SWAMI VIVEKANANDA'S SYNTHESIS OF SCIENCE AND RELIGION—1

SWAMI RANGANATHANANDA

The subjects of science and religion are getting more and more important to man in the modern age. They are two great disciplines, which, when combined harmoniously, can bring about an all-round expression of human genius. But, unfortunately, for the last few centuries, the relationship between the two has not been quite happy. In the twentieth century, however, a new approach is becoming evident, and the representative thinkers among scientists and religious people are beginning to discern a close interrelation between these two branches of human knowledge. They are slowly veering round to the point of view that science and religion can heartily embrace each other, without detriment to the cause for which each stands, and work for the good of humanity. It is being realized more and more by both that there are elements in science that religion can adopt in order to fortify itself, and elements in religion that can deepen and strengthen science. I shall here touch upon some of these points of contact, and discuss the methods and results of both the disciplines, against the background of the unity and totality of knowledge and in the light of the synthetic approach and vision of Swami Vivekananda, who was an outstanding spiritual and intellectual luminary of the modern age and worked successfully to bring about this great consummation. Writes Romain Rolland about him:

'In the two words equilibrium and synthesis, Vivekananda's constructive genius may be summed up. He embraced all the paths of the spirit: the four *yogas* in their entirety, renunciation and service, art and science, religion and action, from the most spiritual to the most practical. ... He was the personification of the harmony of all human energy.' (Romain Rolland: *Life of Vivekananda,* Advaita Ashrama, Calcutta 14, Third Impression, p. 310)

THE SCIENTIFIC DISCIPLINE

The civilization in which we live today is the product of the discipline of the human mind known as science. When we study science at close quarters, in the way the great scientists have applied themselves to this pursuit, we find two aspects in its discipline. The first is *pure science,* science which tries earnestly to understand the truth of experience through a dispassionate inquiry; and the second is *applied science,* in which the truths discovered by pure science flow as inventions for the technical enrichment of human life. These two, science as *lucifera* and science as *fructifera,* science as *light* and science as *fruit,* always go together. Knowledge leads to power, and power leads to control and manipulation of the forces of nature, enabling man to condition his life and environment with deliberation. Every new discovery in pure science, at some stage or other, becomes converted into applied science, into control and manipulation of the forces of nature. And the result, as revealed in recent history, is the great saga of scientific discovery and invention resulting in the world-wide technological civilization of today. It is a most fascinating study how the human mind, disciplined in this pursuit of science, develops the capacity to wrest from nature truth after truth, hidden and jealously guarded by her, leading to

our extraordinary age of nuclear science and space travel.

LIMITATIONS OF SCIENCE

But, when we go deeper into this subject of science, its limitations become apparent. To illustrate: two branches of science, viz physics, including astronomy, and biology, have given us a vast body of insights regarding the nature of the universe and man. Up to the end of the nineteenth century, physics was warped in its final judgements. It saw materialism and mechanism reigning supreme in the universe. There was then a cock-sureness in its pronouncement; but, in the twentieth century, an element of humility is discernible in the attitude of the great physicists of the age. In the nineteenth century, knowledge was not deep enongh, and scientists looked only at the surface of things. But, along with the discovery of such facts as radio-activity and insight into the nucleus of the atom, the realization has come that there is a severe limitation placed on our knowledge regarding the truth of the external world. Science owns today that it deals only with the *appearances* of things and not with the *reality* behind these appearances. Some of the greatest of modern physicists tell us that what science has revealed of the world around us is only the outer aspect of things. Behind this *observable* universe, there is an *unobservable* universe. This is a great confession of the limitations of science and its methods. Science is dealing with phenomena revealed by the senses or by apparatuses helpful to the senses. But these senses reveal so little, and what they reveal only tell us that there are realities behind the sense world determining it and controlling it. Science restricts itself to the understanding of the observable part of the universe and to controlling its energies for the uses of man.

A similar sitnation obtains in the science of biology. In the last century, it was cock-sure about its pronouncements. By a study of the different aspects of the phenomena of life it arrived at the great theory of evolution, from which it drew certain conclusions which directly led to a form of materialism that equated man with the animal, and both to a machine. Today, scientists tell us that they were not happy titles that Darwin chose for his famous books *The Origin of Species* and *The Descent of Man*. Sir Julian Hnxley suggests that these could have been more appropriately titled *The Evolution of Organisms* and *The Ascent of Man*. (Sir Julian Huxley: *Evolution After Darwin*, Vol. I, The University of Chicago Press, p. 17) But then, these books appeared at a time when a fierce controversy was going on between emerging science and the entrenched Christian dogma, and this had its impact even on the choosing of the titles of great scientific books. The science of physics with its thoroughgoing materialism and mechanistic determinism, and the science of biology with its newly discovered evolutionary theory and its domination by the general materialistic outlook of science and scientists of the age, helped to shatter nineteenth century man's faith in religion and spiritnal values.

LIMITATIONS OF DOGMA-BOUND RELIGION

Added to this was the attack on religion from the great social idealists and revolutionary social thinkers like Karl Marx. It was the period of the industrial revolution. These idealists asked: If God is there in an extra-cosmic heaven, why is there so much suffering in this world, why are millions starving, and why are thousands of little children made to slave in factories and workshops for the gain of a few capitalist exploiters? This kind of inequality, this kind of oppression of man by man in the presence of an all-powerful

God, is something we cannot understand or bear. Marx, accordingly, characterized religion as the 'soul of soulless conditions, the heart of a heartless world, the opium of the people'.

The result was that, by the end of the nineteenth century, religion and faith in God and eternal verities ceased to be the ruling ideas of modern civilization; the power of religion to influence human thinking and conduct disappeared; man lost the fear of God, and more especially the fear of the devil! Religious dogma had upheld the latter more than the former as conducive to moral control of human action and belief. But the scientific spirit shattered faith in the devil and, along with it, faith in God as well. These were treated as primitive superstitions unworthy of modern civilized man. Modern science treated religion as a dangerous error in the beginning and as a harmless illusion in the end.

But the two great world wars, and the various crises—economic and political—that followed the one and preceded the other in this twentieth century, brought about a certain chastening of the spirit of western thinkers, especially of those in the scientifically advanced countries of the West. Social thinkers became less and less cock-sure of their remedies for human ills. Even great scientists began to feel and express that science, as understood and pursued by them, was not enough. Einstein said: 'Science can denature plutonium; but it cannot denature the evil in the heart of man.' That is not its function. Most scientists agree today that science alone cannot ensure human happiness; it can only create *conditions* for his happiness; but it cannot ensure that man *shall be* happy or man *shall be* really fulfilled. That is not the function of science as understood in the positive sciences of physics, biology, etc; it is the province of another discipline, the science of the inner nature of man, which is the true meaning of religion as understood in Indian thought.

RELIGION AND SCIENCE IN THE VEDANTIC PERSPECTIVE

Modern civilization has overrated science and technology, just as the older civilizations had underrated it. There is need today to view science in its proper perspective—the perspective of total human knowledge and welfare. This is one of the several vital contributions of Swami Vivekananda to modern thought. Dealing with the complementary character of eastern contributions to religion and western contributions to science, he said in his lecture on 'My Master' delivered in New York in 1896:

'Each of these types has its grandeur, each has its glory. The present adjustment will be the harmonizing, the mingling of these two ideals. To the oriental, the world of spirit is as real as to the occidental is the world of senses. In the spiritual, the oriental finds everything he wants or hopes for; in it he finds all that makes life real to him. To the occidental, he is a dreamer; to the oriental, the occidental is a dreamer playing with ephemeral toys, and he laughs to think that grown-up men and women should make so much of a handful of matter which they will have to leave sooner or later. Each calls the other a dreamer. But the oriental ideal is as necessary for the progress of the human race as is the occidental, and I think it is more necessary. Machines never made mankind happy and never will make. He who is trying to make us believe this will claim that happiness is in the machine; but it is always in the mind. That man alone who is the lord of his mind can become happy, and none else. And what, after all, is this power of machinery? Why should a man who can send a current of

electricity through a wire be called a very great man and a very intelligent man? Does not nature do a million times more than that every moment? Why not then fall down and worship nature?' (*The Complete Works of Swami Vivekananda*, Vol. IV, p. 155, 8th edition)

THE SPIRITUAL URGES IN MODERN SCIENCE

The universe was a mystery to man in the primitive stage; it has not ceased to be so for civilized man even in this twentieth century. We find scientists like the late Sir James Jeans writing books on the scientific view of the universe with such titles as *The Mysterious Universe*. Even after all these marvellous scientific discoveries and inventions, the scientist still treats nature as profoundly mysterious. In spite of all the knowledge that he has gained, the scientist feels that he has only scratched the surface of nature, that he is yet far far away from the heart of the problem of the universe. Says Sir James Jeans in his *The New Background of Science* (p. 68):

'Physical science set out to study a world of matter and radiation, and finds that it cannot describe or picture the nature of either, even to itself. Photons, electrons, and protons have become about as meaningless to the physicist as x, y, z are to a child on its first day of learning algebra. The most we hope for at the moment is to discover ways of manipulating x, y, z without knowing what they are, with the result that the advance of knowledge is at present reduced to what Einstein has described as extracting one incomprehensible from another incomprehensible.'

If the mystery of the universe has eluded the scientist so much, the mystery of man has eluded him even more. The late Sir Arthur Eddington, the famous mathematician and physicist, concludes his book, *Space, Time and Gravitation* (pp. 200-1), with a pointed reference to this predicament:

'The theory of relativity has passed in review the whole subject-matter of physics. It has unified the great laws, which by the precision of their formulation and the exactness of their application have won the proud place in human knowledge which physical science holds today. And yet, in regard to the nature of things, this knowledge is only an empty shell—a form of symbols. It is knowledge of structural form, and not knowledge of content. All through the physical world runs that unknown content which must surely be the stuff of our consciousness. Here is a hint of aspects deep within the world of physics, and yet unattainable by the methods of physics. And, moreover, we have found that where science has progressed the farthest, the mind has but regained from nature that which the mind has put into nature.

'We have found a strange footprint on the shores of the unknown. We have devised profound theories, one after another, to account for its origin. At last, we have succeeded in reconstructing the creature that made the footprint. And lo! it is our own.'

Man as thinker, man as observer, man as the self has left his 'footprints on the shores of the unknown', on the shores of the 'not-self' aspects of the universe. It is time that science tried to unravel this remarkable mystery of man. There seems to be a profounder mystery hidden within it than in the depths of outer space or of the atom. It is time that science turned its attention to tackling this mystery. All other mysteries pale into insignificance by the side of this one; it holds the key to all other mysteries.

In a talk over the B.B.C. a few decades ago, Eddington posed this great question,

'What is the truth about ourselves?', and proceeded to answer: 'We may incline to various answers: We are a bit of star gone wrong. We are complicated physical machinery—puppets that strut and talk and laugh and die as the hand of time turns the handle beneath. But let us remember that there is one elementary inescapable answer: We are that which asks the question.'

We are that which asks the question. Man is primarily a subject; man cannot be reduced to objective dimensions. He is essentially the seer, the knower, the observer; he is the *dṛk* or *sākṣin* or *kṣetrajña*, in the language of Vedānta. Here Eddington throws a hint at 'aspects deep in the world of physics, but unattainable by the methods of physics', but containing tremendous philosophical possibilities for advancing man's knowledge of himself and of the universe; this is obviously outside the pale of investigation by the positive sciences and their methods.

Another scientist, the late Prince Louis de Broglie, an authority on quantum theory and wave mechanics, dealt with the same subject in an article on 'The Poetry of Science', contributed some years ago to the international monthly *Mirror*. Starting with a famous quotation from Blaise Pascal: 'In space, the universe engulfs me and reduces me to a pin-point; through thought I understand the universe', de Broglie concludes: 'In that sublime pun lies the beauty, the poetry of pure science, and its high intellectual worth.'

'What am I?' Physically, I am a speck of microscopic dust in the vast immensity of the universe. But *through thought I comprehend this universe.* Man as scientist comprehends, in a small formula given by his thought, the vast phenomena of nature, with its immensity and variety. What must be the profound mystery of man who, in one aspect, is only a pin-point engulfed by the spacial immensity of the universe, but yet, in another aspect, is able to compress the whole of that immensity into a few formulae given by the power and penetration of his thought?

THE MYSTERY THAT IS MAN

So man has dimensions that cannot be reduced to the merely physical, the merely material. These latter are his 'not-self' aspects which enter into the constitution of his body, which obviously is just a speck of dust in that vast world of the not-self; but there is in him also something transcendental, which cannot be so reduced. He is the self; that is his primary, inalienable aspect. And if science is to progress further, it has to choose for investigation this field of the mystery of man which towers over its erstwhile study, namely, the mystery of the external universe. This is a vast field of study—the field of man's awareness, the field of his consciousness, his ego, his being the *subject* and not the *object*; science will find here a vaster and more fascinating and rewarding field of study than in external nature. Already scientists in the West are slowly turning their attention to this great mystery, the mystery of 'Man the Unknown' in the words of Alexis Carrel, apart from that of 'Man the Known', which is the subject of the positive sciences like physics, chemistry, and biology, and behaviouristic psychology.

Man is the creator of science and technology, culture and civilization; he is also today the only possible destroyer of his civilization. Everything about him is a mystery. As Lincoln Barnett says in his study of Einstein's contributions to modern scientific thought:

'In the evolution of scientific thought, one fact has become impressively clear: there is no mystery of the physical world which does not point to a mystery beyond itself. All highroads of the intellect, all

byways of theory and conjecture, lead ultimately to an abyss that human ingenuity can never span. For man is enchained by the very condition of his being, his finiteness and involvement in nature. The further he extends his horizons, the more vividly he recognizes the fact that, as the physicist Niels Bohr puts it, "We are both spectators and actors in the great drama of existence". Man is thus his own greatest mystery. He does not understand the vast veiled universe into which he has been cast for the reason that he does not understand himself. He comprehends but little of his organic processes and even less of his unique capacity to perceive the world around him, to reason and to dream. Least of all does he understand his noblest and most mysterious faculty: the ability to transcend himself and perceive himself in the act of perception.' (*The Universe and Dr. Einstein*, pp. 126-7, Mentor edition)

THE SCIENTIFIC BASIS OF RELIGION

Here is the meeting-point of science and religion, as revealed by Indian thought; for religion, as expounded in Vedānta, takes up the investigation of the mystery of experience where the positive sciences leave off. This 'Man the Unknown', man as the *subject* of experience, is its special field of investigation. Says Swami Vivekananda:

'Beyond consciousness is where the bold search. Consciousness is bound by the senses. Beyond that, beyond the senses, men must go, in order to arrive at truths of the spiritual world, and there are even now persons who succeed in going beyond the bounds of the senses. These are called *ṛṣis* (seers of thought), because they come face to face with spiritual truths.' (*The Complete Works*, Vol. III, p. 253, 8th edition)

Indian thought upholds both religion and science as valid disciplines in the pursuit of truth. India endorses the view expressed by Eddington about the spiritual kinship of science and religion: 'You will understand the true spirit neither of science nor of religion unless seeking is placed in the forefront.' (*Science and the Unseen World*, p. 54)

India's thinkers never saw any contradiction between the two, unlike the scientists and theologians of the West. Such contradiction and confiict are the result of a narrow view of both science and religion which, however, the modern West is struggling to discard. Many students of science, not to speak of laymen, have vague and rather confused notions about what science means. The same is true about religion. To the ordinary man, science means no more than the gadgets like radio or television or other material benefits conferred on mankind by scientific technology. Students of science generally identify it with the several departments of science such as physics, chemistry, etc., which they study in schools and colleges. But we have to turn to the great scientists themselves to learn what science is; and from them we learn that it is the pursuit of truth—of truth hidden in the facts of nature, in the data revealed by the senses and the data revealed by experiments. It is a sincere, critical, detached study of experience, by which confused data are reduced to meaning and orderliness and brought under control. Says Karl Pearson:

'The classification of facts, the recognition of their sequence and relative significance, is the function of science, and the habit of forming a judgement upon these facts, unbiased by personal feeling is characteristic of what may be termed the scientific frame of mind.' (*Grammar of Science*, 1900, p. 6)

Science so understood is not tied up with any particular body of facts. In the words of one of the great biologists, J. Arthur Thomson :

'Science is not wrapped up with any particular body of facts ; it is characterized as an intellectual attitude. It is not tied down to any particular methods of inquiry ; it is simply sincere critical thought, which admits conclusions only when these are based on evidence. We may get a good lesson in scientific method from a businessman meeting some new practical problem, from a lawyer sifting evidence, or from a statesman framing a constructive bill.' (*Introduction to Science*, Home University Library, p. 58)

Objectivity and precision, both as to thought and verbal formulation, are the two important characteristics of the scientific method. Any study possessing these characteristics will be science, whatever be the field of that study. Science as such is therefore not tied down to any particular order of facts, though the various departments of science like physics or chemistry, biology or sociology, are tied down to particular orders of facts. These departments have limited scope, but science itself is *unlimited* in scope ; and these various departments starting with the study of separate fields tend, in their advanced stages, to overstep their particular boundaries and merge into one converging scientific search, the search for the meaning of total experience. In this expansive context, the idea of a science of religion, the science of the facts of the inner world of man, as upheld in ancient Indian thought, and as expounded in the modern age by Swami Vivekananda, becomes a study of far-reaching significance.

(To be continued)

VINOBA BHAVE: THE NATURE AND SCOPE OF HIS SOCIAL REFORMS—1

Dr. Jacques-Albert Cuttat

The object of this article is to describe the work of this eminent Indian educator and reformer while describing what has inspired it, what its methods are, the results it has achieved, and what its future prospects are.

Before undertaking to broach these four points, an introductory global approach seems to me to be called for. Any observer, howsoever slight be the extent of his objectivity and correct his information, will admit that the personality of Vinoba Bhave, as it is reflected in his life, his writings, and his achievements, commands a deep respect and an ardent admiration. As the Prime Minister of India said a few weeks ago,* 'his presence is fortifying and ennobling'. 'I have met many great personalities,' added Mr. Nehru, 'but rarely a man of the stature of Acharya Vinoba : he has changed the mental climate of the country and communicated to the people the virtues of tolerance and compassion ... by means, principally, of his simplicity, his moral and physical courage, and his inner strength.'

Vinoba has been compared to the great Christian saints who have brought about a

* The article was prepared in October 1963.