

Some Aspects of Marxism and Dialectical Materialism

Marxism and its philosophical foundation, dialectical materialism, are not dogmas. Products of coordinated and generalised knowledge of all disciplines of science and historical experience, they guide us to resolve all problems and are themselves to be developed through constant application in ever new spheres and domains. This address at a school of politics is an exposition in simple language and a brief outline of the basic tenets of dialectical materialism vis-a-vis the advances of science in the period.

Comrades,

In this school of politics which is to continue for a few days the main subject for discussion is Marxism. I had better point out at the outset that, with the limited time at our disposal, it will not be possible to discuss all the different aspects of the Marxist philosophy comprehensively. Even so, I shall try to discuss here some aspects of Marxism as fully as possible.

Why should we study Marxism

To begin with, one thing should be generally understood by all. In spite of so many philosophies, why should we discuss Marxism in particular and put so much stress upon it ? Is it because Marxism is a philosophy and we wish to learn it just as one among the philosophies, or does it have an added meaning or significance ? You should know that we do not discuss or study Marxism with the same object with which students in schools and colleges read and discuss the different philosophies and ideologies. We consider Marxism so important a philosophy that its study is a must for everyone in the present era, everyone who wants to accelerate the course of social change. I know, there are differences on this point. That is understandable, and nothing unnatural about it. But I am to try to highlight here what I deem to be the truth. I would ask that you should not accept it as truth because I am saying it. You should consider accepting what I say only after examining it and not being guided by blind allegiance. There is bound to be a mechanical tendency or bent of mind in this type of allegiance. And such mechanical tendencies do not only misguide the pursuit of truth, they are apt to cause grave

damages. You should hence try to ascertain the truth or otherwise of what I say by analysing and verifying it and then consider accepting it, but not just because I am saying it.

Not only the exploited masses of the world but civilization itself faces a grave crisis today. To identify the root cause of the crisis, to find out why all these problems are arising, has become all so urgent for the exploited masses in particular. I believe, unless the Marxist philosophy is grasped properly and a comprehensive knowledge and understanding of it is acquired, the exploited masses will not be able to gain a correct concept of the character of the various problems and the crisis in the present-day world; they will not be able to free themselves from the yoke of oppression, injustice and exploitation of all sorts. Why this is happening or some other thing is happening -- questions of the sort are confronting us one after another in every sphere of life -- economic, political, social and cultural. Except Marxism there is no other science which can correctly answer all these 'whys'. Besides, Marxism is not an idle or barren ideology that is devoid of practice. Not only does it interpret the world, it is also a guide to action to change the world.

Marxism is a science

You may have noted that I referred to Marxism as a science, although to the learned elite it is generally known as a philosophy, a school of thought, a particular trend of thinking, an ideology. But, as I have understood Marxism, it would be wrong to view it as a mere school of thought or ideology the same as the host of other philosophies, because that would imply that Marxism is in the same category with the others. Such an understanding would mean that we can as though accept or reject Marxism to suit our personal likes or dislikes. But such is not the matter, such is not possible in the case of a science. It would be easier to follow if I give an illustration. Suppose, one says that there are many schools of thoughts in physics and one might choose one out of these. Surely, that cannot be acceptable to a man of reasoning. This way of thinking has no room in science. In science it may be that different scientists are proposing different hypotheses to explain the same phenomenon or question. But only on the anvil of experiments and verification can we judge which one among the hypotheses is correct or whether none is correct. This is why science is universally valid for peoples of all the countries. Scientific theories do not vary to conform to different countries or nations. If I am correct to say that Marxism is a science

-- what kind of science it is I am coming to that later on -- then we must accept that as a science it is valid for peoples of all countries. It cannot be limited within the confines of any nation or country. Only Marxism can answer correctly all the various questions confronting all the countries, nations and peoples. The only question that remains hereafter is whether we should accept science or reject it.

We all agree that we want to know truth, want to pursue truth. We also know that science is the only means that can unravel truth to man. Excepting science, we have no other means to know truth correctly. We cannot know truth by subjective thinking; that is never possible. So it is not only important to understand, grasp and apply in practice dialectical materialism, which has developed as a comprehensive science, it is a must. That is why, cultivation of dialectical materialism cannot be left to anybody's wishes, likes or dislikes.

Now, what do we understand by 'science'? By science we mean physics, chemistry, life sciences, mathematics, social sciences, etc. Why do we call them science? Because they seek truth by experiments and verification. What sort of truth do these branches of science seek? They investigate and study the particular laws which govern a particular set of properties of matter or a particular phenomenon by classifying them into different branches. For example, chemistry deals with chemical properties and activities of matter and the chemical laws. Again, physics studies the physical laws governing matter. In the same way, the science that tries to comprehend the different changes and activities of the living world is life science. And the science that helps us to understand and influence the course of social changes is social science.

So, we see that these branches of science try to know and make use of the particular properties, activities and laws of matter and phenomena. One thing must be borne in mind in this connection. Although these branches of science are apparently or formally separate, in reality they are not. They are all related to one another, strung upon a common thread, so to say, somewhat like a necklace. So a question had arisen: Is there any science in the world that can analyse, correlate and integrate all the particular laws, all the particular truths of the whole material world? I have to say in reply that in the annals of mankind no such science had developed prior to dialectical materialism. After attainment of a particular stage of scientific advancement in the course of human civilization dialectical materialism has developed as such a

comprehensive science; this alone has led to a comprehensive, consistent concept of the world and some general truths by coordinating the particular truths and knowledges culled from the different branches of science. This is why dialectical materialism is called the 'coordination of sciences' or the 'the science of all sciences'. And this dialectical materialism is the philosophical foundation of Marxism. It is a philosophy whose outlook is universal, which treads the whole world.

Let me clarify this point further. Applying the process of investigation and experimentation by means of the different branches of science by classifying the material world into parts, we are knowing separately the different particular activities, the particular laws and the different particular properties of matter. But it should be understood that we cannot acquire a comprehensive matter concept simply from a knowledge of these different particular properties and laws, nor can we get correct solutions to the various problems concerning human society, its ethics, morals, progress or reaction. So, which scientist or what type of science would accomplish the task of coordinating and integrating the particular truths arrived at from the different branches of science ? A scientist even of Einstein's stature cannot do this, neither is it possible. But we do need such a comprehensive science as can coordinate and integrate the truths or knowledges from the different branches of science and can provide a clear concept about their significance and bearing on life. Dialectical materialism is this comprehensive science. Prior to it, no other philosophy had succeeded in accomplishing this task fully or comprehensively. Not that no other philosophy had attempted it. Prior to the development of dialectical materialism, there had been many attempts to establish philosophy on the basis of science as the coordination of science. That is a long history. At times such attempts did advance a few steps, at times there were setbacks. But the material conditions or prerequisites conducive to the development of such a comprehensive science had not come about earlier and that is why no philosophy prior to dialectical materialism had been able to develop with the character of a comprehensive science.

So, it is clear that the difference between dialectical materialism and the other philosophies is that no other philosophy is fully based on science. The other philosophies developed mainly on the personal power of judgement, self-realization and intellect of different philosophers, and tried to exercise control over science. Except dialectical materialism, no other philosophy could attain the stature of a comprehensive science that can fully open up the vista of truth before man, seek

truth and correctly guide life in all its aspects. How could dialectical materialism achieve this ? This had been possible because by the time this philosophy developed, the different branches of science had made such advancement as could provide the basis for dialectical materialism to accomplish this task. Historically, this could not have occurred earlier.

Mere acquaintance with Marxist theory does not make one a Marxist

I want to make a point in this context. You should know that pursuing the dialectical methodology is the essence of Marxism. Marxism cannot be grasped by mere acquaintance with its conclusions, because even if you know those conclusions you would not be able to throw light on a new problem or a new situation and tackle it unless you acquire correctly the methodology of Marxist analysis. In that case, you would have no option but to resort to the method of drawing historical parallels or analogy with similar events or developments. So, you should keep in mind that Marxism cannot be cultivated through learning by rote the analyses made by the Marxist authorities. Marxism cannot also be grasped by merely reading books. To study the Marxist classics and to do discussions on Marxism are no doubt important, but unless one comes into interaction with one's own self and with the environment and conducts the necessary and adequate struggles in life one cannot grasp Marxism. So, the dialectical materialists would not only have to base themselves on science, they would have to rely on experiments and verification, the science of logic and history, on truth, that is on the criteria of practice. Therefore, it is necessary for you to take on yourselves concrete responsibilities and work for it. Getting into work on the one hand, and into studies and discussions on Marxism on the other -- you have to carry on both these tasks lifelong. The more each of you would be able to elevate your cultural standard through struggle, the more increasingly advanced communist character you would be able to acquire, and the more you would be able to sharpen your knowledge, the more you will succeed in grasping the Marxist methodology.

Let us now discuss what is there in dialectical materialism, what are its conclusions, whether it has truly developed as a science and can throw light on the crises confronting civilization, etc. I have already said that unless we understand the root cause of a problem, we cannot find out its solution. Another thing to understand is what do the scientists do when they conduct experiments in the different branches of science. By scientific means, by applying scientific methods of

investigation they throw light, dispel darkness and seek truth. But the problems in our life are not such that we can find solutions with the help of physics or chemistry. So, it is clear that to have the comprehensive and correct answers to the questions, and problems that face mankind and civilization today and our quest of life, no particular branch of science can help us. But since any problem is related to a host of other problems, we have to understand thoroughly how they are interrelated and interdependent. So, such a science has become essential as can lead to the correct solution of the problems besetting society. We have already discussed that dialectical materialism is that science which has developed by coordinating and integrating the fundamental conclusions of the different branches of science and, therefore, it is this science that alone can show us the correct path. We have to understand Marxism not as some 'eternal', unchanging concepts or dogma, but as a science. The coordinated knowledge or comprehensive science that Marxism has developed into has to be applied in every particular sphere, in the concrete conditions of a particular country, and in the context of the particular contradictions; and the concepts of Marxism are to be continually enriched through this process. We ought to realize that Marxism is not merely a political or economic outlook, it is a world outlook and a guide to action. So I consider it a scientific truth -- one that is experimentally proved -- that there is no problem in the world which is outside the purview of Marxism or which cannot be solved with the Marxist approach. So I repeat that the task of grasping the Marxist methodology is very important.

How to know truth

Now, a few words about how to know truth. In seeking truth should we depend on an individual, however a genius may he be, or should we depend on experiments and verification, observation, history and the science of logic ? I think this is the cardinal question. From human experience we know that to depend on experimentation and science would be the correct approach for us, as there is lesser chance of committing mistakes in it. And even if there be a mistake anywhere, that would be detected someday in the course of experiments and verification. So, if there is a mistake, this very process is the correct one for rectification. But if individual thinking or intellect is relied upon, not only is there a greater possibility of mistakes but a conclusion so arrived at may be challenged anytime. Because, the thought of an individual, of a genius even, is in reality nothing but individual thinking. So, the problem in accepting the

thinking of an individual as truth is that there may be direct conflict between it and the thinking of another individual. Naturally, the question arises: How shall we determine truth ? In the event of conflicting opinions, it would not be possible to come to a conclusion except through an arbitrary forcible imposition, not to speak of determining truth. In fact, we find it in history that various ideologies based on such individual thinking have made place for themselves in society because of blind faith and sometimes also through forcible imposition.

We all know, it is not unnatural at all that there would be a great multiplicity of realization among the myriad of people in society on different issues. That is why, although there can be only one truth on a particular issue, there may be different understandings of that truth. Since the mental make-up and process of thinking of every individual are not the same, interpretations of truth are bound to differ. But the interesting thing is that the protagonists of subjective thinking believe that their thinking and concepts in their respective spheres are all truth and playing positive roles for the wellbeing of people and advancement of society ! So, you have to go much deeper into the matter if you are to develop a correct and clear concept of these. That is -- why and how the different ideologies originated and in what particular social conditions, what roles those ideologies played in society and why those very concepts became inadequate and ineffective with the passage of time -- you have to unravel all these in the light of reality. But you must not be confused in any way on the point that there can be only one truth on a particular issue. The concept of more than one truth, or pluralism of truth, is nothing but utopian. It can never be that differing ideas on the same issue in the same circumstances are all true. A lot of knowledge is not required to understand it. But the fact is, many an intellectual of fame have advocated pluralism of truth !

Say, we want to use electric energy to light a lamp or turn a fan. The scientific theories of electricity are the same, they do not differ owing to the differing traditions of different countries. The lamp lights up and the fan turns because the electrical engineers have learnt the scientific laws and theories of electricity and put them into use. If one disregards the scientific laws of electricity and wants to proceed by putting forward his own fanciful theory, one cannot succeed. One may even succumb to electric shocks. This is why, scientific matters are such as do not brook this type of argument. In science, proven and experimented truth is the only truth. We can

have access to this proven truth only if we rely upon science. So, to know truth correctly we have to accept the process of scientific reasoning. We should submit to reason.

Correct understanding of science

We know that science cannot remain static, it is in the process of constant change and development. Again, the material world, too, is constantly undergoing changes. The instruments with which we are experimenting with matter today and trying to know matter are themselves being improved continually and so also are the very methods of experimentation. Not only this, our conception and understanding of what we are learning today is also continually changing and getting enriched; it too cannot remain static. At a particular time, man is employing whatever instruments and means of experimentation he has at his disposal to know or in trying to know truth -- what is called experimented truth. Now, because of the various limitations of the instruments and the methods of experimentation due to historical reasons, the knowledge acquired at that particular time may appear inadequate at a later time in the context of the knowledge gathered with more advanced instruments and experiments. But the earlier knowledge can never be called wrong for this reason. The only difference is that we have been able to surmount the past limitations and have been able to arrive at relatively more advanced and enriched conclusions. Our concepts are continually getting more advanced and enriched in this process. The point to remember is that an experimentally verified conclusion of the past can be superseded only by another experimented conclusion of a later time and not by the fanciful thinking of an individual. This is how the world of knowledge is developing and knowledge advancing continually. Analysed in the light of science, it would be found that the conclusions of Marxism are also being continually enriched in this process.

It is to be understood that the concept of change in the material world and in the various fields of natural sciences, just discussed, is applicable in the sphere of society as well, because society too is undergoing changes every moment and newer problems are arising everyday. Newer questions and problems are cropping up in society continually centring round life, morality, ethics, political movements, economic systems, scientific research, struggle for existence -- everything. So the need arises for continual development and advancement of the Marxian

science too. Therefore, Marxism is to be enriched and advanced continually in keeping with the everchanging life.

I feel it necessary to discuss one or two aspects of the nature of truth. I have already said that truth exists whether we know it or not, and there is but one truth regarding a particular thing or phenomenon. Now, what is the meaning of knowing truth ? To know truth generally means to have a correct realization of the world -- the material world, the different events, phenomena and life. The point to be especially noted here is that truth exists means it exists concretely. So, any truth is a particular and concrete truth. The concept of abstract or absolute truth is utopian. Truth is concrete truth in the sense that it exists objectively and concretely amidst interactions of different phenomena, amidst interactions of matter. Now, be it a minute particle of matter or be it an event, it exists means it exists in the midst of a concrete situation. So, when the existence of matter is concrete and particular, truth too is bound to be concrete truth, particular truth. You have to develop the particular concept of a concrete truth through verification by scientific experimentation or by analysing it in the light of history. The more concrete your concept of truth would be, the more would it be creative and penetrating and the more would you acquire the ability to probe deep into a problem. Conversely, the more superficial your concept of truth is, the more ineffective would it be.

Another point to be remembered is that truth changes with change in the circumstances and so the concept of truth of a particular issue also changes. That is why the concept of absolute truth is untenable. It is not that there is no truth, but there is no such thing as absolute truth. The concept of absolute truth is the great lie that confuses the pursuit of truth in life. It should be understood that just as truth is concrete truth, and there is no existence of absolute or abstract truth, the concept of truth in this everchanging world is that of a relative truth. This is why truth is invincible and we would grope in the dark unless we can acquire the correct concept of truth about matter. You, who want to change society and the world and free yourselves from capitalist exploitation, would have to conduct a lifelong pursuit of truth. Remember, this is why the correct pursuit of truth is very important for the exploited, oppressed masses because truth is invincible and decisive. On the other hand, truth at a particular moment is complete truth, adequate truth -- the concept of inadequate or ambiguous truth is absurd.

Another point. There is nothing in the world that is unknowable. Science does not consider such thinking correct. There is nothing in the world beyond man's comprehension, nothing which can never be known. But it does not mean thereby that man can know everything at a particular time. The reality is that just as science and Marxism are providing answers to many a new problem each day, so also some questions remain unresolved to them at any particular moment since everything is everchanging in this changing world. So, although everything is knowable and will be known some day, all cannot be known at a particular moment. This is but a natural rule of the changing world. So, contradiction between the known and the unknown will be there all the time. And because of this, there is no limit to knowledge; pursuit of knowledge cannot stop at any point. By the time questions hitherto unresolved would get resolved, many a new problem or new question would crop up before man. Society, civilization, knowledge and science are advancing in this way.

So, no truth can be static or eternal in this everchanging world, nor can there be any such thing as eternal or absolute truth. I refer to this point anew because some students of science may ask : What about the 'constants' in science ? How is 'constant' to be understood ? The point to be understood here is that in science a constant is a constant at a given time, space, domain and phenomenon, and nothing more. If the students of science examine various examples from the natural sciences in this light, they would themselves be able to understand its significance.

Basic tenets of science and Marxism

Let us come back to the question of the everchanging character of the material world and social life. We have already discussed that the ideas and concepts of science and Marxism are continually changing, getting advanced and enriched in course of investigating the laws of the material world and social change respectively. This is an objective reality and cannot be denied. But we must keep it in mind that there are some fundamentals or basic tenets in science and Marxism which cannot be done away with. In science, these have been accepted as the fundamentals on the basis of investigation, experimentation and experience for a long time. That matter is both mass and energy, and even particles of matter, however small, exist in space and time and any matter is subject to changes all the time and such changes are law-governed -- no student of science can deny these. If anybody seeks to deny these fundamentals on any ground,

or even in the name of development of science, we must say that such thinking goes against science and has nothing to do with science.

Again, we know that having reached a particular stage in the course of history, society became class divided and in course of further changes in social system, the nature and character of class division have undergone many changes due to historical reasons. Whatever form this class division assumes with differences in social system in different conditions, that class antagonism cannot disappear in a class divided society is a fundamental conclusion of historical materialism. Now, if a Marxist leader argues on the ground that the world is changing, that the law of class struggle does not operate in a particular society although it is class divided and, therefore, there is no class struggle in that society, then, whatever else, a concept as this cannot be accepted as a correct Marxist thinking. Even though sought to be justified on the ground of everchangeability of the world this sort of thinking is alien to Marxism.

As the advancement of science may be obstructed, even if temporarily, owing to evil effects of unscientific thoughts and fads or being used in the interest of the exploiting class, so also there have been similar instances of setbacks in the history of development of Marxism. Whether will the communist movement be intensified and how much, or will its progress be obstructed depends upon whether those known as Marxists in different countries are being able to grasp the philosophy of Marxism or dialectical materialism correctly, and apply this science correctly in life, following the correct process of thinking and correct process of movement.

Study of Marxism should not be a matter of individual discretion

Our concepts of Marxism should be very clear therefore. One's approach towards accepting Marxism or a revolutionary life should not be that one is a Marxist because one likes Marxism or has a knack for it, like, say, one who loves sports becomes a sportsman, or one becomes a physician because one likes the medical profession, or one becomes an engineer, or takes to some other profession for similar reasons. One is a Marxist just because one likes Marxism or is attracted to it -- it is wrong to think like that. If such a thinking appears consciously or unknowingly, it undermines the tremendous importance of Marxism and revolutionary politics

and equates it with any other profession. It is not that we have a number of options before us and we have opted for Marxism as one of the alternatives.

Let me put it in a different way. Whether some one is a scientist, writer, sportsman, physician, engineer, or professor, one is a member of society; so one cannot but have a relationship with society. He or she is a member of this exploitative society. What is his own concept of sense of values as a member of this society ? Has he thought about it ? Say, his ideas, the sense of values he reflects in life all the time -- is he conscious of the impact and significance of these in society and in his own life ?

It cannot be that he is not having any reaction in society through his thinking and action. Whether he wishes it or not, his movements and conduct in society are bound to have some reaction. Either he is letting himself to be used as a tool or a puppet in the hands of others and is resorting to self-delusion or else he is playing a role, however limited, against this exploitative social order. It cannot be that he is doing neither. If he is not conscious of this and thinks he is playing no role at all, that would be a mere wishful thinking. In the present class divided exploitative society, one may try but one cannot really keep oneself free from the impact of this society. One may wonder, being a sportsman, what relation he has got with exploitation and oppression. But if he would think a bit more deeply, he would come to understand that everyone is connected some way or other with everything in society. The point is to understand this relationship. Can anyone evade the question on any pretext ? Of course, it is true that one cannot be forced to understand if one does not wish to or be made to do anything against one's will. That question does not at all arise. But one should be aware that one may be unknowingly strengthening the hands of a force engaged in sustaining the present exploitative system. One may think that since one is acting at one's free will it is nobody's business to interfere with this. But had he applied his mind a bit, he could have detected that he was virtually denying the role of man in history through this sort of thinking. Because, it is common knowledge that the difference between man and the other animals lies in the fact that whereas other animals are subjugated under natural laws and move about as they are conditioned by the environment, man constitutes the sole exception. Man refused to be a blind subject of nature. He has tried to conquer nature, he has grasped the natural laws and has used them for the wellbeing of mankind and made possible advancement of society and civilization. Along with material production, he

has achieved spiritual production as well. So, man's role in society has its great significance. Man's life is indeed very valuable. To be worth the name of man, can one disregard the sense of values in life ? In that case, a man need not have been a man. Therefore, whatever one is -- a sportsman, an engineer, or something else -- one must understand the basic problems of life. And to understand the problems, Marxism is essential and indispensable.

Material world exists independently of human consciousness

There are many other aspects of philosophy about which you need to have a clear understanding. Say, this material world -- does it exist because of existence of the human mind ? Is its existence dependent on human consciousness ? Or is it independent of man's consciousness ? We shall have to rely on science to get the correct answer to this question too. It cannot be denied and it has been indisputably proved by science that the pulsation of life began and the plants and different species of animals appeared at different particular stages of development of organisms, in the course of evolution of this planet and, in the process, came man with his mind. Non-living inorganic matter, through a long course of change and development, evolved into organic matter at a particular stage under favourable conditions. But it would be wrong to think that any and every organic matter is living matter. The correct concept is that mainly through combination of organic compounds, in the course of change and development over a long time, living cells came into being. And from these living cells, again through a long and complex process of change and development, unicellular and then multicellular organisms or living bodies emerged. Again through a long process of development of living bodies emerged the human being. The most distinctive feature of the human being is the structure of its brain, because the power of thinking is ingrained in it. This is the fundamental difference between man and the other animals. From scientific experiments and observations we have come to know about the human body and also in particular about the structure of the human brain, existence of its enlarged and developed cerebral cortex. All these have lent the human brain a unique quality -- its power of translation. It is this power which enabled man to think and thus man's mind materialized. Thus, in the long course of change and transformation of matter, from inorganic matter to organic matter, then from non-living organic matter to living cells, and from living cells arose the different living forms.

When we view the changes in the material world and, indeed, any process of change, then to grasp all this correctly we need understand clearly a few related points. We have to understand that the changes going on in the material world are of two types. First, change is happening every moment. The change which matter undergoes every instant is not generally perceptible. This change occurring to matter all the time is called gradual, slow, evolutionary or quantitative change. The second type of change that matter undergoes is the culmination of this first type of change.

In the course of gradual, quantitative change, the nature and character of change in matter reaches a stage when change becomes not only perceptible but clearly discernible, marking a clear break with the previous. This second type of change is the abrupt, revolutionary, or qualitative change. In scientific terminology, these two types of change are sometimes also called continuous and discontinuous change respectively. This qualitative change of matter occurs when matter reaches the transitional stage or nodal point in the course of quantitative change. So, in order to understand change in its entirety, we have to understand both these types of change.

We know that Charles Darwin explained the developments in the living world with his theory of evolution. Both Marx and Engels accorded great importance to Darwin's discovery for the way his theory of evolution struck at the roots of the then idealistic thinking about development of the living world. Subsequent strides made by science unquestionably established that change in the material world in its entirety could be comprehended and explained not through gradual change alone but by reckoning the qualitative, fundamental, or revolutionary change as well. If this scientific conclusion is borne in mind, it is not difficult to understand the course of formation of organic matter from inorganic matter, of complex organic matter essential for emergence of life, and ultimately of life and the living world in the process of successive quantitative and qualitative changes.

Another point should be grasped in this context. In the material world, or in any of its spheres, it is through contradiction, conflict, unity and struggle that changes are happening continuously - and this characterises the material world. Contradiction of matter has two aspects -- internal contradiction and external contradiction. The contradiction and conflict going on within any

body or entity is its internal contradiction. The contradiction and conflict between different bodies or entities is called external contradiction. Changes in the material world come about through both internal and external contradictions. I shall discuss quantitative and qualitative changes and also internal and external contradictions of matter, drawing illustrations, when I shall be entering into a discussion on the three principles of dialectics.

What is mind

Let me come to another point. Philosophers debated for long in the past on whether mind came first or matter, that is which of the two was prior. But the point of this 'priority' has been resolved by science, and once for all. That matter is prior to mind and it exists independently of consciousness is now established beyond doubt. We also know now that, through the sense organs, the external world or the objective reality comes into interaction with the human brain with its distinctive power of translation and it is through this process that thoughts and ideas arise. What is mind then ? Mind is a particular function of the human brain. The human brain, through a process of interaction with the objective world and translation into human reasoning, gives effect to this particular function -- the mind. So man's power of thinking, the basis of the human mind, the product of the distinctive structure of the human brain, developed through interaction of that brain with the external world. What happens in the case of other animals is conflict only -- action-reaction -- between nature and their nervous system, which is called the reflex action. The reflex action is there in the case of man too. But what distinguishes man from other animals is the power of translation of the human brain by virtue of which, through adaptability and a process of elimination, thoughts and ideas arise. This ability or process exists and operates in the functioning of the human brain only. All animals have brain but only man's brain has the power of translation, as I mentioned just a while ago. So man is the only creature to have triumphed over nature, leaving other animals far behind. In this process, knowledge and science developed as also the concept of the right and the wrong, and morals and ethics, and thus has civilization advanced.

So I repeat, matter is not a product of mind or consciousness. Again, it is not correct to say that mind or consciousness exists side by side with matter from eternity. Such a notion is ahistoric and unscientific. Mind or consciousness is inseparably linked up with man. So long as

man had not come into existence, thinking, mind and the concepts of right and wrong, of morality and ethics could not and did not exist. So, the idea that thinking or consciousness flowed from eternity has no objective basis. But there have been many thinkers who could not wholeheartedly accept this. I am not speaking of ordinary people. This scientific analysis of development of the human mind or thinking has not been acceptable to many illustrious thinkers as well. For instance, erudite exponents of science, philosophy and literature like Bertrand Russell, Jean Paul Sartre and Aldous Huxley could not accept this truth fully. What transpires from their line of thinking is this : How can the tiny human brain conceive the vast and limitless universe ? How is it possible ? What comes out from Sartre is that thinking or consciousness, what he called an element of intellect, is neither a product of matter or a supra-matter entity, nor it is totally dependent on or is conditioned by matter -- it has been ingrained in matter from eternity as an element of thinking. The confusion such thinking has created in cultural and intellectual spheres is beyond the purview of discussion today. But the views of these intellectuals can be accepted as truth only in disregard of history and reality. Besides, analysing a bit more, you would find that they have in effect sought to project the concept of absolute independence of human thinking and have helped in breeding a reckless sense of liberty with this sort of thinking, even if unknowingly. Their attitude is, as if, human thought is not influenced or controlled by the material world or the material condition. So, you see, despite being renowned philosophers, scientists and litterateurs, how easily they fell victim to unscientific thinking.

Be that as it may, you should remember that an objective basis works behind each of the different ideologies, thoughts and concepts in society. That is, a thought cannot appear unless the material condition conducive to its growth developed prior to it. So, even when one indulges in some wrong thinking, it has to be understood that the scope for it was there in the overall material condition. Therefore, human thinking cannot be viewed in isolation from the material world and the objective condition. I would request those, who believe that thinking is the contemplation of god, to ponder over whether in reality it is the other way round or not. It is the human brain which begot the idea of god. We know that the idea of existence of an element of thinking or consciousness outside the human brain is at variance with science and history. Whatever thoughts appeared in society, whether the thought of god or of anything else, or whether it is right or wrong, the human brain has been the source of all thinkings. It is said,

therefore, that the human brain is the organ of thought. This is the truth established by science and history. It is thus not correct to say that the material world exists because man thinks that it exists; rather, the human brain developed in the course of change and development of the material world and it is this brain that interacted with the environment and the objective reality through the sense organs, and thus begot thought or idea. To highlight this aspect, some philosophers have even said that matter is thinking.

Primitive thinking was materialistic

In many earlier discussions I said that primitive man's thinking was materialistic, he could not conceive of any non-material or supra-matter entity. At the dawn of man's thinking when he had just been able to think, whatever he thought it pertained to matter. Primitive man had no concept at all of supra-matter entity, nor was it possible. So man's primitive thinking had no room for anything other than matter. This is why it is said that primitive man's thinking whatsoever was materialistic. Let us now examine how the concept of god originated in society. Comrades who listened to discussions on Marxism and dialectical materialism in earlier classes are acquainted with all these. But I should discuss these anew, keeping in mind the newcomers.

Students of history know that primitive man was the originator of magic, *mantras*,^[1] etc. He took to these with the objective of gaining control over matter, taming the forces of nature and the harmful powers of matter. We have it from history that magic constituted man's first effort to know matter. That is why primitive man's magic has been termed the primitive science. If science originated from the effort to know matter, that effort began with the primitive man. This 'science' of those days did not practically help primitive man to know, understand or tame the forces of matter. Nevertheless, this is how primitive man sought to control matter. How much did man know of matter then is a different question. But should you want to understand what he sought to achieve through magic you will have to consider the type of problems he faced. Suppose, a big stone fell down and hurt some men, or a fire broke out and burnt things. Man could not make out the causes of all these. In those days, man had no idea of why a big chunk of rock fell down or a fire broke out. Man came to know later that the fall of a stone is due to a physical force, not a supernatural force.

But to man of the primitive age, these were harmful, evil forces. So he would try to propitiate or control these forces by appeasing them. He used to think that unless he could appease and propitiate these forces, these might do them harm. So, primitive man used to dance and gesticulate before a chunk of stone or a fire in the hope that this would appease the evil forces. But the point to note is that man did not think of existence of a supernatural entity. The forces which the primitive man tried to please by chanting *mantras* and doing all these things had their origin in matter. He had no other means at his disposal nor did he have the thinking capacity to invent anything besides these. Whether he could grasp the nature of matter or not, the endeavour to know the material world was there. The urge to know matter was there despite the means adopted by him. At a later stage, these *mantras* and magic were reduced to means of worshipping gods and goddesses. The strange fact is that the magic used in the primitive ages as the means to know matter, whether it served that purpose or not, acquired a totally different character in later times and became an integral part of offerings, worship and such other religious ceremonies. Even after so much development of science, even after the discovery and harnessing of atomic energy, *mantras* continue to exist as part of religious practices.

So you see, primitive man's thinking was materialistic. He did not conceive of any supra-matter entity, although he had no correct idea about the nature and character of matter. What we know and understand of matter today was not known to man of those days, nor was it possible. He struggled to know matter, he had to struggle against nature in order to advance. It was not possible for him to conceive of god as the creator, or of any other entity independent of matter. Thinking about god had no room in his mind. The idea of god or a supernatural entity came much later, only after conditions conducive to the emergence of such thinking had appeared in society, and not before that. So, an environment conducive to the emergence of the idea of a supra-matter supernatural entity in the human mind, on the one hand, and development of the capacity for thinking and imagination on the other -- a combination of these two -- led to the idea of god.

How idea of god appeared

When did the idea of god appear? It appeared at a time when society had become class divided, stable property had appeared, and a kind of administrative system under a ruling circle

had been established. This stage of social development with a ruler heading the administration and laying down laws as he willed, which had to be obeyed by all, and the society being run in a more or less organized, disciplined manner, seized man with an idea. He observed that the world around him was governed by some laws. Sunrise and sunset, and day and night followed one after another; seasons changed -- winter, then summer, then the rainy season -- each coming periodically; ebbs and tides, the new moon and full moon alternating -- everything followed in a regular order, obeying certain laws. So the thought struck man that if society could not be run in an orderly way without a law-giver ruler who was the master, how could the vast universe run so orderly unless it had a lord or a master? That is, having observed the role of the ruler in maintaining discipline in society, when man sought to investigate why nature and the universe was law-governed, the similarity of order and discipline between the two struck him and on that ground he got the idea of a supermaster -- the god. This is the basic cause why, and this is how, the idea of god appeared in society.

Another point. Such questions did not strike man at the very beginning just because he had observed the disciplined orderly changes in nature. Man could not think of correlating social discipline with the disciplined order of nature or the master of society with the idea of an almighty god so long as 'jungle-law' prevailed in society and there was no law and order. When man was still in the stage of animals virtually, and used to roam about in forests divided in hordes and the question of a society with law and order had not arisen at all, the idea of god had not appeared in the human brain, although man had been observing the orderly changes in nature. Precisely at what stage of society did the idea of god appear and what was the specific social system obtaining then are subjects of detailed social-anthropological research. Many researchers, including Morgan, have investigated this. From these researches and the cave paintings of primitive man and such other available data and materials, it appears that the idea of god first struck man in the slave society which was divided into slaves and slave masters.

However, you have noted that even when man practised magic as a means of knowing and controlling matter or the forces of matter, idealism or the concept of god had not appeared in society. I have told you very briefly about why and in which circumstances the idea of an almighty god appeared in the human mind. Later on, the celestial bodies -- the stars, planets, satellites, all made of matter -- were sought to be projected as forces transcending matter, and

this way a supernatural power was ascribed to the sun, moon, jupiter, venus, saturn, etc. Such supernatural forces have not been explained in the same way in different religions. The interpretations given in the *Koran*, the *Bible* and the Hindu scriptures differ. But in one respect they are essentially the same, inasmuch as in all the religions a supra-matter, supernatural, omnipotent entity has been conceived as the fundamental basis of everything -- anything happening in the universe is as per his will. All religions hold that god's will is a free will independent of the laws of matter and that the material world with its laws is but the expression of his will. Once god had been described as *nirakar*,^[2] that is without any formal structure. Attributes of god have been described in great detail in the religions, but nobody could get to know who is god and where his abode is. There is no way of knowing these because god does not exist anywhere except in the human brain -- in man's imagination, that is on the mirror of his mind. You have already heard how the idea of god appeared in the human mind. At one stage of the Hindu religion, plurality of deities was conceived. The interpretations of different religions have taken different forms in varying circumstances, although the essence of all religions is basically the same as you have just heard.

So you see, although primitive man's thinking was materialistic, idealistic thinking appeared in society at a particular stage of its development. Since then, idealistic and materialistic thinkings have been there existing alongside of and in struggle with each other. So, the thoughts of human society can broadly be classified into two categories -- the idealistic and the materialistic. The idealistic thinking again is subdivided into many schools of thought which are in mutual contradictions, on the one hand, but have a basic unity too, on the other. It should also be understood that the idealistic thinking is not necessarily theism. There are many idealists who do not believe in god -- they are atheists. They want to rely upon science. But even so, their thinking has not always been based on science. Though not believing in god, they have in fact fallen victim to idealistic thinking and practice of idealism. Though there are differences in the expressions of the idealistic thinking, barring the atheists all idealists have accepted the existence of supra-matter entity on some question or other. They have all subscribed to the belief subjectively, that is, they have anyhow assumed the existence of a supra-matter entity outside the material world and the laws governing it. What they all have agreed on is that it is not that only the material world is real, supra-matter entity too exists. Where they differ is where and how this

supra-matter entity exists. This is nothing but a variant of the idealist process of thinking. On the other hand, the main contention of the other school of thought, the materialist thinking, is that matter is the basis of all thought. Protagonists of this school of thinking hold that only the material world is real, no supernatural supra-matter entity exists in the universe. This particular process of thinking is called the materialist thinking. Many a philosophy have developed on the basis of this materialist thinking, because although all are materialists, their concepts and interpretations of matter do differ.

Idealism and materialism

But I will not go into the differences among the various idealist philosophies as also among the various materialist philosophies. Incidentally, I like to point out that with the development of epistemology and science, and with experience in course of advancement of human society, both the idealist and the materialist schools of thought have continually changed and thus have developed to their present stages. Even after the idea of god appeared in history, that too has not remained static -- it had had to grapple with many a question and problem. For instance, it has been considered in some religions that man is born good. But experience shows that there are not only good men but bad ones too in society. So, it has got to be admitted that the same god created bad or evil men along with honest and good ones. Or else, if it is assumed that god is the creator of only good men then the idea of existence of satan as the creator of evil men from the very inception of creation is inescapable. Considered thus, it boils down to this that satan too, along with god, should be viewed as the creator of the universe. Man has had to face such intricate questions. Confronted with such issues some discarded the divine theory itself and became agnostics who hold that the question whether god exists or not, is beyond the purview of human knowledge, and so this could not be a concern of man.

I may recount an experience of mine in passing. I have had occasions to meet persons who are atheists but bourgeois humanists, not Marxists or dialectical materialists. Their thinking is that the belief in god is the root cause of all evils and exploitation. They hold that class struggle, Marxism, etc., have no basis and are of no use ! Their contention is that unless god can be banished from the mind, there can be no emancipation of man. They say that unless man stands on his own legs, he cannot protest against injustice and fight against the god cult, and the reason

why man endures oppression and tyranny and takes the onslaughts lying down is his fatalism, or belief in god. So their contention is that if only the belief in god could be dispelled, man would stand up with his head high. Such is the frame of their logic. You have to bear in mind that Marxists have nothing in common with these atheists. Marxists too are atheists but atheism ipso facto is not Marxism. There are many atheists who are rabid anti-Marxists. But we had better keep in mind that there are instances in history when Marxists moved together with the believers in struggles against injustice and exploitation, but have seldom been able to work unitedly with these atheists.

Let us now come back to the earlier discussion. When the idea of god appeared in the class divided society after the appearance of stable property and the idea of the almighty god struck firm roots in human mind, in this situation people came to consider the king and the lord the representatives of god. They thought that just as god ruled the universe, the king, as the representative of god, ruled the country and society, and ruled everybody. So, people came to believe that if one was loyal to god one had to be loyal to the king, that is, they used to think that if one did not want to oppose god, one should not go against the king either. Conversely, the belief was that one who betrayed the king might as well betray god. Such was what religion generally came to mean in that period. The religious-minded did not revolt against monarchy. Their belief in god helped to protect monarchy.

But I beg to differ with those who hold that idealist philosophy has all along been an instrument of exploitation in the hands of the exploiting class in all stages of history. I consider this concept unobjective and a distortion of history. However, I consider them equally wrong who claim that materialist thinking had all along been a weapon in the hands of the exploited classes.

Role of idealism and materialism in history

Consider the instance of the slave society, divided into slaves and slave masters. You have heard grim accounts of inhuman torture on the slaves by their masters. Many a woeful tale have been written on this which still now move the mind deeply. Those episodes are heart rending indeed. The believers in Christianity were confronted with a question on the oppression of slaves

by slave masters. Following the teachings of Jesus Christ and the precepts of Christianity, they sincerely believed that all men were created equal by god. They believed that no discrimination should be made between the creatures created by god. Guided by this precept rooted deeply in their mind the slaves had organized themselves and protested against the slave masters. They thought that since Christianity preached equality of all, the slave masters, by perpetrating oppression on the slaves, were acting against the will of god, and so to torture the slaves was to defile Christianity. Viewed from this angle, it is not difficult to realize that Christianity helped the slaves in a way to organize struggles against the injustice and oppression by the slave masters and in that sense helped in social progress at that time. Similar was the case with the adherents of Islam as well.

The point should be examined from another angle also. You should bear in mind that it was the religion at a particular stage of social development that helped in furthering the concept of morals and ethics, the sense of values, the concept of right and wrong, the spirit of service to others and not despising anyone. As a result, a sense of discipline grew which helped to bring about consolidation and cohesion in society. From this angle too, religion played a role in social progress. So my point is that to the extent religion helped in social progress and at which stage of history determine its historical value. To deny this is to deny history itself. Whether the religious interpretations are correct or not is a different matter. The point is, it is true that idealistic thinking has historically been used as a tool of exploitation by the exploiting class most of the time, but I am unable to agree on the contention that religious thought or idealistic thinking never played a positive role in social progress.

Again, if one thinks that materialist thinking has all along been an instrument of struggle in the hands of the exploited classes, I feel that is not fully correct. You all know that the very same kings and lords who projected themselves as representatives of god at one stage afterwards became oblivious of the 'heavenly abode' and indulged in pleasures and luxury, considering enjoyment of life, in the crude sense, the be-all and the end-all. Actually, by this they practised vulgar materialism, and no religious precept or religious sense of right and wrong worked in them. By disregarding the question of virtue and vice, they could think only of how to enjoy life, inducing others in this way to be selfish and obstructing social progress in reality. Again, the philosophy of Charvak^[3], you know, is a materialist philosophy. I am not discussing it in detail

here. The point is, Charvak did not believe in a 'world beyond death'. At the same time he opposed the religious and ascetic practices; and there is a saying attributed to him, which is in wide circulation, exhorts :

Yavat jivet sukhang jivet
Rinang kritva ghritang pivet ^[4]

That is to say, since Charvak was a non-believer in a 'world beyond death' he was making a plea for living in pleasure as long as one lived. In whatever sense Charvak might or might not have said it, many have interpreted his doctrine to mean that pleasure is the chief good in life, and so one is free to enjoy oneself without bothering about the wellbeing of others. Clearly, this kind of materialistic thinking makes a virtue of self-interest to the exclusion of interest of society, helping thereby to breed opportunistic thinking and hinder social progress in effect.

Interrelationship of man and environment

Let us get back to the main discussion. Those who are acquainted with the long history of social development cannot deny that in the process of fighting against nature from his urge for a better living, at some stage, man gained the capacity and gave birth to the productive system. Man's consciousness or conscious action has all along been engaged in the purpose of knowing nature and fighting against it under different conditions. This means, the growth and development of man's thinking went on through interaction, unity and struggle between the human brain, on the one hand, and man's environment on the other -- the social environment based on production system and the external world. Here 'environment' includes everything around man -- the material world, social life and nature -- and it should be understood as such, comprised of everything with which man has to have relationship in order to live. Man is involved in this environment as a point of contradiction, a condition of contradiction, as a particular entity. So, man and his environment cannot be viewed in isolation from each other. Man's thinking has developed through interaction, unity and struggle between the human brain and its environment.

Another point. Students of social sciences know that in the primitive stage of society when it had not become class divided, there was no question of class struggle playing a role in social

progress. Even so, social advancement took place then. A question, therefore, naturally arises that since there could be no progress without contradiction and conflict, which forces in contradiction had made social progress possible in the primitive society which was not class divided and had no class struggle. To understand this, we should remember that the contradiction between the human brain and its environment in the primitive society constituted the main contradiction in that society. The then society advanced centring round this contradiction. By environment should be understood the environment in a given condition, in its greater perspective, embracing everything. And this environment, or situation, is called the objective or material condition. Again, if this material condition changes, then that too goes to influence man because the changed condition gives rise to a new contradiction or conflict between man and his environment, leading to emergence of new thoughts. But the point which should be noted is that the new thoughts so generated through contradiction and conflict between the human brain and the material condition do not come into being automatically along with the change in the environment. It takes some time for the new thinking to emerge after the change in the environment has taken place. Those who believe that man's thinking changes automatically along with, and in accordance with, changes in the environment, suffer from a mechanical bent of thinking. You should also know that the material world is the basis on which the world of ideas or the superstructure develops. Existence of the world of ideas cannot be conceived without existence of the material world. I have already discussed that idea or thoughts arose through interaction between the human brain with its higher structure and power of thinking and the material world. So, the brain is the basis of man's power of thinking.

Again, with the appearance of idea or thoughts man's contradiction and conflict with the environment took new turns. Since then, not only has man influenced the material world and society but the material environment in turn has also helped in enhancing the capacity of the human brain, its power and adaptability to conceive a new thought. As a result, the structure of the human brain is itself becoming more developed and complex. So I say, just as matter gives birth to thinking, thinking too influences the material condition -- an interrelationship is there between the two.

But keep it always in mind that matter is the origin of thinking, hence matter is prior. The brain with which man thinks is nothing but matter. And the environment or the material

condition with which man's brain interacts, giving birth to thoughts, is also a an organization of matter. So thoughts or ideas develop in the midst of environment, and again thoughts or ideas help change the environment itself. However, man is not helpless in the midst of an unfavourable environment. Development of ideas in isolation from environment is not possible. If one starts arguing that circumstances have made him so helpless that little can he do, that would not be a correct way thinking, not to speak of being a correct materialist thinking. This thinking denies wholly the role of the individual. This thinking does not take account of the fact that an idea coming into being has its own role to play, it has its relative independence, and acts on the environment in turn.

Independence of idea is not absolute, it is relative

So, when idea originated it appeared with its relative independence. Again, if one reasons that since idea or thought has relative independence, so it is an independent entity separate from environment, then that too is a wrong way of thinking. It is to be remembered that the nature of relationship of idea or thoughts with the environment is dialectical. That is why the independence of thought, as just mentioned, is relative. It is not absolute. Thought or idea does not exist independently of space, time and environment. I discussed earlier that it is unscientific and mechanical to think that with the changes in environment or material condition, idea or thought would automatically change. If environment becomes the sole determinant of all ideas and thoughts, and if man's intellect has no role in influencing and changing the environment, then we have no alternative but to sink into fatalism. In that case, man's role becomes ineffectual and sterile. Such beliefs and mode of thinking cannot but be very harmful for the revolutionary organization and movement. Had we fallen victim to this kind of thinking, it would not have been possible to build up our party in the face of tremendous odds and adversities. Moreover, if we place undue stress on the role of circumstances, we would hold the situation responsible for any failure of ours. We would argue that we have failed not because of us anyway but because of the adverse circumstances.

But history tells us that man is the only creature that did not surrender totally to the forces of nature. There is a gulf of difference between man and other animals. Whereas the others are slaves in full to nature, man tries to know nature, understand the natural laws and harness them

and, in this process, man controls the harmful forces and puts to work the useful ones. So, our task is to overcome all hurdles and obstacles, not to accept defeat. At times we may fail despite all our efforts. Analysis might show, we had a shortcoming in judging the situation perhaps. Or else, it could be that we did not succeed although we had taken the correct steps and made every effort. If the case be so, we are to understand that the limitations of the objective situation were such that we could not make any breakthrough. Even as we made every effort, we lacked in adequate consciousness, strength of character, wisdom and the capacity required to overcome the objective situation. Whereas, we are misplacing the blame on circumstances and trying that way to shirk our responsibility. All such concepts regarding the role of environment are at variance with the understanding of dialectical materialism.

Base and superstructure

Another point. In Marxism, it is said that the material condition is the base, whereas ideas or thoughts constitute the superstructure. It does not mean, however, that once the base undergoes changes, the superstructure changes automatically. For example, the economic system is called the base of a given society, and the ideological, political, cultural, educational and juridical concepts that develop in a society on the base of a particular economic system are said to constitute the superstructure. But on careful examination it can be found that in the course of history when a new economic system is established in society replacing an old one, that is when a radical or revolutionary change comes about, the superstructure of the old society does not change automatically. Even after revolution, hangovers from the old superstructure persist for long in society. However, as I said, idea or mind has appeared as a product of matter and so matter is the origin of idea or mind. But after idea had appeared, the nature of the relationship between the two came to be that one became conducive to the other, being supplementary as well as complementary. It is not sufficient to understand only this much about the mutual relationship between idea and matter. Which among the two is fundamental or prior has also to be understood, the priority conception too should be correctly understood. So, I repeat, matter or the material condition is prior, because, it is matter that gives rise to idea or mind. But once idea came into being, it came into being with a dialectical relation with its environment, each influencing and helping in bringing about change in the other. At times it is the material condition while at other times it is the idea or mind which plays the greater role.

I may draw your attention to another point in this connection. Those who understand the role of material condition mechanically are often heard to observe that since socialism is an inevitability in the historically determined course, it would be established some day or other, as per its own law. On this, they even refer to the Marxist teaching of historical inevitability of socialism. Their point is, therefore, why should man have to struggle so hard and sacrifice so much and conduct painstaking struggles to establish socialism. I had better put it clearly that it would be wrong to approach the issue in this way. Socialism is inevitable because socialist consciousness against capitalist exploitation and oppression and struggles on the basis of that consciousness are inevitable. This is the correct understanding of the teaching that socialism is inevitable. The concept of inevitability of socialism is not such that socialism would come about automatically, even if people sat tight without fighting against capitalist exploitation and oppression. The fatalistic concept of inevitability of socialism is vulgarization of Marxism. You should develop the correct understanding on this, and the moment you succeed in it, you will be able to play a far more effective and conscious role in the revolutionary movement. All other courses are nothing but evasion and self-delusion.

Another point needs to be discussed here. In the Marxist philosophy it is said that prior to something coming into being, an urge for it grows, that is, a necessity works behind its emergence. Here the term 'necessity' seems to have been used in a somewhat all-embracing manner. I think that there should not be any difficulty if the matter is understood properly. Otherwise, there remains a scope for distortion of the point. We have to enrich our understanding of it adequately so that those who seek to distort Marxism get no such scope. I think the term 'necessity' is applicable in case of development of human thinking or ideology, and in relation to social progress, but not in a general sense. We should understand that when we speak of social necessity or social urge in this understanding of 'necessity', some consciousness or comprehension of it is bound to be there. But in the distant past there were great changes in the material world in the course of cosmic evolution when neither life and human thinking nor any sense of social necessity had emerged. If we say that a sense of necessity or urge was responsible for bringing about those changes in the material world, that would be sinking into idealism. It may mean as if god's or some such supreme being's urge had been active as the root of creation. Or else, we would have to admit that consciousness had been active in the material world in a

latent form, even if as an element, and as if it had been flowing from eternity, being ingrained in matter. If we think this way we should also have to admit that consciousness, in whatever way, has been inherent in matter all along. That is why I was saying that the term necessity should not be used in an all-embracing sense; that is not the correct understanding either. 'Necessity' as used in classical Marxism would have to be understood as 'necessary condition'. That is, change in the material world happens or can happen only when the necessary condition matures. In the case of society, it is this 'condition', that is, the social urge or necessity, whereas in the case of nature, it should be understood as the material condition -- conditions which are ever created anew in this changing world.

Development of philosophical thought

I shall now try to put before you a few other aspects of philosophy. You have already heard that primitive man's thinking was materialistic. Inception of idealist thinking in society occurred much later. After the appearance of idealist thinking, both the materialist and idealist schools of thought have been there side by side. Although ideas and concepts of both these categories of philosophical thoughts have undergone many a change, some aspects of which I have already discussed, it should be understood that when humanist thought made headway against feudal ideas and concepts, the protagonists of this humanist thinking sought to advance on the basis of science. It was a time when a scientific foundation had been laid for the natural sciences. It can be said that this onward march of the natural sciences practically started with Newton who made many epoch-making discoveries in different fields of science. Newton's scientific investigations and formulations shed new light on gravitation, laws of motion and many other problems. But it is equally true that for historical reasons there were some limitations then to the progress of science. For instance, Newton's discovery of the laws of motion of matter played a role in the advancement of science. But why matter moves, what is the cause of such motion, was not known then. To Newton matter appeared inert. That is why, although a scientist, Newton had to think of a prime mover, a first impulse. An illustration will help clarify this point. Men had observed that a football moved when kicked at, a shot was fired from a gun when its trigger was pulled, a pendulum swung after the clock was wound up. Such experiences were there with man in those days. From all this, Newton concluded that the cause of motion of matter was external to matter. That is why he assumed that a prime mover had imparted the impulse of endless motion

in matter and that was why matter was in motion obeying the laws of motion which he himself had discovered. The concept of mechanics that developed on this has been called Newtonian mechanics. The main point of this mechanics is that for matter to be in motion a force must be applied on it to start with. Science of those days could not go beyond this, but the cause of motion of matter is no longer unknown to modern science.

Another point regarding the character of matter should be mentioned here. Once atom was considered the smallest particle of matter and this atom was found indivisible. At that time proper instruments and experimental methods were not available to break atom into still smaller particles.

That is why, for a long time the atom was considered unbreakable. The idealist philosophers of those days, so to say, placed atom *on a par* with Brahma, the almighty god. Later on, this misconception was dispelled. It was proved through experiments and observations that atom could be further broken up and that it was actually composed of different types of still smaller particles. This brought about a revolutionary change in the old scientific concept. Thus, the dialectical materialist concept that every particle is composed of still smaller particles, which are in mutual interaction, was established even more firmly through scientific research and experiments.

Let us now go back to the original point of discussion. Materialism that developed on the basis of Newtonian mechanics and the atomic theory of those days is called mechanical materialism. Here I remind you again that the thinking of primitive man about matter, which we have already discussed, was also materialist. But clearly there is a gulf of difference between the materialist thinkings at these two stages of development. Again, the concept of matter in Newton's time naturally had historical limitations. The later advancement of science, particularly the level, the concepts and ideas of matter attained during the phase when dialectical materialist thinking developed, which concepts and ideas are still developing and getting enriched in the light of scientific discoveries, has clearly revealed the inadequacy of materialist thinking of Newton's time. Newtonian mechanics was found inadequate to explain the nature of motion of high velocity microparticles like electrons, discovered at a later period. For the domain of microparticles a new mechanics -- quantum mechanics or wave mechanics -- has been

developed. It is undeniable that the materialistic thinking of that time was solely concerned with matter and reflected materialist thinking. But despite this, mainly two basic limitations were inherent in the materialist thinking of those days which I have mentioned earlier. So, if the matter concept of that time is compared to that of today, many inadequacies of the former become clearly manifest. It is by keeping such inadequacies in view that all earlier materialist philosophies are deemed idealist in one sense ever since the emergence of dialectical materialism. Therefore, it is said that these mechanical materialist concepts, although they concern themselves with matter, could not reflect truth adequately.

Why are we not idealists ? What is the shortcoming or defect of idealism ? It is because idealism propagates as truth something which cannot be proved by reasoning, experiment and verification, and is not corroborated by history and experience of life and society. As a result, the insight into truth gets blurred and that cripples the power of judgement and the ability to analyse the situation. That is why we are opposed to idealism and theism. Otherwise, we have no quarrels with god. To us, the main question is to know truth, quest for truth. So ours is the ideological struggle to establish truth and also to fight against class exploitation, class rule and capitalism for emancipation of man. So, if we can involve the ardent believers in religion in the struggle against exploitation and injustice they will get rid of their blind faith some day in course of their struggle. Please keep this observation in mind.

Now, how far the materialism that is unable to solve the problems because of its failure to correctly grasp truth basically different from idealism or religious thinking ? For, idealism or religious thinking too cannot solve the problems. So, it does not suffice to speak of matter or materialism; more important is the correct conception of matter. Viewed from this angle, despite apparent great differences between these two philosophies, in the ultimate analysis they fall almost in the same category. Lenin said, therefore, that all materialism except dialectical materialism were objectively nothing but idealism. That is, by the yardstick of dialectical materialism, all other varieties of materialism that have appeared so far in history are but variants of idealism. But here I want to say that when we speak of the other varieties of materialism as being variants of idealism I do not mean them to be synonymous with idealism. It is not like that. Actually, by this it is intended to stress that dialectical materialism is the most developed process of thinking that has evolved in course of the long history of materialist thinking.

Every atheist is not a dialectical materialist

For instance, there are many among the humanists who consider themselves atheists. There are some among them who think that religion, Marxism, party politics, or the theory of class struggle are equally responsible for all the evils in society. To many of them, the question of individual liberty and individuality is all important, and individual liberty as conceived by them is independent of objective or social conditions. It is almost the concept of absolute freedom of individuality. It never occurred to these intellectuals who are proponents of this kind of ideology and who wanted to adhere to science that science had never accepted the existence of any entity in the universe that was unchangeable or eternal. Again, there is a class of intellectuals who, although they do not believe in religion and god, consider going to church a hypocrisy or ignorance. They failed to analyse in accordance with the scientific conclusions. So, eventually, they fell victim to idealism. Intellectuals like Bertrand Russell, Sartre or Huxley belonged to this category, although their thoughts were not wholly identical. All of them tried to adhere to science and supported materialism generally, and yet all of them were humanists and objectively idealists.

Hegel-Feuerbach-Marx

Incidentally, I want to touch upon one or two other points. You know that Hegel was a distinguished figure in the philosophical world. I consider him the most powerful among the idealist philosophers. It was Hegel who first formulated the three principles of dialectics, the dialectical methodology that you have heard of. Hegel said that the universe with all its phenomena and the material world we see around followed the dialectical process of change. But in order to explain why Hegelian philosophy, in spite of such analyses, is called an idealist philosophy, we should discuss it, even if briefly. Hegel said : everything in the world exists in contradiction. The process of contradiction-unity-struggle is operating in every thought, everything in society, that is, class divided society, and it is through this contradiction that all changes come about. That the contradiction between thesis and antithesis leads to synthesis is also Hegel's contribution. But even after having said all this, in his philosophical system matter was viewed as the dialectical expression of an absolute idea. That is, the absolute idea he viewed was dialectical. But the question arising from this was that if idea was dialectical, then how could

it be absolute at the same time ? Or, conversely, if idea was absolute, then how could it be dialectical ? What Hegel assumed was that idea was the 'original idea' which had inherent contradiction within itself and it was this contradiction that had led to creation of the material world. It means that the material world is an image, and in that sense, it is an expression of an absolute idea. So, Hegel's dialectics became the dialectics of idea, and thesis-antithesis-synthesis became the laws of changes in thought or idea. Therefore, it is clear that Hegel could not grasp the nature of the relationship between matter and idea, nor the process in which idea was created as a result of contradiction-conflict of matter at a particular stage in course of a long history of change in matter. That is why Hegel's philosophy became dialectical idealism and not dialectical materialism. It became an idealist philosophy.

This had created some problems then. In Germany, Hegel's followers became divided into two camps. One group became the ardent followers of Hegelian philosophy and the other came to be known as the Left Hegelians who were somewhat inclined to the Left. Feuerbach was among the Left Hegelians. Their point was that if the absolute idea was the origin, then everything happening in the world were all images or expressions of that absolute idea and were, therefore, real. 'All that was real', Hegel said, 'was rational'. In that case, one might argue that since committing theft was real, it must be rational too. So, how could there be the question of punishing thieves ? Hegel protested that he had never said such things and that his stand was being distorted and things he had never said were being attributed to him. Or else, how could such crimes against society be called rational, and were such acts supportable anyway ? Hegel's critics replied that they never meant to say that Hegel supported theft but if his philosophical system was accepted, such a conclusion was inescapable. Such was in general the criticism of the Left Hegelians. Feuerbach attempted to dig out the roots of the problem.

Feuerbach was a disciple of Hegel. He said, Hegel had worked out a nice philosophical system as such. In his theory Hegel said about matter being dialectical and about the three principles of dialectics -- these were all correct. The only trouble concerned his absolute idea. So, Feuerbach said that the absolute idea was not necessary and Hegel had hypothetically assumed it. Feuerbach wanted to do away with the concept of the absolute idea and, according to him, the problem would then cease to exist.

But Feuerbach too could not fully resolve the problem by this, because he had failed to grasp the main question. Since the concept of the absolute idea was creating problems, he suggested omitting it. He thought, it would suffice only if this concept was abandoned. And once this was done, there could not be any reason to consider social crimes like theft rational on the ground that these were 'real'. So, Feuerbach dropped the concept of the absolute idea. But then there remained a flaw in his philosophical thought. It was all right that he dropped the 'absolute idea', but he failed to grasp the important question as to how thoughts or ideas originated and also the scientific analysis of the mutual relationship between matter and idea. This is why Feuerbach too could not solve the main problem. He could not explain the changes in the material world, and although he fought Hegel's 'absolute idea' he reduced the concept of ethics and morals into something static, absolute, unchangeable and eternal. He formulated a moral code to guide man for all time to come. He felt that otherwise the door to the wellbeing of mankind would be closed for ever. He laid so much stress on this code that idea or morals came to mean in effect something static or eternal. So, with all this, Feuerbach ultimately sank into idealism and turned into a humanist. Today he is recognized as among the propounders of humanism. Morals and ethics get supreme importance in his philosophy which he considered unchangeable and absolute. In other words, what came out from his thoughts was denial of the fact that along with change of time, with change in the material world, the world of ideas too underwent changes. Feuerbach's humanism or concept of human values was static and unchangeable, and objectively it went against dialectical materialism. As a result, his thinking turned out to be a variant of theism and religious thinking. Though Feuerbach dropped 'absolute idea' from his philosophy, eventually he made morals and ethics, his moral code, absolute. He did not view idea as a product of matter, rather viewed it as an entity outside matter.

In this background after Hegel and Feuerbach came Karl Marx. He too was a disciple of Hegel. Once Marx observed that everything was all right in Hegel's philosophy except that it was placed upon its head and so it had to be "turned off its head on which it was standing before and placed on its feet --". Also he made his stand clear on Feuerbach's theory. He said that just as Hegel, by giving birth to an unscientific thought like 'absolute idea' had lapsed in spite of his such a brilliant analysis on dialectics, so also Feuerbach, even as he laid so much stress on materialism, not only turned a humanist ultimately but objectively denied dialectics itself by

assuming his code of morals as unchangeable and eternal too. The question was : If morality and ethics were absolute, as Feuerbach propounded, then what remained of dialectical materialism ? It meant undoing all that had been achieved. Where Hegel had erred, Marx pointed out, was his assumption that matter was a product of idea or mind; otherwise, basically, there was nothing wrong with his dialectics. It was this mistake that caused all trouble. Now we know from science and history that mind is a particular function of the human brain, and this human brain is formed of matter. I have also discussed that it is the interaction of the human brain and the external material world through the sense organs that enables the human brain, endowed with its special capacity of power of translation, to give birth to thoughts and ideas. So, in Marxism, idea or mind is called a product of matter and the relation between matter and idea or mind is not mechanical, it is dialectical. Our world of thoughts and ideas is inextricably linked with the material world and the social environment. And the relationship between the two is dialectical in which each influences the other. We should understand that ethics, morals and ideology grow and develop out of social necessity. But ideology and this concept of ethics and morals are not eternal. No society can advance without ideology, ethics, morals and sense of values. But the very same ideology that helps society to advance today acts tomorrow as a brake on society, obstructs social progress and becomes utterly reactionary. This is not unnatural because man's necessity cannot remain static at any point. That is why new ideologies must grow to meet the new necessity of life. Neither Hegel nor Feuerbach could answer comprehensively and correctly these questions.

Assimilating the thoughts of these two philosophers Marx, for the first time, laid the foundation of the correct philosophy. Not only did he show the mutual relationship between idea, or mind, and matter, he also showed correctly that matter was prior. This is very important, this concept of priority of matter, and should be borne in mind always. Thus, by transcending the concepts of liberty, equality and fraternity of bourgeois democratic revolution, Karl Marx gave birth to the concepts of scientific socialism and communism, encompassing all aspects of life including ethics, morals and values, and laid the foundation of the comprehensive philosophy of dialectical materialism -- the philosophy with which man would fight to usher in a new society and a new life led by the working class. Herein lies the nobility of the philosophy of Marxism.

You know, the old concept of matter has undergone so much changes. The concept of Newton's time that matter was inert has changed following the discoveries of modern science. Matter is conceived today as dialectical matter -- no more is there any room for mechanical concept. Marxism holds that everything in the universe is but the manifestation of dialectical matter in diversity. We may know it, or we may not, but the fact is that each and every particular matter, phenomenon or entity exists amidst contradiction and conflict. What does that enjoin on the Marxists ? It enjoins on them to find out the nature and character of the contradiction and conflict in each case, and to seek the solution on that basis. So unless we can properly grasp the dialectical methodology which examines everything in its interrelation with the environment, not in isolation, we shall not be able to find solution to the problems before us. It is also to be noted that our concept of the changes going on in any particular matter or phenomenon, the contradiction and conflict between different forces and the process of unity and struggle, is continually attaining clarity and our idea enriched more and more. This is the correct scientific understanding. Can it be argued anyway then that the dialectical methodology or the Marxian analysis has become outdated and obsolete therefore ? Rather, if the advanced and developed concepts of matter and of the causes of change can be continually grasped, it is not difficult to understand that the solution is to be found out by further advancing dialectical methodology, following the fundamental principles of Marxism and by applying the same to every problem of life and society. The question of rejecting Marxism as obsolete does not arise.

Again, Marxism holds that there is nothing in the world divorced from matter, that is world is all matter. I have already discussed that even mind is a product of matter and every particular matter or particle of matter exists in interrelation and in contradiction-conflict with every other particular matter or particle of matter. Again, every matter, even a particle of matter, has its internal contradiction. As a result of these two types of contradiction matter is undergoing constant change. Contradiction is thus of two types -- internal and external. I shall discuss this later in some detail. At this point I wish to stress only that every change in nature arises through this process of contradiction. So how can one expect to be a Marxist avoiding the course of struggle ?

Marxism and the philosophy of the working class

Let me discuss another point in this context. Some Marxist philosophers have called Marxism the working class philosophy. There should not be any difficulty with this if the point is understood correctly. Otherwise, some confusion is likely to crop up. Today progress of human society, solution to all crises and keeping the social progress unhindered have all become inextricably linked up with the proletarian social revolution and establishment of the hegemony of the correct working class party capable of carrying out this task. And Marxism is the guiding force behind all this. It should be realized that the working class interest has become identified today with the interest of human civilization as a whole and, in this sense, the working class today represents the overall interest of human society and civilization. Therefore, as emancipation of the whole society is inseparably linked up with the emancipation of the working class in the present-day world and as Marxism has become historically the weapon in the hands of the working class in its struggle for emancipation, it is in this sense that Marxism can be called the working class philosophy.

In this context, I wish to draw your attention to another aspect. First, if Marxism is called the philosophy of the working class, that may injure a bit the sentiment of the intellectual elite. Second, Marxism teaches us that, by moving along the historically determined path of social progress, human society would one day step into a classless social system free from exploitation, and this depends on man's playing a correct and conscious role. The question naturally arises : If we view Marxism as a class philosophy, the working class philosophy, would it not lose its validity in that classless society ? But it should be clearly understood that the question of Marxism losing its indispensable necessity in that classless society does not and cannot arise. Because, as there is no end to advancement and achievements of science, as science would ever continue to be developed and enriched, similarly, as a comprehensive science, as the science of all sciences, Marxism would ever continue to be advanced, enriched and creative more and more. In that distant future too, Marxism would provide the correct guidelines for social progress and help in understanding the laws of changes of the world. That is why, although Marxism can be called the philosophy of the working class in the particular context of the present class-divided society, to explain the leading role of the working class and to show how the working class interest has become identified with the social interest, the universal approach and appeal of

Marxism and its invincibility as a philosophy based on science get somewhat undermined by this.

Cause of motion is inherent in matter

Let us go back to the discussion on matter. We know now that in Newton's time matter was conceived as inert since the cause of motion of matter was not known then and the concept of matter too was somewhat inadequate, owing to relative backwardness of science. It is known to all students of science today that matter is not inert, nor static. What is called mass of matter is one form of existence of matter while energy is its other form of existence. So matter is both mass and energy. Energy is no longer considered a non-material entity. The concept of matter that has developed on the basis of knowledge gathered from the splitting of atom, from radioactivity and the theory of relativity is such that one no longer has to look for the basic cause of motion outside of matter. Further, it has been established that of the three forms of existence of matter -- solid, liquid and gaseous -- motion is inherent not only in gases and liquids but in the solid state also. The kinetics of the solid state of matter is now included in the curriculum for students of science. Taking into account all these, modern science has concluded that the basic cause of motion of matter is within matter itself; that is, the basic cause of motion of matter is internal. Besides, according to science, everything in the world is ever changing. Society, man-made laws, norms, morality, ethics, sense of values, ideology, or say, the extremely minute particles of matter -- nothing is static. So, in science motion is viewed as the mode of existence of matter. That is, matter exists means it exists in motion. Matter without motion is impossible; matter is ever in motion. Such are the conclusions of science about motion of matter.

Absolute vacuum does not exist

Two other aspects are associated with this concept of motion of matter. These are space and time. There was a time when we used to consider 'empty space' as vacuum. But the fact is that there is nothing like absolute vacuum in the universe. The space we consider empty is empty in the relative sense, not in the absolute sense. The interstellar space, the space beyond the solar system, once used to be considered vacuum. It has been established today that what we call space is the space of matter. Even the interstellar space is packed up with matter. Matter exists there

mainly in the form of radiation or energy.^[5] To explain the propagation of light with the help of the wave theory scientists once assumed the existence of a hypothetical medium called ether throughout the universe, including 'vacuum'. Ether was conceived as a medium that had elasticity but no mass. But scientists could in no time detect the untenability of this hypothesis. The question naturally arose in their mind -- if this was elasticity, then elasticity of what ? Because, how could there be elasticity if there was no mass ? Elasticity being a property of matter, it could not exist in absence of mass. It was finally discarded in the light of later developments of science. So, the ether hypothesis was untenable. That is why I was telling that there was no empty space anywhere in the universe^[6]. Matter exists means it exists occupying some space -- this space is the space of matter.

Time independent of matter cannot be conceived

Now a little about time. What do we understand by time ? The period taken for some change to happen is called time. That is, the period of any change of matter is called time. So time cannot exist in isolation from motion or change of matter -- independently of matter. That is, existence of matter is inextricably linked up with time and space. Just as we cannot view matter in isolation from time and space, it is not possible to view time and space independent of matter. So, matter exists means it exists in time and space and is changing with time. This is why time and space are called conditions of existence of matter. And what about motion ? Motion is the mode of existence of matter. Now, since time cannot be isolated from matter, the concept of absolute time outside the existence of matter is nothing but a figment of imagination and the idea that a supreme being created the material world at some point of time is untenable. Because, even if we assume for the sake of argument that matter, or the material world, was created at a particular point of time, a question cannot but arise at once : If the material world was created at one particular moment, how do we visualize the moment preceding that ? In that event, we have to assume that matter, mass, energy, space -- nothing existed prior to that moment. Had it been true, then time had to be conceived independently of existence of matter, its motion and change. How is it possible ? So the concept of absolute time independent of matter is erroneous. Although the question of origin of a particular matter and its transformation is there, yet the concept of creation of matter or the material world as a whole at one particular moment is unscientific. Even those with an elementary knowledge of science know that matter cannot be

created out of nothing, that nothing can be created without starting from something. Similarly, it may be possible to change the form of matter, or to transform mass into energy, but it is impossible to destroy matter. The idea of creation or destruction of matter is, therefore, totally unscientific. But even after all these findings and achievements of science, many still believe in a creator of the material world and still assume the existence of absolute time -- a concept that is nothing but a figment of imagination.

Question of origin of matter

You know, the question of origin, the question as to who is the creator of man and the world -- how it all began -- has struck man again and again. Even after knowing many things of science and the materialist philosophy, the question that agitates many is : Wherefrom all this began and where it ends ? Even now we are facing these questions often. True, once it was considered a serious question in epistemology. But now, in the light of advancement of science, such questions are considered but the reflection of a sort of ignorance, because in science origin denotes the origin of a particular thing or phenomenon and end denotes the end of a particular thing or phenomenon. The idea of origin or end of the material world as a whole is no longer tenable in science. It will be easier to follow if the point is explained from another angle. Take the case of frontside and backside of a thing. If someone asks which our frontside is and which the backside, there is no difficulty in understanding that he is meaning the front or back of something particular here. If we start, say, with those of us sitting on the dais in this hall -- which is our front ? It can be indicated with an arrow that those of you, who are listening to me sitting with your faces towards the dais, are in our front. Again, if we start with those of you who are listening to the discussion sitting in the auditorium, which is your front ? That too, can be indicated with an arrow to show that we on the dais are in front of you. So you see, the concept of front or back has a meaning when viewed with respect to or in relation to a particular position. That is, the concept is relative, there is nothing as front or back as such in an absolute sense. Similarly, there are no such things as beginning or end in an absolute sense. A particular matter or phenomenon has its beginning and end. So, as it would be meaningless to ask which is the frontside of all the people of the world, so also it would be absurd to ask what is the origin of the material world as a whole.

In the same way, we arrive at the very same conclusion from different examples in science. Say, if we start with some water, put some acid into it and then pass electric current through it, water will break up yielding two gases -- hydrogen and oxygen. What is our starting point here ? We are starting from water. What do we end up with ? We end up with hydrogen and oxygen. Now consider from the opposite side.

If we start with hydrogen and oxygen and combine them in a particular process and in definite proportions, we shall obtain water through a combination of the two gases. What is the starting point now ? We start with hydrogen and oxygen. And what do we end up with ? We end up with water. This is the point. If, after this, one asks what is the common origin of all the things in the world -- inorganic matter, organic matter, plants, animals, insects, hydrogen, oxygen, carbon, electron, proton, etc., etc. -- naturally it is not difficult to understand that the framing of the question is unscientific and reflects a wrong conception. What I have been trying to impress upon is that a particular matter or phenomenon has an origin, but there can be no common origin of all things taken together. You should understand that concepts like front or back, origin or end, are all relative.

In some circles there have been attempts to distort the concept of relativity. Some people, lacking a correct concept of the theory of relativity, have argued that if everything is relative, it can be said that the very existence of this material world is relative and dependent on human consciousness or mind. Those who raise this sort of question have not only misunderstood relativity but have forgotten a very important historic truth. It is not unknown to anyone and is a truth corroborated by history and science that mind or the thinking faculty appeared on reaching a particular stage in the course of development of the material world. So, there is no scientific basis for the idea that existence of matter is dependent on existence of consciousness or mind. It is undeniable that existence of the material world or the universe independent of consciousness is beyond all questions now. It is an accepted fact in science.

I have already mentioned that before atom could be split, it was considered unbreakable. Some scientists had even opined then that atoms could never be split. Based on this idea, the concept of original or fundamental particles had developed, influencing scientific and philosophical thoughts for a long time. The only voice that protested against this was Engels'. He said of those

scientists that they were going against the ethics of science because, though atoms could not be split, how could it be assumed that atoms could never be broken up? After all, they had to follow some ethics of science.

It is known to all that not only was the atom split subsequently but, along with it, the earlier concept regarding the origin of matter fell through. Even the extremely minute particles of matter are no longer considered the original or fundamental particles. Scientists now believe that any small particle is an assembly of some other smaller particles. After this, the concept of a common origin of the material world as a whole does not stand to test. This is one aspect.

Again, there developed a serious difference of opinion at one stage among scientists over the character of the electron -- whether its character was that of the particle or of the wave. The French scientist de Broglie had shown by theoretical analysis that the electron, so long accepted as a particle, possessed at the same time the wave character. This difference persisted for a long time. The particle character of the electron was established beyond doubt through some experiments while, later, some other experiments corroborated the wave character of the electron. So two schools of thought developed among the scientists on this, each adhering to its opinion and refusing to accept that of the other.

Now, as noted earlier, mass and energy of matter are interrelated, and either can be transformed into the other. De Broglie showed that every particle of matter possessed, apart from particle character, the wave character as well. This discovery of the wave-particle character of matter shed new light on the nature of matter itself. De Broglie indicated that depending upon the condition, that is, upon the particular circumstance or the specific domain, one of these two became the dominant aspect while the other became less manifest correspondingly. In the case of those matters which are perceptible by our sense organs, what are called macro-bodies, the discrete, particle or mass character is predominant, the wave character being insignificant or negligible. Contrarily, in the domain of extremely minute particles of matter which are not perceptible by our sense organs, what are called micro-bodies, the wave character is dominant under certain conditions, whereas under other conditions discrete, particle character is dominant. In essence, de Broglie's equation signifies this. Scientists became sharply divided over this conclusion, but ultimately, I think, with the help of Einstein's theory of relativity, de Broglie's

theory of wave-particle duality, and several theoretical and experimental studies conducted by a number of scientists this difference regarding the character of the electron, was resolved in a way confirming the wave-particle duality of micro-bodies. The concept of wave-particle duality has not only reaffirmed but has also strengthened and enriched one of the basic tenets of dialectical materialism -- that matter is dialectical.

Plurality of cause -- a wrong concept

Another point now. In science and philosophy, it is very important to have a correct idea about the law of causality. We know, whatever happens in the world is law governed. I do not want to enter into a discussion of the various laws, especially the laws governing the capitalist and the socialist economies. But I do wish to touch upon some aspects relevant to scientific and philosophical questions. A question is very often asked whether more than one cause can operate behind a single effect. On this, the logicians have concluded that there cannot be more than one cause behind any single act or effect. They have categorically said that the concept of plurality of causes is wrong. What many argue to be plurality of causes is in reality not plurality of causes but of factors or conditions. A number of such factors or conditions combine into a cause behind a particular effect or event. This seems to many that a number of causes are operating behind that particular effect or event. When, through a combination of a number of factors or conditions, the cause matures, the effect ensues. It is to highlight this aspect that it is said that what is the cause that is the effect, or, cause is the immediate antecedent to effect.

There can be then no question of accepting plurality of causes, a concept which does not reflect truth. Otherwise, there would be many a problem. If it is accepted that the same effect may ensue from several causes then it can never be that the solution to a particular problem necessarily entails pursuing a particular course of action. It would mean that the communists' viewpoint that a world communist social system would be ushered in through revolution and establishment of the dictatorship of the proletariat in different countries eventually and by strengthening socialism through world revolution, by putting an end to individualism and attaining an advanced standard of morality-ethics-culture, which is the only historically determined course, would be faced with a challenge. It might then seem that this viewpoint is mechanistic and predetermined rather than the conclusion of a scientific analysis. So, those

intellectuals who are advocating plurality of causes are not only taking an unscientific position under cover of this concept, they are striking at the very roots of the communist ideology, even if unwittingly.

Not only the logicians but the scientists too have now accepted the cause-effect relation or the law of causality in all domains of science. But here too I have noticed a confusion on a point. Some scientists seem to think that if determinism or the determinist law, which covers also the law of causality, is accepted then probability cannot be accepted at the same time. Likewise, they say, if probability is accepted then determinism cannot be accepted. There has been a lot of such confusion on this point not only among ordinary scientists but even in case of scientists of de Broglie's stature. Now, what is the issue really ?

Probability and determinism are not contradictory

First, you should know that probability also has a scientific basis, it comes under science. So, there can be no question of denying probability. On the other hand, determinism or determinist law, whatever may we name it, is also a well-proven truth of science. Therefore, in reality there cannot be any contradiction between the two. What would then be the correct and scientific approach on this ? Many comrades attending this class are students of science. I take it that they are well conversant with these topics of science. They also know the technical and mathematical aspects of these. But to clarify the point to everybody here, I may discuss its essence in brief, and I am trying to explain with a very common and simple example.

Take the example of a minute particle. Various changes are going on every moment in it. At a particular point of time, let its position be called A. In the course of change, it moves to a position, say B, C, D or any other, depending on various interactions and developments. The point is, where exactly the particle would move to is not predetermined, not only because many factors simultaneously influence the change but because the change itself is very sensitive and is going on every moment too. The concept of 'moment' in these cases is quite different from its everyday usage. Students of science know that a 'second' can be sub-divided into thousand parts or even more and this has been conceived in science as a moment.

Since many factors are at work behind the change, and electrons and other micro-particles are extremely dynamic and since the 'moment' is infinitesimally small, the change has to be predicted with a probability equation, taking all factors into account and in accord with the law of probability. But it does not mean that this goes against determinism. In the example cited earlier, where a particle may change its position from A to B, C, D or any other, we have to understand that this change actually takes place being governed by determinism and not indeterminism. That is, although it is not possible to specify beforehand which particular position -- B, C, D or some other -- the particle would move to from its initial position A at a point of time -- A to B, A to C, A to D, A to some other -- the change is deterministic and law-governed. This is why I never felt that the theory of probability has any contradiction with determinism. So I say, just as probability is science, there is no way to deny it, so also determinism, cause and effect relationship or the law of causality, whatever we may name it, is also a very important formulation of science and we must accept it. But if one confuses determinism with predeterminism or fatalism without understanding it, then it is a quite different matter; because if one accepts science and engages oneself in pursuit of truth, there can be no place for fatalism.

Importance of pursuing scientific methodology in all spheres

A question has come up in this class as to why many intellectuals, distinguished scientists and philosophers fail to grasp some points which are understood as correct even by the ordinary comrades? Since the question has been raised, let me say something on this in passing. You have already come to know of application of dialectical methodology during the discussion on Marxism. This question of dialectical methodology is very important. Any man, however great a scientist or philosopher he may be, if the methodology he follows in analysing a problem is wrong, then his conclusion is bound to be erroneous. Unless we examine everything in relation to its environment and amidst interrelation of various events, that is by applying dialectical methodology, then we would reach different conclusions although starting from the same premise or material. This is why our party attaches so much importance to the process of thinking, process of study, process of formation of the working class party and the methodology adopted to analyse any issue.

This methodology of analysis should be considered a bit more deeply. Process of thinking can broadly be classified into formal process of thinking and dialectical process of thinking. This distinction is very important no doubt, because the difference between dialectical materialist philosophy and the idealist and other materialist philosophies stems from this. But even after this, the question of adherence to this method in everyday activities and in every moment is very important. For example, those among us who believe in Marxism and are the followers of the SUCI, it is natural that there would be a broad unity in our process of thinking and method of analysis. This is important no doubt, but only this does not suffice. What we have to keep in mind is whether we are being able or not to conduct our thinking, analysis, study, discussion, struggles in daily life -- everything in fact -- with the scientific outlook and following the dialectical methodology. It is necessary to examine and analyse these things critically and in detail. Because, even if there be a broad unity in the method of analysis, unless constant vigilance is maintained to ensure that our thinking and method of analysis are correct in all activities in the minutest detail and amidst various developments, considerable differences may ultimately arise while arriving at conclusions, taking decisions and developing correct understandings. Therefore, scientific process of thinking, a scientific bent of mind, that is adoption of science and scientific reasoning in all spheres of life, their correct application and constant verification of whether the applications are correct -- all these are very important. But it is our experience that many scientists and philosophers are not aware whether their process of thinking or system of thought is correct or not. We know of course that if a scientist wants to succeed in pursuit of science, he has to conduct himself with a scientific mind and be guided by the ethics of science. If he is an idealist, his idealist thinking cannot influence his research in the laboratory. But outside the laboratory when he interprets his scientific discoveries or experiments, he is apt to be influenced by his idealist thinking. These aspects should be kept in mind.

Accident and accidental coincidence

We discussed earlier that the concept of predeterminism or fatalism is absolutely wrong. A question has been raised here. If there is no such thing as fate, why do accidents occur and why do people die in accidents ? Many may ask whether this is predetermined or not. My experience is that questions of this type recur again and again to human mind. This point, therefore, needs a

little discussion. We have already discussed that all changes in the world follow laws, all events are law-governed. Nothing happens in the world being outside the purview of laws. When an accident happens, it cannot be assumed that it was predetermined or not governed by law. It is not like that. If we examine scientifically, we will count the incident as an accidental coincidence. An illustration may clarify the point. Suppose a man is very worried about the illness of his near and dear one and is rushing to a physician or to purchase medicines. Just at that time, say, a gang of dacoits is rushing along in a car from the opposite direction at a high speed with the booty of a loot. Now, the man who is going to the physician or for medicines has reasons to walk fast and be absent-minded. Again, those who are fleeing with the booty also have their own reason to drive at a high speed. Clearly, the two cases are unconnected and the high speed in either case is due to different and unrelated causes and have no causal connection between them. But the two came in contact at a particular point of space and time. So, they collided at a particular spot. That is, one coincided with the other or met the other accidentally, that is per chance. As a result, the man died. Is there any predeterminism about it ? How does the question of fate come in ? Had the speed of any one of the two varied for a moment, there might not have been a collision and the man might not have died. Now, some may think that, the very fact that none of their speed changed was predetermined and was ordained by fate. Otherwise, why did not their speed change ? There is no scientific basis for this kind of thinking, although these are prevalent as inbuilt superstitions. As various unscientific ideas inherited from society influence the mind of people, they not only influence their thought process but also breed many superstitions. This much for the present on this issue. Let us take up other issues.

Uncertainty Principle

Many of you know that there have been attempts from some quarters on various occasions to create confusion in the philosophical field over certain issues of science. Heisenberg's uncertainty principle comes to my mind first in this context. What is this uncertainty principle ? The position and momentum -- that is, product of mass and velocity -- of moving electrons cannot be determined simultaneously with accuracy and precision; the more accurately we may try to determine one, the less accurate becomes the knowledge of the other.

Once there had been a hue and cry among some scientists and philosophers over the meaning of this uncertainty principle. If the question is probed in depth, it will follow that there is no cause for confusion on this. The fact is that any of these two, position and momentum of moving electrons, can be known with accuracy or certainty at a point of time, but this makes the knowledge of the other indeterminate at that point of time. It is not possible, in any case, to know precisely both position and momentum simultaneously. From this, some started arguing that there were factors indeterminate in nature. This created a major confusion over Heisenberg's principle. We should remember that the domain or field we are discussing here is very sensitive since it deals with extremely minute particles of matter. Even as slightest changes may be occurring in the condition during when these experiments are carried out, the results would vary and even the object under study may be influenced or be changed in its state. These are natural for such sensitive fields. We have just discussed that the point is not as if neither can be known; the point is, it is not being possible to determine precisely both the position and momentum simultaneously. Nothing more than this. So there is no rational ground for creating mysticism over this. It should not be unknown to those who do so that this Heisenberg principle is expressed by a mathematical inequation, which is also a type of mathematical relation. So, the point to be understood is that if no law operates, how could the principle be expressed by such an inequation, a relation? There is thus no uncertainty about it -- nothing erratic or unpredictable really. It is also clear that this uncertainty principle is also law-governed and is, therefore, deterministic^[7]. We should understand that the more would science advance and precision instruments developed to study the characteristics of such extremely minute particles of matter, the more advanced and enriched would become human knowledge and the concept of the behaviour of these particles. There is no doubt about this.

In this connection, let me discuss a point about macro-bodies. It is found that even when a macro-body in a micro-quantity is weighed twice with a highly sensitive precision-instrument, the same result exactly is not generally obtained. This is because changes are occurring in the conditions of experiment, even if in an infinitesimally minute degree. Such changes are happening everywhere, every moment.^[8]

Matter is dynamic and dialectical, not static or unchangeable

Considering the conclusions of dialectical materialism and keeping in view the points discussed earlier, it will be easy now to understand how the scientific discoveries have day by day confirmed and enriched dialectical materialism afresh. Modern science says that matter is not inert but dynamic. Again, matter is not only dynamic, it is dialectical. Since matter is dialectical, it is dynamic. So, the reason why matter is dynamic is no longer unknown. Not only this, motion is not considered external, it is the internal property of matter arising from internal contradiction and conflict.

Why our philosophy is dialectical materialism

A question has come also up as to why our philosophy is dialectical materialism. What is the true significance of dialectical materialism? First, from all our experience we have gained the concept and arrived at the conclusion that no supra-matter supernatural entity exists. Even the human mind is a function of the human brain, a product of matter. Although I discussed earlier very briefly this point in its essence, I have not discussed it in this class by relating it to Pavlov's works or the conclusions of modern science on brain physiology. I discussed it on many other occasions. Owing to shortage of time, I cannot go into detail of these here. We have it from science that matter begets matter. Matter can neither be created, nor destroyed. It has neither origin nor end, although a particular matter has both origin and end. The matter which is unknown at present is knowable in future. The main task of science and knowledge is to know and understand matter. We have come to know that matter cannot be created out of nothing. But matter cannot be called absolute or eternal because of that. It is wrong to consider matter as something absolute, unchangeable or eternal, because matter itself undergoes changes all the time. Therefore, it is proper to view matter as universal, not absolute. Lenin expressed this brilliantly when he said that matter was a philosophical category. That is, our concept of matter is that nothing exists outside or independently of matter. Furthermore, whatever we see around, whatever we can see back in the past or can see ahead in the future, we do not come across anything but matter, anything outside or independent of matter. Even man's thinking is a product of matter, its function. We know, philosophy interprets all that happens or is likely to happen in the world. It is also true that science provides information and knowledge while philosophy

integrates and provides comprehension. Again, the material world is the basis of philosophy. This is sometimes expressed in the language that the essence of thing is matter. So, since whatever we see around is matter and there is no existence of any extra-matter entity in the world, our philosophy is materialism. This is one aspect.

The question that may naturally arise now is why our philosophy, which we call materialism, is also dialectical? We have already discussed that we have come to know from various observations and experiments of modern science, especially of modern physics, that matter is dynamic; it changes through contradiction and conflict, and this matter is all-pervading, universal. And since the character of matter is dialectical because it is ever-changing through contradiction-conflict, the contradiction of matter is universal too. And since the subject of our pursuit of knowledge is matter which is itself dialectical, our philosophy is not just materialism, it is dialectical materialism. It is through this dialectical methodology that we can know truth, provided we do not make any mistakes or do not deviate while we try to understand and apply it.

I deem it necessary to touch upon one or two other aspects of matter. One is, our overall concept of matter is that it is universal but not absolute or unchangeable as we have just discussed, but when we examine a particular matter, it is to be studied and understood in its specific circumstances and conditions. For instance, electron, proton, or say, this chair, table or tumbler, or whatever matter may we consider, each one is to be considered a particular matter in a particular position. But it is not such that everything in the world has been formed of the same particular matter. Every particular matter is to be understood in the context of its particular position and its contradiction and unity with other particular matters. This is why matter concept is not abstract and absolute.

Internal and external contradiction

It is now established that all particular matters are interrelated -- interrelated by unity and struggle. Contradictions, you know, are of two types -- internal and external. The contradiction within any particular matter is its internal contradiction and the contradiction between one particular matter and another is called the external contradiction. Now, the nature of relationship between the internal and the external contradiction should be understood. First, we are to

understand that they help and influence each other and so the relation is what we call supplementary-complementary. But it is to be understood that out of these two, the internal contradiction is the basis of change. The external contradiction influences the internal contradiction no doubt and in some cases plays a very important role indeed. But despite this, it should be understood, when a change occurs it cannot at all come about until the internal contradiction matures. So, the point is to be understood like this that whatever influence the external contradiction might have and however important its role might be in initiating a change, it is the internal contradiction that is the basic cause of change, the basis of change.

An illustration may help. It is quite a common example -- say, the carbide gas^[9]. If a matchstick is lighted and brought into contact with this gas, the gas burns. From this it may be thought that the lighted matchstick is the basic cause for the gas to catch fire, since the gas burns only when ignited from outside. It is true that in this case the gas would not have burnt unless it had come in contact with fire. But if the matchstick fire had come in contact with, say, lime, sand, powdered brick or many other such things, would these have caught fire? Everybody understands that the question does not arise because the properties of these substances are not such that they could be burnt by matchstick fire. That is, the internal condition or contradiction of these substances is not such that these could be ignited by a burning matchstick. But the carbide gas burnt because the external fire helped its internal condition reach a state when the gas could burn. Let us now examine the question of relation of internal and external contradictions in the sphere of social science. If we grasp the philosophic essence correctly it would be easy to understand why revolution can neither be imported nor exported. External forces can no doubt help revolution and play a very important role at times. But unless the internal condition of a country matures and until the majority of its people get organized under the correct revolutionary leadership, revolution cannot materialize there with the help of some external forces. This is why Marxists believe and say that revolution can neither be imported nor exported. It is not that an external revolutionary power cannot help the revolution of a country, but that help becomes effective and revolution reaches its successful culmination only when the favourable internal condition has developed and matured, otherwise not.

Role of principal contradiction

Let me discuss here one or two other aspects of the contradiction theory. We know that, as within any particular matter, within society too a large number of forces operate. There is constant contradiction and conflict going on among them. The reality is that in every sphere, contradiction-conflict-unity-struggle among various forces is going on every moment. There is no end to contradiction-conflict in society centring round economy, politics, morality, ethics, religious traditionalism, blindness, casteism, individual interest, customs, conventions, etc. But all these contradictions are not the principal contradiction; there is one contradiction among them which is called the principal contradiction. The concept of this principal contradiction is that all other contradictions operate in society centring round it. What is the principal contradiction in the capitalist society? The contradiction between labour and capital, that is, between the workers and the owning class, is the principal contradiction in a capitalist society. Ideology, philosophy, economic and political interests -- everything of these two classes are diametrically opposite. The interest of the owning class is to sustain this social system, whereas the interest of the working class is to overthrow it. It is this principal contradiction that mainly influences social changes. It influences every individual as well within society. This influence acts both ways. With some, it acts in favour of sustaining the present social system. With some others, it strengthens the force that would overthrow the existing order. These two trends of thoughts -- one tending to sustain the existing social system and the other trying to overthrow it -- are personified through individuals in society. So, in one sense, to become a revolutionary means to understand the principal contradiction of the society correctly and to act consciously to lead it to its logical culmination. If labour and capital are viewed separately, it will be seen that many types of contradictions over various issues exist in each of these two forces. All this should be correctly noted and studied. These are cases of contradiction within contradiction. But despite these, it should not be lost sight of that among all these contradictions the contradiction between labour and capital is the principal one. As I have already said, the role of the capitalist class, or the bourgeoisie in the capitalist society is to sustain the existing capitalist order. Again, the historical role of the working class is to bring about radical changes in this social system. So, our task is to strengthen the revolutionary capability of the working class in order to accelerate social progress. It is necessary to strengthen this struggle by co-ordinating and integrating all aspects --

economic, political, cultural, ideological and organizational. So, until and unless this principal contradiction can be influenced sufficiently to bring about the desired change, it would not be possible to overthrow the capitalist order and build up a new one.

Antagonistic and non-antagonistic contradiction

I shall say a few words now on antagonistic and non-antagonistic contradictions and then conclude this discussion on the contradiction theory. From another angle contradictions are viewed also as antagonistic contradiction and non-antagonistic contradiction. The contradiction between labour and capital in the capitalist society is called an antagonistic contradiction. The character of this contradiction is that either of the opposing forces seeks to defeat the other. In the social background of the capitalist society, the aim of the capitalist class is to protect and sustain the capitalist system based on exploitation, and this antagonistic contradiction between labour and capital can be resolved only through the success of the working class in their struggle to overthrow the capitalist class from the state power. It is not that there is no temporary unity between the two opposite classes while the struggle is on, but it takes place with a view to gaining more and more strength for the working class to overthrow the capitalist class. This is why this contradiction is called antagonistic contradiction. I shall try to elaborate on this point a bit when I shall discuss later the three fundamental principles of dialectical materialism.

What is then the nature of non-antagonistic contradiction ? The character of this contradiction is struggle to reach unity ultimately. I may give here an illustration. Say, in our party, in any working class party for that matter, everybody from the leadership to the rank and file considers Marxism-Leninism and dialectical materialism the only correct scientific philosophy. In India, or in any other country for that matter, members of a Marxist-Leninist party have to conduct day-to-day work on the basis of unity over strategy and tactics of the particular revolution of that country. But you all know that despite this it is natural that at every stage of the struggle difference of opinion or contradiction appears over various political, organizational and ideological questions owing to differences in the level of understanding or of experience between the leaders and the workers within the party. Such contradictions are bound to appear, even if there be unity in the basic outlook and ideology. But it is not difficult to understand that those who are involved in this type of contradiction do not have mutual animosity or malice. Whatever

may be the degree of conflict, this contradiction does not lead to mutual animosity. The aim of this contradiction is to arrive at the correct decision on an issue through interaction of thoughts and then to implement that decision in practice not only to further strengthen the party but also to further cement mutual unity. In the overall context of the party, it is not difficult to understand, the main aim and purpose of this contradiction is not to destroy the unity of the party but to strengthen it further. This is why this type of contradiction is called non-antagonistic contradiction.

Comrades, in the last few days, you have been listening to this discussion on different topics of science and philosophy. You have now a clear idea perhaps of the concept of matter in the light of modern science. You have come to know that matter is ever-changing; the cause of motion of matter is not external, rather the basic cause of motion of matter is internal, and the external and internal contradictions of matter combine to make matter dynamic, and this is why motion is called the mode of existence of matter, the essence being that matter does not exist without motion. Now, all these various changes going on in the world with every type of transformation of matter, be it in nature or be it in the social sphere, are not arbitrary but are law-governed. You should understand that no change can occur without following any laws and causality. So, the object of acquiring knowledge is to grasp the laws of change and to influence the process of change in conformity with those laws. Without grasping these laws and consciously acting on them we cannot bring about any changes, including social changes. That is why the question of understanding these laws is so important. It should also be borne in mind that a law, in course of time and under a totally different condition, gives rise to a new law. By studying the process of changes in this material world dialectical materialism has concluded that there are three basic general principles that guide every change. These are known as the three principles of dialectics. I shall conclude this discussion on philosophy by briefly discussing these three principles along with some illustrations.

Quantitative change to qualitative change and vice versa

One of the three principles is : From quantitative change to qualitative *change* and vice versa. I should cite a few examples to make it clear to everyone. You should not, however, take the examples mechanically. Excepting one or two, these examples have been referred to by many a

Marxist authority. You all know, if some water is gradually heated the whole of it gets transformed into steam at some stage. You must have noticed that when water is heated the whole of it is not converted into steam instantly. The qualitative change marked by conversion of water into steam -- here, you should note, the change is of the physical state, not of the chemical properties of water -- occurs at a particular stage after heating it for some time, not before that. Now, one may ask : Is there no change in the water in the early stages after the heating started ? The answer is : Yes, even then there is change within the water, but that is quantitative change mainly. The change is quantitative in the sense that the temperature of the water gradually increases on being heated and the water gets hot more and more. Then, at normal atmospheric pressure when the temperature of the water reaches 100°C, with further input of heat the whole of it is transformed into steam without rise in temperature. Thus, when water is heated vaporization starts and goes on but the total quantity of water is not converted into steam before reaching 100°C at normal atmospheric pressure. This kind of change from water into steam is a qualitative change. It is qualitative in the sense that water no longer remains liquid but becomes vapour or steam.

The question may arise as to what is meant by 'vice versa'. It should be noted *that the* term vice versa here is not used in its usual sense. That is, vice versa here does not signify the reverse process of going back from qualitative change to quantitative change. It is not like that at all. This point may be discussed in the context of the example cited. Students of science know that whereas the whole of the water is not converted into steam unless the temperature reaches 100°C, but it is not true to say that no amount of water gets vaporized or can vaporize prior to reaching that temperature throughout the whole of water. It is well known that vapour forms from water even at ordinary temperatures. That is, as the temperature of water increases, which is a quantitative change, amounts of water get transformed into steam undergoing a qualitative change before the whole of water reaches 100°C. Again, as molecules of steam are formed, this qualitative change in turn helps in increasing the temperature of the residual water and thus accelerates the process of quantitative change. This is what *is meant* by 'vice versa'.

Now, this process of quantitative change to qualitative *change* and vice versa operates in case of society also. Let us discuss it keeping in view the capitalist social system and taking our country, India, as an example. You know, some or other movements -- various organizational

activities, class struggles, ideological and other struggles in whatever form -- are going on everyday in the country. As a result, at times the capitalist class gains in strength and at other times the progressive forces gain in strength, and such ups and downs are always there. As an outcome of all this, continual changes are taking place in thinking, habits, customs of people -- in everything. But these changes are not such that they bring about automatically a radical change in the society. You know, the capitalist system was there in India at the time of transfer of power from the British rulers and it is capitalism which still prevails. But there is so much difference between capitalism of these two stages. On the one hand, crisis of capitalism, technological development and nature of competition among the capitalists have undergone vast changes. The economic crisis has intensified, prices of all commodities are spiralling up, inflation has gone sky-high, the means of livelihood have continually changed and class struggle too has intensified more. But despite all this, capitalism still remains capitalism. Although the contradictions within the bourgeoisie are on the rise, the ruling class is taking advantage of the unorganized state of the working class and of the absence of a correct working class party with adequate strength. So, it is very clear that these changes do not signify any fundamental change in this capitalist order. Again, since there is no fundamental change, it is not that there are no changes at all. This everyday change is the quantitative change. When a revolutionary situation develops in a society and the contradictions within the society reach a climax in course of such continual quantitative changes, then that leads to a qualitative change or revolution. Like in the czarist Russia where in November, 1917, the first successful socialist revolution took place, bringing about a fundamental change in every sphere, starting with the state structure and establishment of a working class state over one-sixth of the globe, such a type of change is called qualitative, sudden, fundamental or revolutionary change.

The change that occurs in everything everyday, every moment, is called quantitative change, gradual change, etc. But when, at some point of time in course of such changes, a sudden radical change comes about by transforming the whole thing, it is called a qualitative change. In Marxism, this phenomenon is called from quantitative change to qualitative change. In scientific terminology, these are called continuous and discontinuous changes respectively. So, only if you can understand the character of the contradiction in society and consciously act on it would it be possible for you to lead it to the revolutionary culmination.

Now, how to understand the 'vice versa' in the context of social change ? Here, too, I shall try to explain the point taking the capitalist social system as an example. You understand that the changes going on within a capitalist society everyday, every moment, will not bring about a radical change in the whole system until the total situation reaches a decisive juncture or nodal point. Now, when communist revolutionary workers trained up through class struggles and conscious efforts within this very capitalist system are judged individually, it would be found that a qualitative change has come about in their life -- in sense of values, outlook, ideology and aim of life. That you are receiving education on communism in this class does not mean that with it your character has automatically undergone a qualitative change.

Only through participating directly in the movements of the exploited masses against the capitalist exploitation-oppression under the leadership of a correct working class party, on the one hand, and through relentlessly conducting the difficult and arduous struggle on the edifice of a higher proletarian culture and covering all aspects of life, on the other, can an individual become a true communist in this society. You would do well to realize that until all legacies of old ideas, habits and fads can be swept away from all spheres of life, it is not possible for anybody to achieve an all-round qualitative change. Again, in course of this process of change, it would be seen that particular individuals have undergone a qualitative change and have become true communists although the social system has still remained capitalist. These particular individuals are to be considered particular elements of the capitalist society. So, despite the overall social structure remaining capitalist, a qualitative change is possible and is happening in case of particular individuals. And the greater the number of such persons with communist character and the more the class struggle intensifies, the more the revolutionary movement gets strengthened and the more this increased strength helps to accelerate the process of quantitative change in the society. This is the *significance* of 'vice versa' in the social sphere.

From this discussion you can easily understand, to bring about a radical change of this capitalist society, how important is the struggle not only to train up one by one a myriad of such communist workers, helping them acquire communist character through qualitative change in their individual cases, but to maintain this communist character and elevate it to more and more higher levels. It is not that in a capitalist society communist workers are being produced automatically under the impact of class struggles and, as a result, a qualitative change of the

society is taking place in course of quantitative changes, establishing the socialist state and socialist social system by overthrowing the capitalist state structure. That is, one cannot be a true communist without conducting a relentless struggle covering all aspects of life within the society under the leadership of the genuine working class party following the Marxist methodology. And without this, revolution cannot succeed in the country automatically. So, you can understand how important is the *significance of the 'vice versa'*. Unless we correctly understand its significance, we would fall victim to the theory of spontaneity which would mean undermining the historic responsibility of a communist.

Unity of opposites

Another of these three principles is 'Unity of opposites'. You know, every person has virtues as well as vices. Just as there is no person who has only virtues and no vices, there is also no one with vices only and no virtues. Neither is possible. When we call someone very good or someone else very bad, what do we mean ? Here 'good' and 'bad' are used in the relative sense. That is, the person in whom good traits have a preponderance over the bad ones is called good. Again, if a person has some good traits but these are outweighed by bad ones he is called bad. There may be a question as to why such differences exist between one person and another. This is because, how one's characteristic features would shape out depends mainly upon the contradiction within one's own self. It is well known that a contradiction or conflict between instinct and conscience works within every man. One should know that no one is born with any instincts or conscience, neither are these unchangeable or eternal. In the process of contradiction and conflict, the person in whom instinct succeeds in defeating conscience becomes a mere slave of base instincts. Naturally, the aspect of vices gets predominance in such a person, not the good qualities. We call such a person bad. Conversely, in a person whose conscience is very sharp and active, whose conscience can control his base instincts, the aspect of good qualities gets more and more developed. And we call him good. That is, a man becomes wayward if his base instincts win whereas his life takes a turn for the better and he earns reputation as a good man if his conscience wins. It does not, however, follow from this that no bad or base instincts can creep into a good man, or that conscience can never work in a bad man.

So, it is clear that a constant contradiction and conflict between conscience and instincts is there in every man; these two coexist in the same man as totally opposing entities and every man exists with the contradiction between these two antagonistic forces within him. Again, as there is a contradiction between these two opposing forces, so also there is unity. It is because of this unity and equilibrium between opposing forces that we find normal people in society. If the equilibrium between instinct and conscience is lost man would lose mental balance and turn mad. It means, when a base instinct tends to creep into a good man, he overcomes it with the help of wisdom and conscious efforts. This way a man's mental balance is maintained and he exists as a normal man. But if someone is unable to maintain this equilibrium between the opposing forces, a process sets in to destroy his mental balance and, being stricken with mental contradiction, he eventually turns mad.

You will notice, this principle of unity of opposite forces is operative in society also. For instance, in the capitalist society, the two main opposing forces, the bourgeoisie and the working class, are fighting to defeat each other. The character of this struggle is that each side wants to defeat the other. We have already discussed that this type of contradiction is an antagonistic contradiction. Naturally, a question may arise that since the main object of the struggle between the bourgeoisie and the working class is the defeat of one by the other, how is this capitalist society continuing and why everybody more or less abides by its law and order. Why are the workers participating in production in a society where the aim of production is appropriation of maximum profit by the capitalist class ? Whereas the two opposing forces, the bourgeois class and the working class, are engaged in a bitter struggle to the end, how is it that they are mutually co-operating to keep the capitalist production system running !

However, these matters are not peculiar to the present-day world only; there were similar instances in earlier times too. When the rising capitalist class was born in the womb of feudalism and fought against the feudal social system in the period of emergence of capitalism, similar things happened. So long as feudalism held its sway, it existed on the basis of a kind of unity between the feudal lords and the bourgeoisie, the two classes moving with diametrically opposite interests. They fought each other at times and compromised at other times. Why did they compromise ? Till the rising capitalist class could overthrow feudalism or monarchy, till it had acquired the required strength for the purpose, it had but to exist through compromise and

agreement with the existing monarchy and feudalism, and such compromise generally went in favour of the class in power. The bourgeoisie had to pursue the course of compromises with feudalism with the object of protecting its interest and increasing its strength as fast as possible. That is, so long as the bourgeoisie could not gain the decisive strength required for overthrowing feudalism, it had to compromise with the latter again and again. This is why feudalism could last so long despite the antagonistic contradiction between the two opposing forces, the bourgeoisie and the feudal lords. Similar is the case with capitalism today.

What do you find in the capitalist society? Pressed by exploitation, workers get agitated at times and organize movements against the capitalist owners or resort to strikes even. But can they be on strike everyday, every moment? No. Because, in that case, how would they survive? They have to work for sustenance. And the mere wish to overthrow the capitalist state through revolution does not bring about a revolution. You know, strike is not revolution. If the workers of a factory struggle hard against the owner and are very agitated, it does not mean that revolution has succeeded thereby, that the workers have captured power and the capitalists have wound up their business. Till the working class has acquired the necessary and sufficient strength to overthrow the capitalist class from the state power, it would be wrong to consider that since the capitalist class is the enemy, it is no use negotiating or making a compromise with it. We should not do this. We have to explain to the workers that in this way they will fritter away their energies and the capitalist system will remain as it is without a scratch even. Rather, some people would be misled by such adventures which could provide an opportunity and excuse to the ruling class for launching sudden attacks on whatever revolutionary organization had developed. Such onslaughts can come in many other ways, but that is a different matter.

Those who do not understand the complex course of revolution should do well to remember that mere clamouring for revolution cannot bring about revolution. There are many complexities in the revolutionary struggles, many ups and downs, many twists and turns, many a compromise. In essence, the principle of unity of opposite forces teaches us that no doubt there would be such compromises or unity till sufficient strength to overthrow the enemy is acquired, but the main object is to gain more strength and acquire the capacity to overthrow the enemy, not just to win some concessions, not to speak of surrendering to the enemy. So, till the working class acquires the decisive strength, the workers would fight against the owner time and again, and would also

work under the owner and participate in the production. That the production is going on and the production system is operating itself show that the principle of unity of opposites is in operation. Those in the communist movement who failed to understand this principle have practised ultra-left politics, adventurism and syndicalism, but they have not been able to show the working class the correct path of its emancipation. This is how you should understand the principle of unity of opposites.

Negation of negation

Finally, the principle of 'negation of negation'. It means there is nothing in the world as only creation or as only destruction. Any creation entails destruction and, again, it is through destruction that new creation takes place. That is, extinction in course of development, on the one hand, and development through extinction on the other. Take, for example, the human body. In regard to the physical characteristics, development of the human body has definite stages like childhood, adolescence, youth, middle age and finally old age. These are the different stages of change in the human body, and at each stage of these transformations the new is created by destroying the old. The change that occurs in the body of a child each day cannot be detected day by day. But since we cannot detect, it does not mean that there are no changes in its body everyday. Because, at some juncture we suddenly discover that the child is no longer a child, but has stepped into adolescence. Later on, in the same way, its transition from adolescence to youth, from youth to middle age and, lastly, from middle age to old age come to our notice. By studying this process of change of the human body we can understand that unless childhood is negated every moment, it can never step into adolescence. It is in the same process that adolescence is negated bit by bit to attain the full bloom of youth and in the same way, does come middle age by putting an end to youth and eventually passes therefrom into old age. Thus, there is nothing like simple destruction or simple creation. It is not simple negation, but negation of negation. That is why I described negation of negation as extinction in course of development, on the one hand, and development through extinction on the other. Unless the old, the past can be destroyed continually, there can be no development of the new, day by day. Therefore, creation and destruction are inextricably linked up.

The same thing applies to society as well. Those who know the history of development of society are aware that human society was not class divided at the primitive stage. Due to historical reasons, society became class divided after attaining a particular stage of production. At the primitive stage, man's contradiction with nature was the principal contradiction in society. But from the time class division arose, class contradiction became added to man's struggle against nature that had been going on. As the nature of class struggle changed from one type of society to another since class division arose, it became more and more intense and assumed an extreme form in the capitalist society. If the fundamental characteristics and class disposition of society are noted, it would be realized that through this process of social change have arisen the slave and slave master society, the feudal society, the capitalist society, and the socialist society eventually, since class division arose. If the social structure and its class disposition are studied, it would be clear that the society divided into slave masters and slaves gave birth to the feudal society through quantitative and qualitative changes in course of exhausting itself, and it is through this very same process that the capitalist society arose from the feudal society and the socialist society was eventually born of the capitalist society, following the same principle. We have to realize that although a particular social system may become extinct, human society does not disappear, nor can it. The change that comes is the transformation of a particular social system into another. Thus, the basic principle of negation of negation is operative in the sphere of social changes too.

Negation of negation can be discussed in another perspective. You all know how important is the role a correct working class party plays in the struggle to overthrow the existing capitalist state. Besides, even after successfully accomplishing the anti-capitalist socialist revolution, during the transitional period of socialism, in between capitalism and the communist society, the working class party has to wage and conduct a difficult and arduous struggle to finally establish and consolidate the dictatorship of the proletariat. Class contradiction and class struggle do not disappear in this period, rather these assume a more complex and subtle form. And the working class party with its leading role is the indispensable instrument of struggle in the hands of the proletariat in this period. But when, in course of social progress, man would reach the communist society by transcending the stage of socialism, that is when there would be no more contradiction in society over production and distribution of commodities, and the ethical-cultural standard of

the majority of the people would attain such a height that the antagonistic contradiction between social interest and individual interest would turn non-antagonistic, the state and the party too will wither away along with disappearance of classes in society. It is to be noted that the communist society cannot be established unless these conditions are fulfilled. Remember, the withering away of the state and the party at that stage would also come about following this principle of negation of negation.

You are to understand thoroughly and explain to the people that this capitalist exploitation and destitution are not eternal. This capitalist system too would die out some day, in our country as well as elsewhere on the globe. But to bring about this change you are required to dispel the various prejudices, superstitions and fads over questions like birth, death, fate, economic distress, etc., which generally overshadow the mind of the people. That is, you have to free them from all these. And, along with it, you will have to accelerate the process of change that is ever operative in society. In brief, you will have to strengthen the working class party to make it an invincible instrument of intensifying the class struggle; and for this struggle to culminate in successful revolution, you have to develop the mass and class struggles to make them invincible. Success in this noble and historic task depends on everyone of you playing a conscious role, on making your understanding of the Marxist philosophy clear and lucid through its application in life and work, not by bookish knowledge or learning by rote, and on your attaining the advanced ethical-cultural standard of the true communist revolutionary character. Remember, the earlier you succeed in this, the earlier will revolution be ushered in India.

With this I conclude this discussion on Marxism and dialectical materialism in this school of politics.

Long Live Marxism-Leninism !

Long Live Revolution !

Notes

1. hymns

2. incorporeal

3. Charvak, a materialist philosopher of ancient India<

4. Live in pleasure, as long as you live / eat better, borrowing money if you need

5.Science has also confirmed existence of gas and dust particles in the interstellar space

6.Renowned scientist Maxwell stated categorically (1873) : "There can be no doubt that the interplanetary and interstellar spaces are not empty but occupied by a material substance or body, which is certainly the largest, and probably the most uniform body of which we have any knowledge."

7.It follows from the nature of motion of macroscopic bodies that the position and momentum of moving bodies are two mutually independent determinate factors or qualities, and that is why the two can be measured simultaneously with certainty, and definite values are obtained or are obtainable in principle. Any errors, or departures, from definite values are thought to owe to practical limitations of making very accurate measurements, and that these errors or limitations can be eliminated, or the margin narrowed down as desired and in a controllable manner, by improving the precision level of the measuring apparatus and/or technique. In the instance of the microparticle, however, the position and momentum appear as two mutually complementary properties of motion ; and for this they cannot be determined simultaneously with certainty, such measurements invariably producing uncertainties or margins of error the product of which cannot be reduced to less than a minimum quantity. This is what the uncertainty principle states. This uncertainty arises from the requisite attempt to describe the motion of the microparticle in terms of the concepts of the position and momentum, which concepts developed on the experience of the macrobody (as two mutually independent properties of motion), but which same concepts are at once inapplicable to the microparticle motion. This, therefore, in no way does introduce any real element to create confusion in philosophy. Hence, also, in no way does it undermine the objectivity of the principle of causality and determinism. The specific nature of the causality principle holding concretely in the world of microparticles is a matter for revelation through advancement of science, paving the road to a deeper, more comprehensive, more general concept of causal determinism.

8.Any two measurements in sequence (say, of mass or weight) of a very minute quantity of a substance with a high-precision sophisticated measuring apparatus generally do not agree. This is mainly because, the very principle of construction of these measuring apparatuses is such that the internal measuring condition undergoes subtle changes generally each time a measurement is made, and this shows up in possible varying results. Also, a substance being measured may be of such nature that it undergoes subtle changes (say, decay) itself in the space of time (especially

when large) between any two successive measurements. This finds its reflection in the results of measurement.

9.Acetylene gas produced from carbide

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