, still being carried on over the meaning of a book by the latter published more than two years ago.* The lay student may perhaps hazard the remark that such inconclusiveness of science is its normal condition; that it cannot simply be helped; that science will indeed have ceased to be science when she has taken refuge in a dogma, and will have lost her occupation if she were ever able to feel that the journey's end has been reached and that there need be no more search by her; that she can serve us best only by remaining a diligent seeker and truthful reporter for all time. The best that she can ever hope to contribute is not definitive conclusion, but material,—verified and logically assembled material,—for some other agency to formulate conclusions thereupon so far as the deeper problems of life are concerned. Such problems are mainly the concern of ethics and metaphysics. They have constantly to re-examine their positions and correct them in the light of the evidences of science. The proper office of science is thus that of a witness; not that of the judge. When science assumes the role of the judge, it takes upon itself responsibilities for which it is not, according to its own admitted nature, fully equipped. When scientists have the frankness and the modesty to acknowledge this limited jurisdiction of their study, they will have ensured to science a

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* (1) "The Philosophy of Physical Science" by Sir A. Eddington. (Published in October 1939 by the Cambridge University Press.)

(2) *Nature*, August 2 and 30, 1941 (Nos. 3744 and 3748).

readier welcome into the court, and thereby enhanced her contribution to the making of philosophy.

The one point that emerges with general approval from the discussion in *Nature* is almost a commonplace. It is that ethics will be faced with new problems as science goes on creating new situations or disclosing new facts from beneath the covering of old situations, and that morals will have to go on evolving accordingly, as they have gone on in the past. In other words, science too has a part to play, and does play a very conspicuous part, in the evolution of morals. No one will dissent from this proposition. Science, indeed, is entitled to play such a part, and the people who deny this title to her will do so at grave peril to themselves.

But the fundamental question is:—Where is it that the moral sense has its origin? Is that sense merely the offspring of temporal calculations of convenience and comfort for oneself; or is it part of the essential nature of man—of that which constitutes humanness? Is it intrinsic or extrinsic? Which is the locus of the seed of morality? Is it the super-ego? Or is it external nature? Or is it a third something? Where so many earnest minds are busy inquiring and examining, we may perhaps be permitted to bring to their notice a view of life which is the most ancient view still living in the world, namely the Hindu view.

According to one school of the Vedantic philosophy, the whole universe is instinct with life-potential. This is in various stages of dormancy or of awakenedness. There never was a time when the life-potential did not exist, and there never will be. When this eternal life-potential manifests itself in man, it releases in him certain primary propensities or impulses (*vasanas*). In these impulses (*Samskara-vasanas*) brought forward from a previous state of existence of the man, lie hidden the forces of both altruism and egoism, of both social and anti-social behaviour. It is on this primary stuff that environment works. But the *vasanas* or impulses are not all alone. With them is associated a reasoning intelligence in shaping man's further career.

It is necessary to explain that a great many impulses or *vasanas* are a matter of inheritance, and that heirship itself is not a matter of accident, but one of inexorable law. A man's ancestry and also his environment including even what appear to be accidents, are determined by the logic of his previous incarnations. It is this inscrutable logic that is called the law of *Karma*. This explanation of the origin of *vasana* or impulse must obviously take us beyond the province customarily recognised by science as her own; it takes us to the land of the unprovable, the land of faith. Indeed, without the acceptance of the postulate of a *Tertium Quid* and its mysterious working, the philosophy of the Hindu would have no legs to stand upon.

Having postulated a mysterious Third Agent who, without revealing his own nature fully, enters into the life of man and of Nature, and having also postulated a law to explain ancestry and environment, the Hindu philosopher holds that man, nevertheless, has a range of freedom for his own discrimination and choice as to right action. The field of man's free action is bounded on the one side by the residual forces of his beginningless past, and on the other

side by the immeasurable forces of the cosmic sport behind which stands the Great One (*Brahman*). So situated, he has to find out that which is "good" by his own intelligence and achieve it by his own effort.

There is a duality in the composition of man: an outward impulsion and an inward impulsion. The flow and interplay of these two forces is human life. They mould character and make history.

The outward impulsion (*Pravritti*) takes the form of the thousand and one hungers of the body and the senses, and seeks their satisfaction from without. The investigation of the possibilities and potentialities of Nature and the ordering of collective life as family and State are the incidents of that outward impulsion. Thus arise science and politics and economics and art.

The inward impulsion (*Nivritti*) takes the subtler form of the hungers of what is called the soul—of the ego or the "I" element—and seeks satisfaction in the shape of answers to questions about man's ultimate destiny and about the purpose of life, if there be any. Thus arise religion and the non-utilitarian nucleus of morality—the instinct for justice and pity and righteousness, —and philosophy.

Of course the two impulses, as they proceed from a common centre, relate themselves to it constantly. They interact between themselves, leading to a mutual modification or intensification.

The outward urge, being the grosser and the more easily satisfiable, acts more quickly and more commonly than the other. The inward urge is ordinarily slower and less insistent.

Viewed from an absolute standpoint, the antinomy between the outward and the inward is a mere seeming; and beneath this seeming lies the reality of the *Tertium Quid* (the *Atman* or *Brahman*) transcending all; and the realization of it abolishes all distinction between the two,—between the subjective and the objective.

The way to the finding of this *Tertium Quid* is through a constant effort to reach a balance between the external concerns of life and the internal, a condition in which neither hunger is starved and neither interferes with the reasonable satisfaction of the other. The attainment of this state of harmonious adjustment of both departments of life under a higher control constitutes the central problem of ethics and philosophy. The higher control is to be looked for from a constant practice of the presence of the *Tertium Quid*. Both impulsions then become disciplines for the soul. Such an attitude and way of life is *Dharma* or ethics.

The fields of man's outward search are for ever bound to remain incapable of yielding unqualified or lasting satisfaction; and to fix the eye exclusively on them is to remain for ever discontented and chafing. Nature has so unequally distributed her gifts over the earth, our hungers are so manifold and so prolific, and our powers of obtaining satisfaction are so diverse and uneven that we must always be prepared to find some part or other of the human family to be aggrieved and complaining of maladjustment. Such grousing is in the very nature of Nature. Man owes it to himself,—to the ethicizing element called conscience in the introspective impulse within himself,—to strive

for the correction of social maladjustments partly by conquering more and more of Nature's resources for the use of mankind and partly by enforcing more and more equity in the distribution of the means of welfare among men. Indeed, such persistent striving for the improvement of human conditions,—by means, among others, of scientific advancement and social reform,—is the way of strengthening and developing that instinct of altruism in ourselves which is an indispensable vehicle for the realization of what we have called the *Tertium Quid*. But we should take care not to let our concern for the outward become a burdensome preoccupation, making us forget the inward duty and diverting us from the higher path.

The outward struggle, if it is not to lead us to a morass of unending turmoil and frustration and despair, should be under the inspiration and control of the aspiration inward. And the inward movement, if it is to proceed undisturbed towards fruition, should let the outward struggle so proceed that it could bring new supplies of spiritual strength by wearing out the "I" sense and developing the sense of the "All". From individualism to universalism in practice is the way to the realization within the soul of the oneness of the individual with the universal—a realization which is not simply an intellectual or emotional accomplishment, but a transmutation of man's whole spirit.

To be alive both in and out; to bring the outward and the inward into harmony; to so regulate the outward that the inward may not become a void, and so develop the inward that the outward may not remain a burden—that is true culture and true progress. This is the central principle of right conduct or *dharma*. The forms of *dharma* are many. They grow and develop so as to fit circumstances. But the governing motive is approach towards the Brahman.

Dharma literally means "the bearer" or "the upholder". *Dharma* is that which upholds or supports life by making it good. It is to be applied to the entire field of life—both individual and collective, and relating both to the mundane and to what is other than mundane. Of the all-comprehensive scheme of *dharma*, what in English is called morality is an integral part. Morality is ordinarily conduct that affects others. But there are also parts or aspects of conduct which do not concern others, but concern oneself most intimately—one's own character and one's own mind. Even in these 'private' departments of conduct, there is need for *dharma* or correct principles. If one should realize throughout one's life—in every detail and at every point—that harmony and communion between the inner and the outer departments of life which is the *summum bonum* for man, it is imperative that one should constantly put oneself under a reasoned discipline. The less spiritual elements of one's nature should, partly by restraint and partly by persuasion, be trained into subordination to the more spiritual. This implies discriminating attention not only to the needs of the body, but also to the needs of the æsthetic and the intellectual sides of life. No human faculty need be famished provided it will be governed by *dharma*. Indeed it is conceivable that *dharma* may itself recommend that certain appetites should be kept satisfied

upto a point, so that the higher elements in the man's nature may be left at peace to develop and grow.

Dharma has a particularistic side as well as a universal side. The great laws of society and State including custom, convention, formality and etiquette are of the latter category. Under the former head, the general rules are to be interpreted or modified so as to suit peculiarities of individual circumstance (*Dharma Sukshma*). Striving to maintain the social order, to improve conditions of existence, to cultivate fortitude, to face misfortune, to seek and find joy in life;—study, struggle, adventure, achievement;—all these can be an experience and an education to the human spirit; and *dharma* therefore should direct and control them all.

The seed of *dharma* lies imbedded within the nature of every man, besides the *vasanas*. It is part of his very nature. It is Wordsworth's "stern Daughter of the Voice of God". It is quickened into life by intelligence, education and reason; and the freedom to bring his intelligence to its aid and service belongs also to man.

The end of *dharma* is the complete and uninterrupted possession of the vision of the unity of life—the unity underlying life's myriad forms and myriad aspects and running through all processes of growth and change. He who has in his soul captured the vision of this infinite and indivisible unity has outgrown self-consciousness. He knows neither "I" nor "you" nor "he". Everything is the All or One to him, his sense of his own "self"—*i.e.*, his own distinctness,—being lost in it. How can his activities thereafter be other than "good"? He is good without effort, because he has rid himself of the taint of "I". Loving kindness would ever flow from him spontaneously, like the breath in his nostrils. *Dharma* is the scheme of duties and disciplines which leads man to become merged in this grand unitary vision of the ceaseless cosmic play. So to lose one's self is to gain the peace of "the eternal deep".

Such in rough outline is the Hindu's conception of right conduct. Would Dr. Waddington trace it to biological evolution or economic history or psycho-analyst super-ego? The Hindu view can be sustained only if the postulate of a *Tertium Quid* besides Man and Nature be accepted; and if there is anything in science to preclude such a postulate, the ground of that preclusion has nowhere been made clear. Science may not herself need it; but life, which is larger than science, stands in need of it if it should be more than a race of blind mice terrified by the screams of lame cats themselves frightened by the sniffings of dumb dogs in a sunless wood.

Matthew Arnold has summed up the argument, as a philosophical poet would, in some lines addressed to a preacher:—

"In harmony with Nature? Restless fool
Who with such heat dost preach what were
to thee,
When true, the last impossibility!—
To be like Nature strong, like Nature cool!
Know, man hath all which Nature hath,
but more,
And in that *more* lie all his hopes of good.
Nature is cruel, man is sick of blood;
Nature is stubborn, man would fain adore;
Nature is fickle, man hath need of rest;
Nature forgives no debt, and fears no grave;
Man would be mild, and with safe con-
science blest.
Man must begin,—know this,—where
Nature ends;
Nature and man can never be fast friends.
Fool, if thou canst not pass her, rest her
slave."

D. V. G.