

Science, Religion and Education

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Presented below are two related lectures—slightly condensed—by a thinker, scientist and educationist. The first discusses the scientific and the religious quest of man, their separate nature and point of convergence, and the responsibility of the educator to inculcate in the child an appreciation of both. The second analyzes and discusses in detail the problems before society today, and the quality of mind that education should strive to foster in the child to bring about a transformation of the individual, and thereby, of society. —Ed.

LECTURE I

THE SCIENTIFIC AND THE RELIGIOUS QUEST

There are two major quests of mankind: the religious and the scientific. The two are usually considered antagonistic to each other. We must examine whether that is really so or whether it appears so because we give to science and religion rather narrow meanings; whether there is really a clash between the two or the division is produced by our minds. So we shall try to examine and also to explore what should be the role of education in introducing to the child both science and religion and the way this should be done.

Antagonistic or Complementary

Let us begin by asking how did science and religion originate? They perhaps originated out of the inquisitiveness of man. Man is the first really thinking animal who has the capacity to be aware of himself and his surroundings and to try to understand his own existence as well as the universe around him. So, primitive man must also have enquired into what life was about: the wonderful sky that he saw around him,

day and night, rain, earthquakes, his own fears, the violence in him, death, everything that happened around him. And he too must have tried to get over the unpleasant emotions of fear and violence or suffering. So, this enquiry is really as old as mankind itself. And for millions of years there was no such division as religious enquiry and scientific enquiry. It is only recently, in the last four hundred years or so, with the beginning of modern science and experimentation and a certain scientific method which we shall briefly go into that the two became separate. In olden times a man who was learned was just considered learned. He was learned in matters that concerned religion, philosophy and mathematics. He was learned in what they must have considered to be science which is knowledge of how things work. We have many examples of people who were great artists, and mathematicians, and who were also building things. Specialization and division is of recent origin. That is one thing we should be clear about, that initially scientific enquiry and religious enquiry were the same and they became separate relatively recently. Also that scientific enquiry seems to have progressed enormously and it is said that we are now living in a scientific age because of which our education is largely concerned with scientific matters and we have relegated religious enquiry into the background and we must examine the consequences of that.

If both are enquiries into what is true then why should there be antagonism between them? Questions like, "Why does day follow night? How do the planets move? Why do objects fall to the earth? Why is the sky blue? How did life originate? Why does a peepal tree give rise to a peepal tree? Why are there so many different living forms and species? How did they come about?" belong to the realm of science: biological science, chemical science, physical science, but science. Questions like, "Who am I? What is the purpose of our existence? Is our consciousness just a property of matter, associated with matter or is it something apart? Can there be order in our consciousness? Is it possible to live without conflict?" and so on, questions relating to our consciousness, or mind, which also need deep inquiry, belong to the realm of religion.

So, if science is an inquiry into the truth about order in the outer world, and religion, about the truth of the inner world of our consciousness, and if the universe is built up of this outer world and the inner world or one might say matter and consciousness, then why should there be a conflict? Are they not two parallel streams of enquiry into two realms that are complementary to each other, both of which

are real and make up the whole of this world in which we live? We must ask ourselves that question.

Science possible because of order

Let us begin with examining what science is and why it has progressed so rapidly and then may be we could come to the nature of religious enquiry and see what is happening there. One reason why science has progressed so much is that the outer world, the universe, has a tremendous order. If things were not orderly, if they did not follow any law, if they happened at random and changed from time to time, if there was nothing invariable it would have been very difficult to create science. Indeed science is the investigation into the order that exists in the outer world, both the animate and the inanimate. The laws that govern the movement of matter on earth are the same as the laws that govern the movement of matter in space. The laws that govern the falling of a stone on earth are the same as those that govern the motion of planets. If a sodium atom emits a particular light on earth it emits the same light on the sun when heated to the same temperature, so it follows a certain order.

And so also in the biological world. There is tremendous order, some of which we understand in terms of the laws of genetics but a lot of which we still do not understand. For example, the scientist knows that all matter is built up of some hundred odd elements which have been listed in the periodic table. So all our bodies, trees, dogs, stones are all built of the same atoms. How do the atoms know how to behave in a plant, in a tree, and how to behave when they are part of our body? They are associated with a different kind of consciousness. They grow for a certain period of time and then wither away. What is it that decides that that would happen at the end of twelve years for a dog and at the end of eighty or ninety years for a human being and so on? We still do not know. It is all built of the same atoms. What gives them the instruction how long to build and when to start decaying? The scientists are investigating that.

Fuzzy borders

There are also issues which border on religious questions. Questions like, "Why should there be laws at all?" Scientists are beginning to ask such questions now and when they ask such questions the boundary

between science and religion becomes fuzzy. There are areas of overlap. Questions like "Is consciousness the property of matter or is it something apart?" are beginning to bother scientists too: whether the mind is all illusion, whether it is just the brain and there is no such thing as the mind separate from the brain because the mind needs the brain to operate it. But whether the mind is just the brain or something apart from it is an age old question. Whether, when a man dies, something like his consciousness escapes or does it all die and is buried in the ground with the body? What if all the atoms that build up a person's body are put there in the positions in which they are, would it automatically create the consciousness that man has and the contents of that consciousness including the memory? We don't know the answer to these questions.

Scientific knowledge: cumulative, objective, rational, doubting, empirical

The scientific quest has progressed because it is cumulative in nature. What Newton did in his whole lifetime one can now study and learn in three or four years in the university and one can further build on that. So it is a cumulative process. And they have found an objective method by which to investigate. They have said that you must first begin with observation. Whatever phenomenon one wants to study one must first observe it, carefully record everything as one sees it, truthfully, honestly, without any distortion. It must be checked a number of times and then if one finds certain empirical relationships in what has been observed and measured then one must try to explain those relationships. And when one has a whole lot of experimental facts one should be able to guess an underlying reality which can explain in terms of the laws that are already known, in terms of the order that we already know exists, whether that model of that underlying reality can explain all the observed facts. So it begins with observation, then noting down empirical relationships between the observed facts, then postulating a model of what must be the underlying reality, and thereafter the scientist deals only with the model, never actually with reality except in an experiment. He then uses reason, logic, mathematics which is also a form of logic, symbolic form of logic, and makes predictions out of his model. He tests those predictions performing experiments, and the extent to which the experimental facts tally with theoretical predictions is the extent to which the model approximates to reality. So in the scientific quest one is always dealing

with an imaginary model of underlying reality and refining that model, bringing it closer and closer to what is real, what is true, and testing it, doubting it, never holding on to it as if it were the ultimate truth. All that is part of the scientific approach, the scientific temper as it is called.

Feynman, a Nobel Prize winner, has said in his essay on the value of science that science is a body of knowledge some of which is very uncertain, some nearly certain, but none completely certain. So they have learned to live with doubt. They have also learned to respect a great scientist, a great visionary, but not necessarily accept every thing that he says. It needs to be tested, it needs to be questioned, it needs inquiry, it needs to be proven and then it is accepted as a body of scientific knowledge and even then it is held tentatively because time and again they have found that what they thought they knew for sure turned out to be mistaken later on or turned out to be approximate and had to be either modified or sometimes even rejected altogether. So we find the model of the atom, the model of the universe, the model of a gas, the model of a solid. All the time the physicists are dealing with models and so are chemists; biologists not quite in that sense but they are getting into it when they are getting into molecular biology and so on. So they have found a kind of method by which science has developed and progressed.

Quest for order

I should like to observe here that technology is a by-product of science. The application of science to technology is not the real purpose of science. The real purpose of science was to inquire into the order in the outer world. Scientists began by postulating a vast number of forces because they did not see the connections between them. There were frictional forces, forces of surface tension, forces of viscosity, gravitational force, the nuclear force, elastic forces, and many others. At present, however, one needs to assume only four different forces and explain the others in terms of these four. Further, science is trying to find a single law of force which might explain all the four: the so called unified field theory. So that is the way science has progressed by inquiring into reality deeper and deeper, seeing inter-connections which were not seen earlier, treating the quest as more important than the individual.

Long ago, when Faraday discovered the laws of electromagnetism,

he demonstrated it to a large audience. He had a metal coil and when he thrust a magnet into it a current flowed in that coil and caused a deflection in the galvanometer. It looked like magic. It was a wonderful discovery. But at the end of his talk somebody in the audience asked: "All this is very well, but of what use is it?" And his answer which has become a classic in the history of science was: "Sir, it is a newborn child. Of what use is a newborn child?" So the use to which science is put is something different from science itself. Science itself is the quest for the discovery of the mystery that surrounds us, this tremendous order that surrounds us. They now say that even what appears to be disorder is really part of a larger order which we are unable to see. They are giving theories of chaos now. Earthquakes which may appear like disorders, if we could understand how they originate etc., we would see that they are part of a larger order more difficult to predict. Meteorology was very difficult at one time; now they are able to predict to a better approximation what is going to happen to the climate. And so they progress. Discovering the order is progress.

Predetermination: matter & consciousness

One question that is bothering them now, which is again almost a religious question, is whether everything is predetermined. Because, if wherever atoms/matter is at the moment governed by laws, and if its motion can be predicted, then where it will be the next moment is dependent on where it is now at this moment. And if it can be predicted from this moment to the next moment, then one could go on from there to the next after that and the next, and so on. It may be very difficult to predict it all because there may be too many factors involved, but that is only a difficulty. The philosophic question is whether it is all predetermined in the sense that if we had enough knowledge, then, seeing the state in which all of matter is now, could we predict where it will be a hundred years hence. Then the question arises what is will? If everything is predetermined, then it means it is predetermined whether I walk out of this door, or not, in the next ten minutes. Rather difficult to believe that it is all predetermined. So they don't know the answers but they are asking these questions. At a lecture, in Oxford, Stephen Hawking was asked: "If you can tell the origin of the universe and if you can tell what happened one hundredth of a minute after that and what happened a billion years later, then does it mean that everything is predetermined?" And his one-word-answer was: "Yes".

But I don't know whether he would have included consciousness in those arguments. If consciousness is the property of matter then it also is predetermined if matter is predetermined. I am just giving these examples to show that the scientific inquiry is again merging into the religious or the philosophic inquiry and that the division really arose both out of scientists acquiring a very narrow dogmatic view of science and the scientific method, as well as the religious people giving to religion a very narrow bigoted view. That they originated from the same source, and are now coming together also in the inquiry part, not the belief part, we will come to presently.

Religious inquiry: searching an inner order, impossible to store or transfer

So, if that's how science has progressed and we now have a much better understanding of the order which manifests in the outer world, let us ask ourselves what has happened to the religious inquiry? Like there have been great scientists—Galileo, Newton, Darwin, Einstein and so on—there have also been great religious personages who have had deep insights into their consciousness and have come upon a certain order in their consciousness from which they have spoken: the Buddha, Christ, Mohammad and, in more recent times, Krishnamurti, Ramana Maharshi and there must be others not known to us. A really religious person is one who can come upon that order for himself. This kind of understanding is not communicable. It is not cumulative like scientific understanding and knowledge are. It is not easier today to come upon the truth which the Buddha came upon than it was for the Buddha himself, but it is easier to understand many scientific truths that were not known earlier. These truths are not something that can be demonstrated with the help of an instrument, or an experiment in a laboratory. The instrument to be used is our own mind and the laboratory is our own life in which one can experiment and find out if what has been stated is true or not, but each one of us has to find out for himself, otherwise one does not discover the truth. One only has the words of another, however great that person may be. Instead of carrying on with the inquiry, the religious quest, the search gets bogged down in the formation of a church and the worship of an individual.

Perhaps that is how organized religions originated out of the religious quest: a great religious personage who came upon a certain order in his consciousness, tried to communicate it, but his followers

instead of trying to discover what this man was communicating, started admiring this person, worshipping him, saying he is a great man, propagating his words but not actually coming upon the truth of what he was saying, for themselves. That is perhaps how the different religions originated around one or more than one great personage, sometimes around a great book or books containing the thoughts and ideas of personages who were lofty religious beings in themselves. But the followers, instead of pursuing the inquiry started worshipping the book, laying down rules, converting people to an acceptance of the greatness of this book or of that individual which in itself has nothing to do with religious quest. And that divided mankind.

Does discipline transform?

Most religions prescribed a set of actions to be performed as virtues, and another, not to be performed, as vices. Mankind may have thought that through the practice of virtue one may come upon virtue, but if it does not work, one has to realize that it does not. Let us examine that. What one is asking is, "Can the performance of kind acts postulated by the mind as good action, bring kindness into one's consciousness?" If it does, then that is the way to go because then I can bring in virtue from the outside. So I can prescribe what is virtuous, go on acting in that way using my will, decide and do it, and that will bring kindness into my consciousness. That is what the religions try to do. When we examine it we find that it leads to hypocrisy. One finds ways of feeling that one is a kind person without actually being kind. One can just become vegetarian, one can stop hitting people and consider himself to be nonviolent but inwardly one may be burning with hatred, with aggression. One may have no kindness in one's heart so that elsewhere one may be very cruel and one may just perform a few kind acts. This is what we see happening. We find so many vegetarians who are vegetarians by habit. They are extremely cruel, even to animals outside. But they feel virtuous for having been vegetarian. So one can define virtue in a very limited way and never discover what virtue really is. Unless one comes upon it in one's consciousness one has not come upon it. One has only disciplined oneself into acting in some particular way and feeling virtuous without being virtuous. And that is how hypocrisy comes in. The religious quest has ended in this because when one accepts a set of actions to be performed and substitutes that for the religious quest it ends the religious enquiry. If one accepts

that worship brings peace then that also ends the inquiry into finding order in one's consciousness. One is not saying these things should not be done, the opposite is not implied. One is only saying: these things do not bring virtue into the consciousness. It does not mean that one should become the opposite: vicious.

If the scientists had flocked around Newton, built a temple to Newton, saying he is our hero, we worship him and we will propagate him and we will propagate his ideas and his laws and we will fight anybody who does not believe in them, would we have called them scientists? Unless a man is conducting the scientific enquiry is he a scientist? In the same way unless a man is involved in the religious enquiry to discover order in his consciousness, why should he be considered to be a religious man? Because we have made the mistake of defining religion as a set of beliefs or dogmas to be believed in, to be propagated and worshipped and so on? Isn't that a narrow definition of religion? So one must discard that narrow definition.

What then is a religious mind?

So then, like we defined the scientific temper, what is meant by a religious mind? If it is order in the consciousness, can that order be imposed on the consciousness, thought out, formulated, and then imposed through discipline? Or must one discover the causes of disorder, eliminate the causes so that there is order, naturally, spontaneously, not brought about by something, not brought about by will. One can impose order as they do in the military. Everybody polishes his boots and buckles, walks in the same way. Surely that kind of order which arises from compulsion, from fear, is not order. It is a very superficial kind of order only in action; inwardly it is part of disorder. Once Krishnamurti said in a discussion that a disciplined mind is a lazy mind. "Sir, If he is not lazy, why does he have to discipline himself? When I want to get up at 6 o'clock in the morning I get up at 6 o'clock in the morning. It does not need discipline to get up at 6 o'clock in the morning. But If I am lazy and I don't feel like getting up in the morning I need a whole lot of disciplining to get up." The need to impose order on oneself, on one's consciousness arises only when one is disordered and, therefore, imposed order is disorder. Therefore, that is not the way to order our consciousness. So if one is confused one's mind is disorderly and in the consciousness there is greed and violence, jealousy and possessiveness, attachment and fear. All that is

part of that disorder. One cannot get rid of it by disciplining oneself, by forcing oneself, by wishing that it goes away, by praying or by asking for a blessing, because all that disorder has a cause. And so long as the cause exists the disorder will exist. So the religious quest is an inquiry into the causes of this disorder in our minds.

Seeing the disorder ends it

One does not discover the disorder when one runs away from it because that is just avoiding it, escaping from it. One does not discover the disorder and get rid of it by disciplining it, by forcing it, because it is bubbling inside. So one must let it surface and have the humility to accept that it exists and watch how it operates. And when the truth is seen, it is the truth, the seeing of the truth, that ends the disorder, and not the will, not our effort at doing this. So that is the way the religious enquiry must go, otherwise what difference does it make? I am the same human being with the same consciousness.

Antagonism ends

What has gone wrong with the religious quest and why we think science is antagonistic to religion, is because we have given to religion a very narrow meaning, we consider it as belief, we consider it merely as worship, as discipline, and we do not regard it as an enquiry or the discovery of order in one's consciousness. Then, no doubt science is antagonistic to religion because science does not accept belief. Scientists do not even accept the laws which they themselves have discovered. Because they say, we think that is what is the law, the day one proves that it is not, we will accept that because we are not attached to this law, because it is not our, it is the law of nature. And if we could say that of our opinions, that what is important is what is true, what is the fact, not the opinions, then one would see that the different religions are but by-products of the religious quest. What is important is to go on with the religious quest and not stop and start worshipping the by-product. Just as the scientific quest is going on, the religious quest must go on in our consciousness. The methods that are applicable in science may not be applicable in the religious quest because one may not be able to do that kind of experimentation. But the approach of not accepting things on authority, of experimenting and investigating to find out the truth of something is still valid, only one has to do

this experiment with one's own mind and in one's own life. Then science and religion become two complementary inquiries.

There are many questions which one does not understand, like there are people who think that consciousness came first, it did not need matter. Scientists would accept that there is matter without consciousness. But there are others who say: "No there is no matter without consciousness. It is always associated with consciousness but where it is in a very rudimentary form you do not notice it." So there is consciousness even in the rocks and the stones, that is what some religious people and some philosophers say. But it manifests itself when there is a particular combination, a particular configuration. On the other extreme can one then have consciousness which is not associated with matter, just a spirit? We do not know. And when one does not know, it is wise to say that one does not know instead of speculating, getting attached to that speculation, calling it "my speculation" and propagating it.

So there is a tremendous lot that is still mysterious which we do not know. When one knows that then it brings humility, because humility is knowing that we do not know. It was Einstein who said, "all that I know is but one pebble on all the sea shores of the world."

Education: yoking science & religion

When one sees all that one asks oneself: What is our responsibility in educating children? Can we educate them to see both science and religion rightly? To have a mind that is inquiring both as regards the outer world and the inner? Not give them dogmas and theories to believe in and convert them to a particular faith. There is only one religion, there is only one truth, there is only one religious mind: the mind that is inquiring is a religious mind, as also the scientific mind. Indeed it led Einstein to make the statement that a true scientist is also a religious man. And that "religion without science is blind and that science without religion is lame." The two must go together. If we have a lot of power through science we must also have the understanding to use it wisely. And as educators it is our responsibility, when we impart knowledge, to also impart the intelligence to use that knowledge rightly. We must accept that responsibility. At present we have not accepted that responsibility in education. We only think that it is important for me to train him, give him this knowledge of science and then it is up to him to find his own fate. We do not accept

the total responsibility. So is it possible to create through education, through right upbringing, a mind that is both religious and scientific at the same time? Scientific in the sense that it is precise, it has respect for facts, it is observing, learning. And religious in the sense that it knows that it does not know, it has compassion, it has love, it has a sense of the sacredness of the unknown.

Science deals with areas where things can be measured, but not everything in life can be measured, and this does not mean that the other, the immeasurable, does not exist. Religion really concerns itself with that which is immeasurable. To be aware that there is the immeasurable, to be eager to inquire into it, knowing also the limitations of thought and reason, is a mind that is both scientific and religious at the same time. We must ask ourselves what is the right use of thought? Thought is an important faculty which has been given to us. We cannot just say, thought is evil, knowledge is evil, discard it. That would be stupid. Nor can one say, thought is everything, reason is everything. One must also be aware of the limitations of thought and of reason. It has a space in which it operates. Within that space it is necessary. But to say that there only exists this space is to be dogmatic about thought itself. Somewhere I heard of an analogy which I felt was apt, that thought is like the pole of a pole vaulter. He has to use it to go over but then at a certain point he must drop it if he is to cross over to the other side. If he holds on to it too tightly he gets caught in his own limitations, the limitation of thought, logic and reason. To see that limitation is important. For that one needs a religious mind which does not say only the measurable exists, which is aware that there is the unknown, the immeasurable, which comes upon that which is timeless. The original question from which religion sprang still exists: Is there something that is immeasurable, sacred, timeless, beyond all this humdrum life? So can we bring up children in such a way that they are interested in that inquiry?

And also in the far more important inquiry of discovering order in one's own consciousness. That is the challenge of education. But I am afraid education has not accepted that challenge. We only look upon children as something to be used in society, to be trained for a particular job which needs to be fulfilled. That may be necessary but it is not sufficient. It is like giving a gun in the hands of somebody who has not the intelligence to use it rightly. Then it is dangerous. And that is what we have done. We have produced people with tremendous ability to generate power through knowledge, through science, and

not enough wisdom or understanding of themselves. If virtue comes only as a consequence of self-knowledge we must care to bring up children in such a way that they can come upon self-knowledge. This may not be something one can impart in the class-room. It does not matter so long as we know that it has to come about. Can we create conditions in which it is possible for a student to acquire self-knowledge? That is the responsibility and the challenge that Krishnamurti has posed before educators and parents.

LECTURE II

EDUCATION FOR THE TRANSFORMATION OF CONSCIOUSNESS

We stand near the confluence of two centuries and it is time we take stock of what we have achieved in the field of education, what have been our failures and whether we need to continue in the same direction into the new century or do things differently. In considering this question I should like to explore the situation globally and not with reference to any particular nation; also I should like to give a wide meaning to that word education, to cover the entire process of bringing up the next generation of children into adulthood and not limit it to only what transpires in a classroom. A child is educated by the entire environment in which it grows, and that environment is determined equally by the parents, the teachers and the society around him/her. All this and more determines the kind of individual we produce, which in turn determines the kind of society we live in.

Transformation

It is important to bear in mind the relationship of the individual to society. If we produce individuals who are self-centred, aggressive, ambitious, greedy and competitive, we cannot have a society that is non-violent, peaceful, co-operative and harmonious. If we organize them into a communist society we shall have the violence and domination that we have seen in communist societies. If we organize them into a capitalistic, so-called free society, we shall have the violence and the divisions that we see in such societies. It is not possible to bring a fundamental transformation in society unless the individual is

transformed. Education is therefore the main engine of social transformation, since it determines the kind of individual we produce. Governments, legislatures and the law enforcement agencies are only organizations to control the individual, they do not transform him. Therefore, true social change is the major responsibility of education, not merely the production of trained personnel. The test of right education today is whether it is producing good planetary citizens.

Changes achieved by education

The way we live has changed drastically over the last century and that change can be traced to what we have achieved in the field of education. At the beginning of the 20th century human society, all over the world, was beset with tremendous problems of natural disasters, famines, epidemics, primitive transportation, inefficient communication, lack of health care and poor agriculture. Our system of education has helped us to change all that, to develop all the knowledge and the power that was necessary to make the transition to the modern society in which we live today. There may still be some parts of the world that are struggling to make those changes but at least we know how to do it.

However, the problems that human society is facing now are totally different and the question that we need to ask is whether the present problems can also be solved the way we have solved the other problems, through greater knowledge, better organization, more efficiency and more power. If so, then we should continue in the same direction. If not, then we must seriously consider whether we need an altogether different vision of education for the 21st century. To examine that, let me list what to my mind are the major challenges facing mankind today.

(i) Groupism/division:

Perhaps the greatest problem we are facing today is the fact that human beings are divided into groups, racial, national, religious, linguistic, economic, political, professional, and each individual identifies with his or her own group, feels rivalry with other groups and cares only for the security and progress of a particular group. These groups in turn, are willing to exploit, cheat, and even destroy each other. This has become the greatest single cause of insecurity today, responsible for most of the violence that we see in the form of wars, terrorism, rioting

and militancy. This is a malady that afflicts the most progressive and highly educated people as well as the most backward and illiterate. The mind of the individual works like that of a lawyer defending the "me" and the "mine" and attacking the "other". He/she feels secure in identifying with his or her group but this identification is in actual fact creating the greatest insecurity in the world today.

(ii) *Dangers magnified:*

Human beings have lived with war and rivalry for thousands of years but we cannot afford it any more. Our hatred of each other could only manifest in the killing of a few individuals when we lived with bows and arrows. Today, with our nuclear bombs we can decimate a whole nation in a matter of minutes and no war is a local war any more. Mankind is in danger of annihilating itself. Human history has been a history of wars and if we do not learn now we shall soon be fighting our last war.

(iii) *Environmental catastrophes:*

Among other major problems we are facing today are the environmental catastrophes: depletion of the ozone layer, global warming, industrial pollution, deforestation, soil-erosion, nuclear fall-outs and over-population. The root cause of most of these is the attitude we have developed towards nature in the course of this century, treating it as a resource to be exploited. With the development of science and technology and consequent industrialization there is a race among nations to capture the international market and achieve economic progress at any cost. Animals are not looked upon as fellow beings but merely as raw material for the meat industry. Rivers and mountains are exploited for producing electricity or promoting tourism. Even children are regarded as the 'wealth' of the family. Nature is regarded as something meant for our use, we being the masters of the world. But are we really the masters? Was the world created for us? Or, are we a part of the world, as is every thing else? Do we not need to live in harmony with the rest, regarding all as friends, not resources? That is the way mankind related to nature for thousands of years, but in the last one century our attitude has changed surreptitiously and unless this paradigm shift is undone we are going to face more and more environmental catastrophes. We may have better computers and faster planes but we will not have fresh air to breathe and new diseases caused by the disequilibrium will make life not worth living.

(iv) *Dictatorships:*

Another great problem facing mankind is the fact that most governments in the world, especially the third world, are still dictatorships of different hue: military, communist, religious, and dictatorships in the garb of democracy. There are very few countries where there is real democracy and freedom of expression, political freedom, freedom to grow, freedom to question, to think, to write what you believe in. Dictatorships stifle dissent, they tell people what to think, what to do, and what not to do. The greatest crimes of this century have been perpetrated under dictatorships.

The very basis of dictatorship is the exploitation of the weak by the powerful. So long as we believe that power is meant for exploiting the weak, we still accept that might is right, which is the law of the jungle. Both between nations and within a nation one can see this uncivilized use of power. The evil does not lie in power itself. Power is just the ability to do things. Unless mankind can change its relationship with power, power will continue to be used for destruction and domination. So education must concern itself with bringing about the right use of power, which is the true spirit of democracy.

We object to dictatorship when it is at the level of the government; but all dictatorship is evil, whether in an organization, in business, or in the family. Therefore, the spirit of democracy needs to be inculcated in every individual if the problems of dictatorship have to be eradicated.

(v) *Breakdown of the family:*

The institution of marriage and family was set up partly to regulate sexual behaviour, but more importantly, to ensure responsible upbringing of the next generation. The human child needs to be looked after, protected and helped to learn not for a few days or months, as with other mammals, but for twenty years, since there is a whole new dimension of mental, emotional and spiritual growth involved. No one has yet found a better way to ensure this than through raising a child within a family with two parents. That is a responsibility a man and a woman share when they produce a child. Today this cooperation between man and woman is breaking down and the incidence of divorce is as high as 60% in some affluent societies. The worst sufferers are the children and consequently juvenile crime is on the rise. Obviously, we are not approaching life rightly and we need to rethink where we have gone wrong.

(vi) Resistance to change:

Last but not the least, is the great problem that society tends to replicate itself; prejudices and illusions tend to continue from one generation to the next and so do the problems associated with them. If the Jews teach their children that the Arabs are their enemies and the Arabs teach their children that the Jews are their enemies, the younger generation grows up with the feeling of animosity already ingrained in their mind. So the prejudices continue, and so does the animosity. How is it to end?

This animosity will never end so long as we educate the children to obey and conform. We must, therefore, create an inquiring mind, which questions what it is told, is aware that it has many prejudices that need to be examined and dropped and is willing to undertake this task of discovering for itself what is true. That process of doubting one's own opinions, of discriminating between what is true and what is false is the awakening of intelligence. It is inconvenient for the elders to awaken the intelligence of the child because it may begin to question them, question their values and their way of living. But it is essential to encourage and respect dissent if we are not to create a static society that is inflexibly caught in a groove. There is too much inertia in society today and the only way to change it is to create a mind that is inquiring, not only into scientific questions, but also into social, moral and religious questions. In other words a mind that is intelligent about the whole of life, and not merely one aspect of it.

Do we need to change direction?

If we are facing so many problems at the end of a century of stupendous progress, then we must stop and ask ourselves what is it that we have done wrong? Why are we facing so many serious problems though we have amassed so much knowledge, generated so much power/ability, and become so 'intelligent'. Do we need better controls or do we need to change direction? Will more of the same kind of education as we have been imparting solve these problems? Do we need still better computers, still faster airplanes, still more goods, yet more knowledge and efficiency and will that solve the problems we have discussed above? If not, then should we not re-examine our priorities in education and question the very vision with which we have been working so far?

What is our vision of education today?

What kind of human being are we aiming to produce? The aims may vary a little but essentially, all over the world education is aiming to produce a human being who is intelligent, knowledgeable, hard-working, efficient, disciplined, smart, successful and hopefully a leader in his field of endeavour. May one most humbly point out, Adolf Hitler had all these qualities. The only thing he lacked was love and compassion. What is there in our present day education to prevent the creation of little Hitlers?

The holocaust was perpetrated by countries that had the best of science, art, music and culture of the kind we are aiming to inculcate through education today. So what is there to prevent the recurrence of the holocaust? Indeed, we are perhaps at the brink of a still larger holocaust in which the whole of mankind may be eliminated. Present day education is basically developing more and more power; but both God and the Devil are infinitely powerful. Are we ensuring that power will be used in godly ways? The major challenges facing mankind today are not created by illiterate villagers in Asia or Africa but by highly educated professional minds who plan and run governments, organizations and business. We need to look at the quality of the education we are imparting, not the quantity. When we do that it becomes clear that we are producing lopsided human beings: top scientists and engineers who can send man to the moon but are brutal with their neighbours; human beings who have a vast understanding of the way the universe operates but little understanding of themselves.

This lop-sided development of the individual is creating all the problems. When we impart knowledge it is also our responsibility to awaken the wisdom that will direct. Our present day education has not paid serious attention to that responsibility.

What kind of mind should education produce?

How then should we modify our vision of education? What values should we try to inculcate? What kind of mind should we aim at producing? There is no uniform prescription for all countries and cultures, only broad outlines:

(i) *Global, not a nationalistic mind:*

We are citizens of one world and share the earth as our common habitat. What affects one part affects the whole. We need to have a mind that feels for the whole world, not just one country. If we can

settle issues within a country through democratic means why not between nations? A global mind that really did not believe in "might is right" would make armies redundant and eliminate wars. That is the future we must realize. We may work to solve problems but with global understanding.

(ii) *Committed to human, not economic development:*

Education must not regard children as raw material for achieving economic progress. Its concern must be the development of all aspects of a human being—physical, intellectual, emotional and spiritual—so that he or she lives creatively and happily as a part of the whole. Human beings differ in their abilities but are not superior or inferior. They must be respected irrespective of their abilities.

(iii) *An inquiring, not conforming, mind:*

It may be inconvenient for adults but it is important that children grow up with questions rather than answers. At each age questions will naturally be different but the ability to inquire and learn for oneself is more important than following what one is told to do. It follows that there must be no fear in our relationship with the child since fear kills inquiry and initiative. The child must be free to make mistakes and learn for itself without the constant fear of being rebuked. Its mind would then be rational, flexible, and not dogmatic, open to change and not irrationally attached to an opinion or belief. This implies the absence of all propaganda for any belief, including nationalism. "Our country is the best country, our culture is the best culture" is not true; it is pernicious propaganda which divides people.

(iv) *Cooperative, not competitive, mind:*

The present emphasis on individual achievement for name and fame is irrational and egotistic. We are all interrelated and interdependent. Cooperation is the essence of democracy. One works not for personal gain or reward but for the welfare of the whole community, with love instead of arrogance. We are friends, not rivals. If something good happens to my brother I rejoice with him, there is nothing to feel unhappy. The sense of competition that we are encouraging in children today leads to envy, jealousy and rivalry. It sows the seeds of division and destroys love and friendship. Therefore, it is evil. Why, so much importance given to winning gold medals in world-cup matches and olympics? Does it matter who can jump one millimetre higher than

the rest. The right question is not, "Who won?" but, "Did we enjoy the game?"

(v) *A learning, not an acquisitive, mind:*

The awakening of intelligence is more important than the cultivation of memory. If we give information to the child we add to his knowledge, but intelligence is the ability to learn for oneself. What can be taught is limited, but learning is endless. The greatest things in life cannot be taught, but can be learnt. The feeling of love, respect, beauty, and friendship, cannot be taught, but, like sensitivity, can be awakened and this is an essential part of intelligence. The ability to discern for oneself what is true and what is false is also intelligence. It is important to create a mind that neither accepts nor rejects an opinion or a view too readily, but stays with the question, "Is it true?"

(vi) *A mind, scientific and religious:*

Unfortunately we have separated scientific quest from the religious quest of mankind and concentrated only on the former in our educational process. In fact they are complementary quests: one for the discovery of the order that manifests itself in the outer world of matter, energy, space and time; and the other for discovering order (peace, harmony, virtue) in the inner world of our consciousness. By mistakenly equating religion with belief we have created an antagonism between the two.

A mind that is purely rational, scientific, intellectual, can be extremely cruel and devoid of love and compassion. One that is only religious (in the narrow sense) can be overly emotional, sentimental, superstitious and, therefore, neurotic. We must aim at creating a mind that is simultaneously scientific and religious—that is inquiring, precise, rational and sceptical, and at the same time has a sense of beauty, wonder, sensitivity, humility, and an awareness of the limitations of the intellect. Without this balance, a mind is not truly educated. Understanding oneself is as important as understanding the world. Without a deep understanding of our relationship with nature, ideas, fellow human beings, and society, and a deep respect for all life, one is not really educated.

(vii) *Concerned with the art of living:*

Education must concern itself with the art of living creatively, which is much vaster than the specific arts of painting, music or dancing. We

have equated the quality of life with the standard of living and we measure this in terms of the Gross National Product or the per capita income of people. But is the quality of our life determined only by the house we live in, the car we drive, the food we eat or the clothes we wear? Doesn't the quality of our mind affect the quality of our life far more? A mind that is constantly worried, bored, envious or frustrated cannot possibly lead a qualitatively superior life.

When we educate not for economic development but for human development we must concern ourselves with the happiness of the individual as a whole, in which physical well-being and comfort are a small but necessary part. Far more important is the ability to work with joy, without comparing oneself with others. If one is insensitive, there is constant boredom, and to escape from it, a constant pursuit of pleasure. The entire entertainment industry has come up to capitalize on human boredom. When we teach children to work for a reward and not for the joy of working, we teach them to separate work from pleasure. Such a mind is energized only when there is a reward, otherwise it lives in a state of boredom. The art of living consists in enjoying every thing one does, irrespective of the results it offers. One then works creatively, with sensitivity and not for personal ambition.

The art of living cannot be learnt like a formula. It is a by-product of one's understanding of life and of oneself. The teacher and the student should together strive to come upon such understanding. Virtue, which is the flowering of goodness in human consciousness, is a by-product of knowing oneself. It is not something that can be practised mechanically like a skill.

(viii) *A holistic mind:*

At present education is geared to producing specialists. Some amount of specialization may be inevitable, but we are human beings first and engineers, doctors, lawyers, artists afterwards. Therefore specialization must not be at the cost of understanding what it means to live fully.

The human consciousness has several faculties. I have tried to group together words that we commonly associate with them into four categories.

- a) Intrinsic: perception, awareness, observation, attention.
- b) Thought-based: knowledge, memory, imagination, reason, analysis, criticism, concentration, intelligence (of thought), will.
- c) Feeling-based: joy, beauty, wonder, humour, sympathy, love, affection, compassion, friendship, attachment, desire, fear,

hatred, jealousy, anger, violence.

- (d) Beyond thought and feeling: intuition, insight, vision, wisdom, silence, meditation, peace, harmony, understanding, intelligence (not of thought).

The above list is far from exhaustive. Nor are the categories mutually exclusive. This classification is only for the convenience of discussion. Education, at present, greatly emphasizes the thought-based faculties and feeling. For a holistic development of the individual it is important that there is a deep understanding of all the faculties and they are developed in a balanced way. It implies that in order to cultivate one faculty we must not impair another. This means one cannot use fear and punishment to make students work harder since that destroys inquiry, intelligence and initiative. One must not use comparison and competition as an incentive either since that destroys love and promotes aggression. One must not offer rewards since that cultivates greed and insensitivity.

What incentive then should be used to make students learn? The challenge before us is to reveal the beauty of the subject to the child so that education becomes a joyous process, not a dreary task to be achieved somehow. We must find ways to make education lively and interesting for the child. A good school is one where the children are happy, not one which achieves the best measurable results in examinations. The real responsibility of education is to reveal to the child the beauty of life, and there is great beauty in art, in literature, in science, in mathematics, in music, in games, in nature, and in relationship—indeed in every aspect of life. We have a reasonably good idea of what it means for a tree to be in full bloom. But have we seriously inquired what it means for the human consciousness to be in full bloom? Must not education help us to discover that for ourselves?

Breaking from the past

There are several difficulties in actually imparting such an education. The greatest difficulty is that we have not received the right kind of education. Therefore we must not mechanically repeat what we know. We need to question our methods and not merely repeat what our teachers and parents did. It requires us to be original, intelligent, creative and not merely assertive. Our minds are conditioned into the

old system, the old vision, therefore we are ourselves obstacles in the way of the new! One has to be acutely aware of this fact and therefore not just teach but also learn to break from the past.

Creating the atmosphere

In the new vision of education we are not only taking the responsibility to impart information and skill but also to awaken sensitivity and creativity in the child. There is no set method for doing this. These are things that cannot be decided. Yet, they get awakened in the child if there is the right atmosphere in the school and home. It is our responsibility to create that atmosphere—an atmosphere of working cooperatively, with joy and friendship, working hard but without personal ambition or any sense of rivalry, an atmosphere of openness, of questioning, of inquiry, and of the joy of learning together. Which means we ourselves must live and work that way.

A child learns from what it sees actually happening around it, not from what we speak in the classroom. If it finds that we say one thing and do another, it will learn to do precisely that. Which means we end up teaching hypocrisy! A teacher who punishes a child because he gets his sums wrong is not only conveying to the child that it does not know how to do the sum, he/she is also conveying that the strong can dominate and penalize the weak! So one has to be very very careful. There are no short-cuts for imparting this education that we have discussed.

Learning with the child

Intellectually we adults may know more than the child but in the larger issues of life we face the same problems, the same difficulties as the child—problems of boredom, worry, fear, habit, conflict, desire, frustration and violence. Therefore, we need to learn along with the child, not merely teach. It demands great honesty, humility, sensitivity and patience. That is our difficulty: to be an educator who is willing to accept that challenge and not seek an easy way out. There isn't one. The deeper truths come to a reflective mind as insights that cannot be taught by another. One cannot do anything to create insights, but one must not block them with an ambitious and overly active mind which has no time to stand and stare.

Urgent need: not efficiency but compassion

Mankind is caught in a great illusion. It thinks it can solve its problems through legislation, through political and social reform, through scientific and technological progress, through greater knowledge, greater wealth, greater power and greater control. It may solve some problems with all this, but those are all trivial problems and temporary cures. Ogden Nash wrote, "Progress was all right once, but it went on too long"! We need to consider that remark seriously. What we need now is not more ability and more efficiency, but greater cohesion, greater compassion, greater capacity to share and work together.

Education in the 21st Century must therefore concern itself not with greater 'progress' but with the inner transformation of the human consciousness.

The issue has acquired an urgency for mankind which was not there before.*

* In presenting the vision of right education for the 21st century I have drawn heavily from the life and work of Madam Montessori and of J. Krishnamurti, both of whom have emphasized the need for educating the whole human being and not merely the intellect.