PHYSICS OR PHILOSOPHY

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WHAT is the world that we see really like? Is it mental, is it material? This is a question, we know, philosophers are familiar with, and they have answered and are still answering, each in his own way, taking up one side or other of the antinomy. There is nothing new or uncommon in that. The extraordinary novelty comes in when we see today even scientists forced to tackle the problem, give an answer to it,—scientists who used to smile at philosophers, because they seemed to assault seriously the windmills of abstract notions and airy concepts, instead of reposing on the *terra firma* of reality. The tables are turned now. The scientists have had to start the same business—the *terra firma* on which they stood as on the securest rock of ages is slipping away under their feet and fast vanishing into smoke and thin air. Not only that, it is discovered today that the scientist has always been a philosopher, without his knowledge—a crypto-philosopher,—only he has become conscious of it at last. And further—*mirabile dictu*!—many a scientist is busy demonstrating that the scientist is, in his essence, a philosopher of the Idealist school!

Physical Science in the nineteenth century did indeed develop or presuppose a philosophy of its own ; it had, that is to say, a definite outlook on the fundamental quality of things and the nature of the universe. Those were days of its youthful self-confidence and unbending assurance. The view was, as is well-known, materialistic and deterministic. That is to say, all observation and experiment, according to it, demonstrated and posited:

First, that this universe is made up of particles that push and pull each other, the particles having certain constant values, such as in respect of mass and volume.

Secondly, that the laws governing the relations among the particles, in other words, their push and pull, are laws of simple mechanics ; they are fixed and definite and give us determinable and mensurable quantities called co-ordinates—by which one can ascertain the pattern or configuration of things at a given moment and deduce from that the pattern or configuration of things at any other moment: the chain that hangs things together is fixed and uniform and continuous and is not broken anywhere.

The scientific view of things thus discovered or affirmed certain universal and immutable facts —axiomatic truths—which were called constants of Nature. These were the very basic foundations upon which the whole edifice of scientific knowledge was erected. The chief among them were: (1) conservation of matter, (2) conservation of energy, (3) uniformity of nature and (4) the chain of causality and continuity. Above all, there was the fundamental implication of an independent—an absolute—time and space in which all things existed and moved and had their being.

THE whole business of experimental science was just to find the absolutes of Nature, that is to say, facts and laws governing facts that do not depend for their existence upon anything but themselves. The purely objective world without any taint of an intruding subject was the field of

much as start till the Muslim minority remove the ban they have placed against the progress of the country. Their demand is that the paramount power and the ancient majority in the land should submit unquestioningly to their desire for Pakistan. Unreason in communties is the characteristic product of the age. We have watched this malady grow worse and worse since 1907. Is there a remedy? In sheer despair arbitration has been suggested, and with great difference I venture to recommend it. Sovereign nations will soon agree to have their most cherished rights settled by the award of arbitral boards set up by mutual consent. The division of Indian soil between two communities is not, some publicists contend, a matter fit for arbitration. I don't know. When a nation, being a party to a dispute, refuses arbitration, it means readiness to go to war. Some heroic men on both sides say: "Let us have it out now by civil war, since it must come some day." We must not lose patience at this state. Let us remember after all we are not independent nations. There is the paramount power, for the moment profiting by the quarrel and letting it develop. Some day when its position is secure, it will for very shame reconsider its attitude and stop encouraging intransigeance among its subjects. That day is not far off. Meanwhile, if the leaders on both sides will try again to compose the matter, let us all wish them god-speed. If Government, genuinely neutral and solicitous of a settlement, propose arbitration we must give a chance to the method. Only both parties must agree to the method and to the personnel of the court. If India's star is in the ascendant and this agreement materializes, I for one am prepared to swallow even Pakistan in the last resort. But in no circumstances should one community be allowed to enjoy dictatorship.

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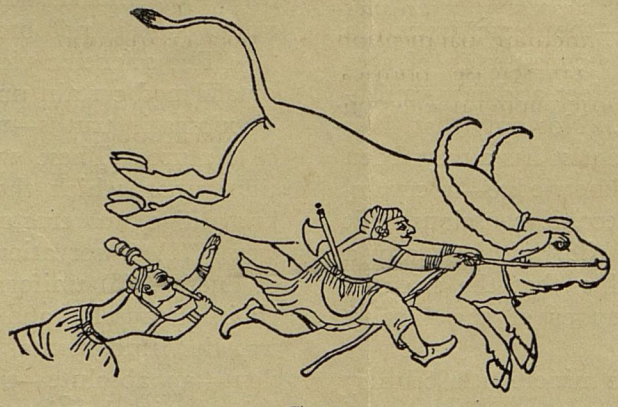

—FROM AN OLD RAJPUT DRAWING

its inquiry. In fact, the old-world or Medieval Science—there was a Science even then—could not develop properly, did not strike the right line of growth, precisely because it had a strong subjective bias: the human factor, the personal element of the observer or experimenter was unconsciously (at times even deliberately) introduced into the facts and explanations of Nature. The new departure of Modern Science consisted exactly in the elimination of this personal element and making observation and experiment absolutely impersonal and thoroughly objective.

Well, the old world spirit has had its revenge complete and absolute in a strange manner. We are coming to that presently. Now, the constants or absolutes of which we spoke, which were the bed-rock of Modern Science, were gradually found to be rather shaky—very inconstant and relative. Take, for example, the principle of conservation of matter. The principle posited that in a given system the quantity of matter is constant in and through all transformations. Modern Science has found out that this law holds good only in respect of gross matter belonging to man-size Nature. But as soon as we enter into the domain of the ultimate constituents of matter, the units of electric charges, the infinitesimals, we find that matter is destroyed and is or can be recreated: material particles are dematerialised into light waves or quanta, and light quanta are precipitated back again into electric particles of matter. Similarly, the law of conservation of energy—that energy $=\frac{1}{2}mv^2$ (m being mass, v velocity)—does not hold good in respect of particles that move with the speed of light: mass is not a constant as in Newtonian mechanics, but varies with velocity. Again, in classical mechanics, position and velocity are two absolute determinates for all scientific measurement, and Science after all is nothing if not a system of measurements. Now, in the normal size world, the two are easily determined; but in the sub-atomic world things are quite different; only one can be determined accurately; the more accurate the one, the less so the other; and if both are to be determined, it can be only approximatively, the closer the approximation; the hazier the measure, and the farther the approximation, the more definite the measure. That is to say, here we find not the exact measures of things, but only the probable measures. Indeed, not fixity and accuracy, but probability has become the central theme of modern physical calculation.

THE principle of indeterminacy carries two revolutionary implications. First, that it is not possible to determine the movement of the ultimate particles of matter individually and severally, it is not possible even theoretically to follow up the chain of modulations of an electron from its birth to its dissolution (if such is the curve of its destiny), as Laplace considered it quite possible for his super-mathematician. One cannot trace the complete evolution of each and every or even one particular particle, not because of a limitation in the human capacity, but because of an inherent impossibility in the nature of things. In radioactive substances, for example, there is no ground or data from which one can determine which particle will go off or not, whether it will go off the next moment or wait for a million years. It is mere chance that seems to reign here. In radiation too, there is no formula, and no formula can be framed for determining the course of a photon in relation to a half-reflecting surface, whether it will pass through or be reflected. In this field of infinitesimals what we know is the total behaviour of an assemblage of particles, and the laws of nature are only laws of average computation. Statistics has ousted the more exact and rigid arithmetics. And statistics, we know, is a precarious science: the knowledge it gives is contingent, contingent upon the particular way of arranging and classifying the data. However, the certainty of classical mechanistic knowledge is gone, gone the principle of uniformity of nature.

The second element brought in in the indeterminacy picture is the restoration of the "subject" to its honoured or even more than the honoured place it had in the Mediaeval Ages, and from which it was pulled down by young arrogant Science. A fundamental question is now raised in the very methodology of the scientific apparatus. For Science, needless to say, is first and foremost observation. Now it is observed that the very fact of observation affects and changes the observed fact. The path of an electron, for example, has to be observed; one has then to throw a ray of light—hurl a photon—upon it: the impact is sufficient to deflect the electron

from the original path. If it is suggested that by correction and computation, by a backward calculation we can deduce the previous position, that too is not possible. For we cannot fix any position or point that is not vitiated by the observer's interference. How to feel or note the consistency of a thing, if the touch itself, the temperature of the finger, were sufficient to change the consistency? The trouble is, as the popular Indian saying goes, the very amulet that is to exorcise the ghost is possessed by the ghost itself.

SO the scientists of today are waking up to this disconcerting fact. And some have put the question very boldly and frankly: do not all laws of Nature contain this original sin of the observer's interference, indeed may not the laws be nothing else but that? Thus Science has landed into the very heart—the bog and quagmire, if you like—of abstruse metaphysics. Eddington says, there is no other go for Science today but to admit and declare that its scheme and pattern of things, as described by what is called laws of Nature, is only a mental construct of the Scientist. The "wonderful" discoveries are nothing but jugglery and legerdemain of the mind—what it puts out of itself unconsciously into the outside world, it recovers again and is astonished at the miracle. A scientific law is a pure deduction from the mind's own disposition. Eddington goes so far as to say that if a scientist is sufficiently introspective he can trace out from within his brain each and every law of Nature which he took so much pains to fish out from Nature by observation and experiment. Eddington gives an analogy to explain the nature of scientific law and scientific discovery. Suppose you have a fishing net of a particular size and with interstices of a particular dimension; you throw it into the sea and pull out with fishes in it. Now you count and assort the fishes, and according to the data thus obtained, you declare that the entire sea consists of so many varieties of fish and of such sizes. The only error is that you could not take into account the smaller fishes that escaped through the interstices and the bigger ones that did not at all fall into the net. Scientific statistics is something of this kind. Our mind is the net, and the pattern of Nature is determined by the mind's own pattern.

Eddington gives us absolutely no hope for any knowledge of an objective world apart from the objectification of mind's own constructs. This is a position which a scientist, *qua* scientist, finds it difficult to maintain. Remedies and loop-holes have been suggested with what result we shall presently see.

EINSTEIN'S was, perhaps, the most radical and revolutionary solution ever proposed. Indeed, it meant the reversal of the whole scientific outlook, but something of the kind was an imperative need in order to save Science from inconsistencies that seemed to be inherent in it. The scientific outlook was vitiated, Einstein said, because we started from wrong premises; two assumptions mainly were responsible for the bankruptcy which befell later-day Science. First, it was assumed that a push and pull—a force (a gravitational or, more generally, a causal force) existed and that acted upon isolated and independent particles strewn about; and secondly, they were strewn about in an independently existing time and an independently existing space. Einstein has demonstrated, it seems, successfully that there is no Time and no Space actually, but times and spaces (this reminds one of a parallel conception in Sankhya and Patanjali), that time is not independent of space (nor space of time) but that time is another co-ordinate or dimension necessary for all observation in addition to the three usual co-ordinates (or dimensions). This was the explanation he found of the famous Michelson-Morley experiment which failed to detect any difference in the velocity of light whether it moved with or against a moving object, which is an inconsistency according to the mechanistic view.* The absolute dependence of time and space upon each other was further demonstrated by the fact that it was absolutely impossible to synchronise two distant clocks (moving with different speeds and thus forming different systems) with perfect

* The constancy of the velocity of light, it must be noted, is not altogether an objective fact: it is a supposition by which Einstein tried to explain certain anomalies in previous theories. It is really, as some have pointed out (*e.g.*, Hans Reichenbach—"Atom and Cosmos"—p. 136), a mental formula, part of a built-in structure, arbitrary to a certain extent which is so arranged that the speed becomes constant and equal for systems in different states of motion.

accuracy, or determine exactly whether two events happened simultaneously or not. In the final account of things, this relative element that varies according to varying particulars had to be eliminated, sublated. In order to make a law applicable to all fields—from the astronomical through the normal down to the microscopic or sub-atomic —in an equally valid manner, the law had to divest itself of all local colour. Thus, a scientific law became a sheer mathematical formula; it was no longer an objective law that governed the behaviour of things, but merely a mental rule or mnemonics to string together as many diverse things as possible in order to be able to memorise them easily.

Again, the generalised law of relativity (that is to say, laws governing all motions, even accelerated motion and not merely uniform motion) that sought to replace the laws of gravitation did away also with the concepts of force and causality: it stated that things moved not because they were pulled or pushed but because they followed the natural curve of space (they describe geodesics, *i.e.*, move in the line of least distance). Space is not a plain surface, smooth and uniform, but full of dimples and hollows, these occurring in the vicinity of masses of matter, the sun, for instance, (although one does not see how or why a mass of matter should roll down the inclined plane of a curved surface without some kind of push and pull—the problem is not solved but merely shifted and put off). All this means to say that the pattern of the universe is absolutely geometrical and science in the end resolves itself into geometry: the laws of Nature are nothing but theorems or corollaries deduced and deducible from a few initial postulates. Once again, on this line of enquiry also the universe is dissolved into abstract and psychological factors.

APART from the standpoint of theoretical physics developed by Einstein, the more practical aspect as brought out in Wave Mechanics leads us into no less an abstract and theoretical domain. The Newtonian particle-picture, it is true, has been maintained in the first phase of modern physics which specialised in what is called Quantum Mechanics. But waves or particles—although the question as to their relative validity and verity still remains open—do not make much difference in the fundamental outlook. For in either view, the individual unit is beyond the ken of the scientist. A wave is not a wave but just the probability of a wave: it is not even a probable wave but a probability wave. Thus the pattern that Wave Mechanics weaves to show the texture of the ultimate reality is nothing more than a calculus of probabilities. By whichever way we proceed we seem to arrive always at the same inevitable conclusion.

So it is frankly admitted that what Science gives is not a faithful description of actuality, not a representation of material existence, but certain conventions or convenient signs to put together, to make a mental picture of our sensations and experiences. That does not give any clue to what the objective reality may or may not be like. Scientific laws are mental rules imposed upon Nature. It may be asked why does Nature yield to such imposition? There must be then some sort of parallelism or commensurability between Nature and the observing Mind, between the pattern of Nature and the Mind's scheme or replica of it. If we successfully read into Nature things of the Mind, that means that there must be something very common between the two. Mind's readings are not mere figments, hanging in the air ; for they are justified by their applicability, by their factual translation. This is arguing in a circle, a thorough-going mentalist like Eddington would say. What are facts? What is life? Anything more than what the senses and the mind have built up for us?

Jeans himself is on the horns of a dilemma.* Being a scientist, and not primarily a mathematician like Eddington, he cannot very well acquiesce in the liquidation of the material world ; nor can he refute successfully the facts and arguments that Science itself has brought forward in favour of mentalism. He wishes to keep the question open for further light and surer grounds. In the meanwhile, however, he is reconciled to a modified form of mentalism. The laws of Nature, he says, are surely subjective in the sense that astronomical or geographical concepts, for example, such as the system of latitudes, longitudes, equator and

* "Physics and Philosophy" by Sir James Jeans.

axis, ellipse and quadrant and sextant, are subjective. These lines and figures are not drawn physically upon the earth or in space: they are mental constructs, they are pointers or notations, but they note and point to the existence and the manner of existence of real objects in a real world.

In other words, one tries to come back more or less to the common sense view of things. One does not argue about what is naturally given as objective reality; whatever the mental gloss over it, it is there all the same. One accepts it, takes it on trust, if you like—one can admit even that it is an act of faith, as Russell and the Neo-Realists would maintain.

But Jeans' position is remarkable and very significant in one respect. When cornered in the process of argument, feeling that the world is inexorably dematerialised and mentalised, he suggests an issue which is natural to a philosopher, a mystic philosopher alone. Well, let him state his position in his own words the passage, I repeat, is so remarkable and significant ;

> "When we view ourselves in space and time, our consciousness are obviously the separate individuals of a particle-picture, but when we pass beyond space and time, they may perhaps form ingredients of a single continuous stream of life. As it is with light and electricity, so it may be with life; the phenomena may be individuals carrying on separate existence in space and time, while in the deeper reality beyond space and time we may all be members of one body. In brief, modern physics is not altogether antagonistic to an objective idealism like that of Hegel" (p. 204).

A la bonne heure! That runs close to Upanishadic knowledge. It means that the world is objective—it is not the figment of an individual observer ; but it is not material either, it is consciousness in vibration. (Note the word "consciousness" is Jeans' own, not mine).

JEANS is not alone to have such a revolutionary and unorthodox view. He seems to take courage from Dirac also. Dirac too cannot admit an annihilation of the material world. His proposal to save and salvage it follows a parallel line. He says that the world presented or pictured by physical science may not be and is not the actual world, but it posits a substratum of reality to which it conforms: the pattern presented by subjective laws is so composed because of a pressure, an impact from an analogous substratum. There is no chain of causal relation in the pattern itself, the relation of causality is between the substratum reality and the pattern that it bodies forth. Here again we find ourselves at the end of physical inquiry driving straight into the tenuous spaces of spiritual metaphysics. We have one more example of how a modern physicist is metamorphosed into a mystic. What Dirac says is tantamount to the very well-known spiritual experience that the world as it appears to us is a vesture or symbol of an inner order of reality out of which it has been broadcast—*sah paryagat*—and the true causes of things are not on the surface, the so-called antecedents, but behind in the subtler world called therefore the causal world, *karana jagat*.

Even Eddington is not so absurd or impossible as it may seem to some. He says, as we have seen, that all so-called laws of Nature can be discovered from within the mind itself, can be deduced logically from psychologically given premises: no empricial observation or objective experimentation is necessary to arrive at them: they are found *a priori* in the subject. Now, mystic experience always lays stress on extra-sensory knowledge: it declares that such a knowledge is not only possible, but that this alone is the right and correct knowledge. All things—matter and mind and life and all—being but vibrations of consciousness, even as the colours of a spectrum are vibrations, electro-magnetic waves of different frequency, mystic discipline enables one to enter into that condition in which one's consciousness mingles with all consciousness or with another particular consciousness (Patanjalli's term is *samyama*), and one can have all knowledge that one wishes to have by this inner contact or concentration or identification, one discovers the knowledge within one self, no external means of sense observation and experimental testing, no empirical inductive process is needed. We do not say that Eddington had in view anything of this kind, but that his attitude points in this direction.

That seems to be the burden, the underlying preoccupation of modern physical science: it has been forced to grope towards some kind of mystic perception ; at least, it has been put into a frame of mind, due to the crumbling of the very fundamentals of the past structure, which is less obstructive to other sources and spheres and ways of knowledge. Certainly, we must admit that we have moved very far from Laplace when we hear today a hard-boiled rationalist like De Broglie declare:

> "The idealisations more or less schematic that our mind builds up are capable of representing certain facets of things, but they have inherent limitations and cannot contain within their frames all the richness of the reality."*

THE difficulty that modern Science encounters is not, however, at all a difficulty: it may be so to the philosopher, but not to the mystic, the difficulty, that is to say, of positing a real objective world when all that we know or seize of it seems to be our own mental constructions that we impose upon it. Science has come to such a pass that it can do no more than take an objective world on trust.

* "La Physique Nouvelle et les Quanta" by Louis de Broglie, p. 12.

Things need not, however, be so dismal looking. The difficulty arises because of a fundamental attitude—the attitude of a purely reasoning being. But Reason or Mind is only one layer or vein of the reality, and to see and understand and explain that reality through one single track of approach will naturally bias the view, it will present only what is real or immediate to it, and all the rest will appear as secondary or a formation of it. That is, of course, a truth that has been clearly brought out by the anti-intellectualist. But the vitalist's view is also likewise vitiated by a similar bias, as he contacts reality only through this prism of vital force. It is the old story of the Upanishad in which the seeker takes the Body, the Life and the Mind one after another and declares each in its turn to be the only and ultimate reality (Brahman).

The truth of the matter is that the integral reality is to be seized by an integral organon. To an integralised consciousness the integral reality is directly and immediately presented, each aspect is apprehended in and through its own truth and substance. The synthesis or integration is reached by a consciousness which is the basis and continent of all, collectively and severally, and of which all are various formations and expressions on various levels and degrees. This is the knowledge and experience given by the supreme spiritual consciousness.

MENTAL AND MORAL DISCIPLINE

B. J. WADIA

THE development of the human mind is a slow process, but it begins from childhood, and never ends except with life itself. The elements serving to mould it are furnished by our earlier work in schools and colleges. These gradually train the mind to an intellectual vigour, and later also to a moral discipline, and prepare it for farther and greater pursuits. The mind is thus directed towards the discovery of truth. The truth so discovered must then be applied to the actual duties and responsibilities of life. The greatest of all acquisitions is a well-regulated mind, dominated by the culture of the moral being. By his very constitution a man comes under the influence of the objects of sense, that is, those external things which surround him throughout his life. But the real springs of his happiness lie chiefly within. It is within us that lie hidden the germs of our nobler faculties. It is also from within that those evil habits and passions spring which exercise a tyranny that ultimately destroys all solid peace. No wonder that Shakespeare made Hamlet say that he would wear in his heart of hearts the man who was not "passion's slave". It is clear from a study of history that under the influence of passion a man may be master of the world, and yet may himself be a slave.

We all have certain views of happiness. One man finds it in wealth, another in learning, a third in power and rank, and a fourth in fame. Too often the imagined goal eludes the grasp, and when we enter upon life with frustrated hopes, we end with the feeling that we have perhaps lived in vain. It is different when the mind leads us to view life as a scene of moral discipline. We do not then look at its pleasures and its pains, but at its high duties and responsibilities. These discipline the heart from which we get the happiness which external things cannot destroy. The discipline of the mind and the heart thus combine to frame a course of life which makes man worthy of high intellectual and moral powers, and induces the contemplation of those great truths which lead him ultimately to the omnipotent and eternal cause. We value the rapid progress of science in war time, but our scientific advance is more rapid than ethical. The ethical advance of mankind badly needs speeding up, so that the future development of science may be bound up with the survival of high moral standards and values.

JUDGED by these principles, and viewed from this standpoint, life has a value beyond the mere acquisition of knowledge and the pursuit of happiness. The discipline of the emotions leads man to reverence, and in Tennyson's well-known words, knowledge and reverence must combine, so that "mind and soul, according well, may make one music as before, but vaster". We have to cultivate our intellectual powers for the discovery of truth, and train the moral being for the solemn purposes of life. It is man's crowning glory not to waste time in the trifles of the passing hour, and he can attain it only by the culture of the mind and the discipline of the heart. Knowledge is vain without the culture of the higher powers of the mind, and happiness is a phantom, if the heart does not regulate a man's

principles of action as a moral and responsible being. A man must learn to scrutinize his own intellectual and moral temperament, and nothing is more important than the habit of introspection or looking within. Thus only can he become alive to the solemn realities of life.

A well-regulated condition of the mind contributes materially to our progress in knowledge. It will teach us to trace among facts and phenomena the mysterious relations of cause and effect, and to deduce from them general conclusions and principles, which is the first and last object of science. A well-regulated condition of the mind also affects the formation of opinions and prevents a man from being the slave of slogans and catchwords which have only a momentary value. We need not discard all received opinions in order to appear wiser than our neighbours. This may be the sign only of vanity and arrogance. A regulated mental discipline only can induce us to approach a subject with a sincere and humble desire for the truth and nothing less. Truth derives its power from facts, and facts are sifted by the mind with the aid of the heart, the emotions, and even the imagination when necessary.

A WELL-REGULATED mind always influences the moral feelings and emotions of a man. The highest of these feelings will raise man as a finite being to Him who is the Infinite and the Eternal. In them we also find the highest state of man, and from them come all those feelings and motives of action which guide his conduct towards his fellow-men. Emotions often arise out of the intellectual processes of understanding over which a man has complete control, and the understanding can in turn control the moral emotions. Mere intellectual power is not enough; the grandeur of the human soul depends but little on it. The culture of the moral feelings and emotions is man's essential pursuit, for then only can he control the tempests over which he is tossed to and fro in life. A disciplined mind with the help of the disciplined emotions will prevent the formations of warped judgments which make some of us incapable of choosing between the right and the wrong, or the better and the worse. So much depends upon the ethical qualities which are the real factors of progress. As Emerson put it, the true test of civilisation is not the census, nor the size of cities, nor the crops, but the mind of men the country turns out. Nothing illustrates this more strongly than the history of some of the world's ancient civilisations. These were equal if not superior to ours; but they vanished, and the causes which led to their fall have not yet ceased working in the world.

IT should be, therefore, man's duty in early life to begin to cultivate a sound condition of the mind, so that its powers cannot be kept in bondage to mere objects of sense. Let him call to his aid the good offices of the heart with its noble emotions in order to seek purity of character, and to lift the mind to the contemplation of the eternal cause. The culture of the mind and the discipline of the heart are a powerful combination of the mind and the soul in order to eliminate unbalanced personalities. It creates a light which will shine upon the world's moral darkness, and give us an ethical code as high, as pure, and as extensive as those contemplated by the world's great prophets. It is the culture and discipline of the mind and the heart which will lead to a higher and better appreciation of the true, the humane, and the just. Our standard of conduct towards each other will become ethically higher, and no nation, no people, no individual who will revert to the older standards can claim to be in the vanguard of progress and civilization. There is no lever like a good conscience to overcome the difficulties of life, and a good conscience comes from the culture of the mind and the formation of habits of obedience to moral discipline according to an ideal which is the truest and the highest.

INDIA : WHEN YUAN CHWANG VISITED IT

K. M. MUNSHI

WHAT Yuan Chwang saw and recorded in c. 640-650 A.D. was but a fraction of the life and culture which prevailed in India. The organisation of life evolved in the country under the urge provided by Ārya Dharma, was unique in the history of the world.

The Dharma, which even in the Vedic and post-Vedic times was growing towards its ultimate scope and content, was the overarching law of life. It comprised of rituals and myths, of modes of life and canons of conduct, of traditions, of a wealth of language and literature, of a theory of life and social organisation, and of living ideals. Historic continuity was preserved through a belief in the *Vedas* as the ultimate source of all inspiration. The mythology embraced sacred legends of rivers, mountains, cities, royal houses, semi-divine heroes and sages, which made the past a vital heritage to every succeeding age.

The social organisation was based on a family life dominated by strong patriarchal traditions. It afforded shelter to every needy and helpless member, and as a corollary imposed strict regard for feminine virtue so essential to preserve the purity of race and culture. It was based on a hierarchy of social groups divided according to the standard of culture attained by each. At its head stood the Brāhmanas devoted to learning, culture and self-discipline. The hierarchical organization permitted a newcomer to benefit by, but never to destroy, social achievements, and offered scope to the uncultured to rise in the scale of life but never so fast to jeopardise its stability.

Saṁskṛta, a language perfect in structure and elastic in expression, with a rich, varied, beautiful literary achievement, was the living embodiment of the Dharma. Finally, all conduct was regulated by one unchanging, supreme code of ethical values. Though running through a diversity of religious beliefs, it insisted on the observance of the great vows—mahā-vratas—of non-violence, truth, non-stealing, continence and non-possession. The fundamental of this Dharma from the beginning was a supreme faith in human endeavour, self-discipline (saṁyama) and asceticism (tapas). These alone could lead a man to shed his limitations and become the 'Supreme' in this life. Emphasis was laid on individual experience and becoming, rather than on belief and scriptural word. And its base was a living conception of Āryāvarta, the sacred land of the Aryans, leavened by an abiding veneration for those who lived and died so that it may live great and eternal.

DURING the period under review the social aspect of Ārya Dharma, Varṇāśramadharma, was not conceived as a mere conglomeration of four castes. It was a social synthesis. Not only it regulated life but provided an effective process of social evolution without striking at the continuity of life. This organisation had grown apace since the days of Viśvāmitra. The racial supremacy of the Aryans had been converted into a hierarchy of social corporations. Divided according to functions, they were ranged in an order based on the degree to which Aryan culture had been absorbed.

From the beginning Dharma was related to Āryāvarta. Wherever Dharma prevailed, there