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The Principles of Philosophy

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CONTENTS

How to Use This Book

The structure of this book permits the student to read and master its matter in varying order according to the aims and purposes he or she is pursuing. The introduction "What Is Philosophy?" provides basic information about philosophy, its subject-matter and methods, the main points that distinguish it from other disciplines, and its place in the system of Marxism-Leninism. This chapter also contains information on the origin and various stages in the evolution of philosophy, and singles out the main matters that will subsequently be discussed. These problems will be treated in more detail in the following chapters, the material being arranged in order of increasing difficulty. Each of the successive chapters depends on the preceding ones. For the reader's better assimilation of the proofs and arguments by which the superiority of materialism over idealism, of dialectics over metaphysics, and of Marxist-Leninist philosophy over other philosophical schools and currents is demonstrated, the text includes dialogues and talks between imaginary persons who express different points of view. These dialogues should be read and studied as attentively as the basic text.

The main propositions, definitions, and questions are explained and discussed several times throughout all the chapters. This is done so as to promote better assimilation of the material. Many of these propositions and questions, moreover, are linked with different themes and cannot be properly and fully assimilated from a single discussion. Ideology and ideological struggle are discussed, for example, in the Introduction, and in Chapters 2, 3, 4 and 6; the principles of partisanship in philosophy, of the materiality and knowability of the world, development and evolution, and the revolutionary transformation of society are treated and discussed in all chapters, but the space devoted to them in the different chapters varies: the principle of development, for instance, is highlighted in Chapter 4, the principle of the

knowability of the world in Chapter 5, and so on.

There is no special chapter devoted to the categories of dialectical materialism, but that does not mean that no attention is paid to them. The most important philosophical categories, such as "matter", "consciousness", "cause", "necessity", "social being", "social consciousness", "freedom", and "law", are treated in detail in the appropriate chapters in connection with the discussion of one philosophic problem or another.

All the chapters have an index number from 0 (Introduction) to 6 (the concluding chapter). Each chapter is broken down in short sections, which are given a three-digit number, e. g., 001, 311, 506, etc. The first digit is the number of the chapter, the other two the number of the section within the chapter. Number 001, for instance, signifies the first section of the Introduction, 311 the eleventh section of Chapter 3, and 506 the sixth section of Chapter 5. Sections linked by a common theme are grouped together under a common heading.

In all sections there are cross-references to others that contain information needed for good assimilation of the material being studied. These cross-references have a three-digit number (enclosed in brackets). When the reader meets a cross-reference (506) or (311), he or she should turn to section 6 of Chapter 5 or section 11 of Chapter 3. When a cross-reference is given by several numbers, the content of several sections should be looked at, with special attention to the places indicated in the text. Cross-references are given both to preceding and succeeding sections, which makes it easier to bring out the inner connections between the various departments of Marxist-Leninist philosophy, and helps its inner unity to be seen.

The system of cross-references facilitates both work on the text and consistent reading, making it easy to fix material read, but not yet adequately assimilated, quickly in the memory. It also helps understand the link of the studied section with the following sections and divisions of the book.

Observance of these instructions is a sine qua non for mastering the principles of Marxist-Leninist philosophy set out in the text.

INTRODUCTION

WHAT IS PHILOSOPHY?

Who Needs Philosophy? And Why?

001 *Man in the Modern World*

We live in a complex, rapidly changing world. During this century alone there have been two world wars. The once single system of capitalism broke apart. Socialism, which first became reality in the USSR, became a world system. A community of states that are building socialism has been formed. A big group of developing countries emancipated from colonial dependence and following their own road of development has appeared. Between the different social and economic systems there are complex relations and contradictions, the deepest of which is that between capitalism and socialism, which determines the nature of our age as one of transition from capitalism to socialism and communism. At the same time there is unprecedented scientific and technological advance in the world. Man has broken out into outer space and is penetrating deeper and deeper into the secrets of nature.

In all ages man has been faced with the question of his place in the world, and of what is the aim, purpose, and value of human life. In our nuclear age these questions are posed with great sharpness, especially that of the prospects for the human race. Each of us has sometime or other had to ask oneself how to cope with the acute problems and contradictions of our time. How, for example, to employ the advances of science and technology for the good of man? And what, precisely, is the "good of man"?

No conscious, active person can avoid trying to find answers to such questions. But neither science nor technology in themselves can provide them. The point, however, does not lie in finding answers that will be good once and for all, and to memorise them. It is much more important to master how to find such in our rapidly changing modern world, to know how to check whether they are correct, and to learn to act in accordance with them. This knowledge is provided by a special discipline, and that discipline is philosophy.

002 *"The Intellectual Quintessence of Its Time"*

Philosophy arose in Ancient Greece. In Greek the word means "love of wisdom". But in our day we give "philosophy" another sense and meaning. What is it?

There are many different philosophical schools and trends. One of them is that of Marxism-Leninism, which embodies everything of value that has been created in the 2500 years of the development of philosophy. In order to understand what philosophy is, one needs, first of all, to clarify how the founders of Marxism-Leninism understood it. Here is how Karl Marx explained it.

> Since every true philosophy is the intellectual quintessence of its time, the time must come when philosophy not only internally by its content, but also externally through its form, comes into contact and interaction with the real world of its day. Philosophy then ceases to be a particular system in relation to other particular systems, it becomes philosophy in general in relation to the world, it becomes the philosophy of the contemporary world.[1]

The word "quintessence" in this quotation must be understood as "principle" or "essence". Marx thus distinguished philosophy as the system of knowledge of reality as a whole, i. e., as special knowledge of the world around us.

This world consists of nature and society. Other systems of knowledge, for example ordinary knowledge based on everyday experience, political, scientific, technical knowledge, etc., reflect separate aspects of reality and are needed in order to cope with quite definite

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[1] Karl Marx and Frederick Engels. *Collected Works*, Vol. 1, Progress Publishers, Moscow, 1975, p. 195.

matters arising in everyday life, in industry, in political struggle, in the course of cognising nature, and so on. At the same time, each age, and each period in the history of mankind, has raised tasks and problems that touch on the most radical problems of life, and on whose solution the fate of humanity as a whole, and the fate of each individual, depend. It is quite difficult to understand and be aware of these problems, which reflect the fundamental interests of a nation, and to formulate them correctly. It is even more difficult to point out the correct ways and means of tackling them. To do so calls for very deep knowledge of the achievements of various sciences, an ability to understand the fundamental interests of the nation and of the masses of working people, and to formulate the distinguishing features and peculiarities of the age correctly. A special system of knowledge is clearly needed for that, a system that differs from all others in treating reality as a whole rather than its separate aspects and problems, that is to say, in coming "into contact ... with the real world of its day", at the centre of which, moreover, stands man and all his aspirations and strivings, hopes, doubts, and questions, all his inner contradictions, and his discoveries and delusions.

Philosophy, consequently, as the "intellectual quintessence of its time", and as "the philosophy of the contemporary world", is a special system of knowledge of man's place in the world and his attitude to the world around him. It seeks to know the foundation of man's activities and the laws that govern them. As we see, the tasks facing philosophy are very complex. Only a well-trained professional philosopher can develop profound, serious philosophical knowledge, but this knowledge can only play the role of the intellectual quintessence of the modern world provided that, in expressing the fundamental interests of its age, it can become the property of each and everyone, and be mastered and made the basis of conscious, purposive activity. How is philosophical knowledge mastered by the broad masses? How does it influence their life and activity? In order to answer those questions, we must clarify the interconnection of philosophy and world outlook.

003 *Philosophy and World Outlook*

How do you spend a free evening? Going to a football match? Or watching television? Or reading an interesting novel? Or visiting friends and chatting with them? When one decides on these one is guided by the mood of the moment, habits or possibilities. But there are also problems in life that call for convictions, a broad view of the world, and a clear understanding of the aims and sense of human life in order to answer them. *The aggregate of basic convictions, views of the world, of its structure and origin, of the meaning and purpose of human life and of the place of man in contemporary reality, is known as one's world outlook.*

In developing a theory of man's attitude to the world around him, philosophy proves to be at the very centre of all questions of world outlook. Science, art, religion, various political doctrines, the nation's history, etc., are also involved, in addition to philosophy, in the moulding of a world outlook. And its character bears the impress of people's way of life, and of their everyday and production activity. But philosophy has a special place in the system of world outlook. What is it?

Philosophy takes nothing on trust. From its very origin philosophers have always striven to prove their propositions. They have adduced arguments in defence of them, developed theories about exact and incontrovertible proofs, and have striven to introduce a definite order and consistency into philosophical knowledge and to reduce it to a system. At the same time, when refuting their opponents, philosophers developed rules of critical argument and reasoning. They did not simply reject certain views but adduced substantiated, uncontradictory arguments that refuted them. By proving certain views of the world and demonstrating man's place in it, a philosophical theory thereby substantiates a corresponding world outlook. Consequently, philosophy emerges as the latter's *theoretical basis.*

Each historical age has developed its own outlook on the world. The content and form (111) of this outlook depend on the level of development of society, science, technology, and culture as a whole. With the rise of classes and class contradictions (206), a world outlook also acquires a class character. Slaves and slave-owners,

serfs and landowners, workers and capitalists hold different views of the world, and understand the role and purpose of man differently. In the course of class struggle each class endeavours to defend its outlook and to refute the views of classes hostile to it. The world outlook of the progressive classes of society, while the most advanced for their epochs, also requires substantiation and proof. Philosophers who defend the interests of a class develop the principles of a corresponding outlook, and arguments in its favour, and at the same time polish and sharpen critical arguments for fighting other, hostile views. The important world-outlook role or function of philosophy is manifested in that.

In our day, when the forces of peace and socialism are waging a tremendous historical struggle against the forces of war and imperialism, there is also a sharp struggle of two world outlooks, viz., the progressive, scientific, Marxist-Leninist world outlook and the reactionary, unscientific, capitalist one. Socialism ensures the predominance of a scientific world outlook in the intellectual life of society. The various schools and trends of bourgeois philosophy provide the theoretical basis of the capitalist world outlook. The theoretical basis of the progressive, scientific outlook is Marxist-Leninist philosophy, which develops and substantiates very important world-outlook propositions. Whoever studies and assimilates it deeply, seriously, and creatively, will accept this outlook through conviction based on scientific arguments and proofs, and not on blind faith.

004 *Philosophy and the General Methodology of Activity and Cognition*

A most important feature distinguishing man from all other creatures is that his activity (202) is purposeful. Not everyone, of course, by any means and always pictures the remote results of his activity. But the immediate goals and aims for which we do something are usually clear and understandable to each of us. When acting in a certain way one relies on definite knowledge. During activity, on the contrary, one corrects and makes knowledge more accurate, and develops new knowledge. So, we see, knowledge and activity are closely linked. What is this link due to? And how is it realised? It is

realised and materialised by means of rules that prescribe certain actions in certain conditions and say in what order and sequence it is necessary to perform them so as to achieve a given aim. *The aggregate of stable rules based on life experience or on scientific knowledge is called method.*

If the method is correct, the activity based on it will lead to the desired end. It is therefore customary in politics, in industry, and in science to pay great attention to developing, substantiating, and choosing reliable methods. In mathematics there are various computation methods; pedagogics works out methods of teaching and educating, the engineering and applied sciences devise methods of putting up buildings, erecting bridges, designing machines and automatic assembly lines, etc. *The theory of the methods of activity and cognition is known as methodology.* Each science and every special field of human activity has its own special methodology suitable for tackling a limited range of problems. The methodology of physics, for instance, confirms the methods of performing experiments with elementary particle accelerators, medical methodology — methods of diagnosing and treating illnesses and diseases, and so on.

People are not only occupied, however, with solving particular everyday problems. They also have to try and solve them on a broader, universal scale. Man is faced with the problem, for instance, of whether he is justified in destroying nature to attain his ends, or whether he should strive in his activity to conserve the existing world unaltered, or should alter it in a certain way. A person has to develop a broad strategy of behaviour for himself, and for that he needs certain precepts and maxims and vital rules that indicate how to relate to the group and to individuals, and to public and private interests, and what stance to adopt in the class struggle during war and in a period of peaceful labour. Special methods and a special methodology are needed for tackling these problems. This methodology does not depend on the separate special systems of knowledge, or on separate sciences, but on the world outlook as a whole. It is therefore called a general methodology.

In order to see how world outlook is linked with the

development of a general methodology of activity and cognition, let us consider an example from the history of science.

It was inherent in the outlook of the ancient Greeks to deify nature. Every tree, every stream and hill had its divinity. Greek philosophy therefore confirmed norms and maxims that required reverence of nature and governed interest in it, but at the same time forbade anyone to alter it substantially and in general to experiment, because man had no right to change divine phenomena. This general precept led to Greek science's being unable to develop experimental natural science. Other views on nature and man were characteristic of the bourgeois world outlook at the time of the development of industrial capitalism. Only man was considered endowed with spiritual force; nature, including animate nature, was declared soulless. The taboo on altering nature and experimenting with her was thereby removed. Bourgeois thinkers, expressing the interests of capitalist production, put forward a demand to master and dominate nature so as to develop industry and commerce. This general methodological maxim promoted the rise of experimental science, but led at the same time to grave consequences that were expressed with time in intensified exploitation, pollution, and disruption of the environment. Thus, we see, general methodological maxims and rules have a marked influence on the character of human activity and cognition by regulating man's behaviour and his attitude to the external world.

What is the relation between philosophy and the general methodology of knowledge and activity? As we already know (003), philosophy is the basis of world outlook. By confirming principles that regulate man's attitude to the world, to other people, and to society as a whole, philosophy at the same time substantiates and clarifies the goals that mankind sets itself at each stage of its existence, and also develops, confirms, and justifies the most general standards and rules by which man should be guided in activity directed to attaining these ends. Each special science develops its own particular methodology of experimental study of nature. Experiments on animals pose and pursue other aims than experimental study of the surface of the Moon by means of a moon-

rover. But all these experiments, and the particular methodologies that confirm and regulate them, would simply be impossible if there were no general philosophical methodological precepts that affirm that it is impossible to know the world just through passive observations and that active scientific experiment is necessary for such knowing (511). Consequently, *philosophy performs yet another important function, that of methodology, and is the basis of the general methodology of activity and cognition.* No other discipline can perform this role. As the basis of world outlook and general methodology, philosophy influences the development of mankind's aims in a certain way at each stage of humanity's development, and also affects the character of the activity to attain these ends.

005 *Philosophy and Ideology*

People are social beings. They form various groups and organisations to attain their aims. Anyone can belong to several such groups and organisations at one and the same time. One can, for example, be simultaneously a player in a basketball team and a factory worker, a member of a sports society and a member of a stamp club, and so on. But it is impossible to belong simultaneously to two different social classes (to be a serf and a feudal landowner, a worker and a capitalist) and to defend different class interests (206). In class societies class aims and interests are irreconcilable, opposite, and mutually exclusive.

Ever since society had divided into opposing classes — the exploiters and the exploited — class contradictions became very deep social contradictions. The understanding of the world of members of different classes and their views on man and the aim and meaning of his life are therefore different. They appreciate each development in society's life, each event and action that affects the fate and position of the class differently. *The totality of the doctrines, theories, and evaluations relating to phenomena of public affairs and taken from the standpoint of a certain class, expressing its fundamental interests and aims and consolidating its social positions, is called ideology* (224). The attitude of people to social reality and to one another is comprehended

by means of an ideology; social problems and contradictions, and action programmes aimed at maintaining and developing or altering existing social relations are reflected in it. An ideology is expressed in corresponding legal, political, moral, artistic, religious, and economic views (226—231). Just as it is impossible to belong simultaneously to two different classes, so it is also impossible to hold different ideological views or to reconcile them.

It is particularly important to understand this in our age when the contradictions between the two world systems — capitalism and socialism — between labour and capital, between countries recently emancipated from colonialism and rich capitalist ones, have become vastly acute. There is consequently still a clash of social and political aims and interests. But it would be a mistake to think that ideological opposition means a complete absence of common interests of any kind between the different classes, or of interests common to all mankind. When the national liberation movement in colonial countries was growing, common interest and aspirations connected with the struggle for independence, and their own road of development, often united the national capitalist class, in spite of class and ideological contradictions. In the conditions of the deadly danger hanging over humanity through the development and production of nuclear weapon, maintenance of peace, nuclear disarmament, peaceful coexistence of countries with different social systems, and lowering of the level of military confrontation are a common interest and a chief value for all mankind.

Dominant classes always endeavour to impose their views and their ideology and outlook on the exploited classes and strata of society. The ideology of the ruling class is the dominant one. That comes about because the ruling, dominant class, which is always a minority, needs the support not only of an army and police, and of officials, in order to maintain its power, but also has to rely on ideology, by which views, values, ideas, and notions that justify and consolidate its domination are inculcated in the consciousness of the other classes. No ruling class that did not capture the minds of the masses, and relied solely on armed force and

a bureaucracy, could maintain its power. That is why a fight against the ideology of the ruling classes and emancipation from its influence are a most important prerequisite for social revolution (214) and the building of a new society.

Marx and Engels called ideology "false consciousness". But why? What sense did they invest this expression with? Exploiting classes have always striven to present their interests as eternal and immutable, and the only just and possible ones. In coming to power they do everything they can so as to perpetuate it, and consequently deprive themselves of understanding of the historical inevitability of changes that sooner or later lead to a new social system. The classes that lack power and occupy a subordinate place, also strive in developing their own notions of justice and a desirable social set-up, to give their views the character of eternal, immutable truth, and also fall into a misconception generated by misunderstanding of the fact that any class society and any class ideology must sooner or later disappear, giving way to a classless society.

Is a true ideology possible that correctly reflects reality, posing aims worthy of man, and appraises its own developments in the interests of the whole of humankind? Of course, it is possible. Initially it takes shape as the ideology of the working class. This is the sole class that aspires to abolish all forms of exploitation and oppression, and is aware of the historically transient character of its tasks and aims. Its ideology does not aspire to justify any social set-up whatever as eternal and immutable. With the disappearance of exploiting classes in socialist society, the ideology of the working class becomes the ideology of all working people. It expresses their radical interests and aims. Its main values and orientation are a comprehensively developed free man, social justice, and genuine democracy. This ideology also accepts general human values, like peace for the whole world, equal, mutually beneficial relations between countries, peaceful coexistence of countries with different social systems, and protection of human rights. It is therefore directed against the ideology of imperialism and militarism, against the attempts of present-day reaction to oppose the transformation

of society in the direction of social justice, democracy, and humanism. As for the domestic affairs of socialist society, which is not free of various, still quite acute contradictions, ideological differences and disagreements are manifested here in the form of open, public discussion of the political strategy and tactics being worked out to achieve common goals and interests. Developing socialism has nothing in common with "ideological barracks" or a "monastery", in which all are reduced to the same level, hold identical views, and do not have their own ideas on matters of vital importance for society. Differences of opinions on one matter or another do not mean either rejection of the principles of socialism or departure from the framework of socialist ideology. Socialism does not rule out the intellectual pluralism that ensures a quest for new solutions.

In the revolutionary reorganisation and restructuring taking place in the USSR, aimed at overcoming the stagnant tendencies noted during the two preceding decades, a restructuring of ideology itself is also inevitable. In the period of stagnation, complacency and an uncritical attitude to shortcomings, conservatism, and a certain subjectivism in decision-making were often raised to the rank of ideological principles. In order to overcome the stagnation it is necessary to carry out a radical economic reform and to democratise society. Among those who are not ready for this reform, it is giving rise to a certain resistance. The ideology of renewal therefore calls for renewal of ideology itself. It must provide a clear evaluation of the causes of the stagnation, and of all the breaches of social justice and deviations from socialist democracy and unjustified repressions carried out by Stalin and his immediate entourage. It must be based on the need for a revolutionary restructuring and reorganisation of society. Only then will it become attractive for the broadest strata of the working people, and for all citizens, and deserve the public's full confidence. The more substantiated and consistent the ideology is, and the more considered its arguments, the stronger will it influence people's minds and behaviour. Philosophy, in investigating the most pressing problems of the present day from the angle of their significance for all mankind,

and their influence on human life (102) thereby lays the foundation necessary for substantiating ideology and forming its aims and values. By making it possible to note, and then to overcome, negative aspects and contradictions of reality, philosophy thereby promotes the perfecting and improvement of ideology. The ideological function of philosophy is manifested precisely in that.

006 *The Main Task of Marxist-Leninist Philosophy*

For a system of philosophical views and theories to be in fact a true philosophy of the modern world, it must properly formulate the main task determined by the content of the historical age. And for that it is necessary to know what the content of the present age is.

The main content of our age is the transition from capitalism to socialism, i. e., a striving for social reorganisation of the world on principles of justice. That presupposes the creation of equal opportunities for all, the attainment of material prosperity and well-being and social guarantees, observance of human rights, including the right to work and education, the achieving of real democracy, the full glare of publicity and openness, and of information on the taking of socially significant decisions, preservation of a healthy habitat for us and our descendants, respect for the personal dignity and individual freedom of every member of society, and, finally, abolition of the exploitation of man by man. This process involves smashing old principles and notions, restructuring the whole outlook on the world, engaging in sharp ideological struggle, and leads to radical changes in the economic, political, and intellectual affairs of society.

People have always dreamed of a better life, of being delivered from want and sorrow, and from exploitation, injustice, lawlessness and lack of rights. But dreams are one thing, and reality is quite something else. Of course, the penetrating, profound thinkers of the past did pay attention to these dreams and aspirations; but they limited themselves ultimately, when examining and discussing them, to explaining the existing order of things and discovering its roots in human nature itself, in the ineradicability of poverty and wealth, do-

minance and subordination. Noting this feature of all preceding philosophy, Marx wrote: "The philosophers have only *interpreted* the world in various ways; the point is to *change* it."[1] The task of philosophy was thus posed and formulated in a new way for the first time. What is the meaning of these words of Marx's? And what kind of a transformation of the world is meant?

It is wrong, of course, to think, that people had not been changing the world around them throughout the preceding millennia. They transformed the local landscape, cut down forests, dug canals, built towns, and erected previously undreamed of edifices. But all these changes took place spontaneously, as a rule, and their remote consequences could not be foreseen and predicted. Over the millennia states disappeared and others arose, various conquerors came and went, and one social system succeeded another. But the poverty and rightlessness of the toiling people did not disappear, and the exploitation of man by man remained. Only in our age, because of the unprecedented development of science and technology and the emergence of the industrial working class, the most organised and conscious of all the exploited classes, did there first arise a real possibility of transforming the whole set-up of social life in a radical way, and not just separate aspects of people's life and activity. It was a transformation like that which Marx meant, a transformation that had to resolve the root contradictions and very acute problems of the contemporary world, and to change people's attitude to nature, society, and one another.

The main task of the philosophy of Marxism-Leninism as a true philosophy of the contemporary age is consequently *to confirm scientifically the possibility and necessity of radical transformations of the whole of social affairs* leading to the abolition of exploitation and the building of a communist society that will open up opportunities for achieving the well-being, real equality, and all-round intellectual and physical development

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[1] Karl Marx. Theses on Feuerbach. In: Karl Marx and Frederick Engels. *Collected Works*, Vol. 5, Progress Publishers, Moscow, 1976, p. 5.

of every person. No other philosophical system has set itself such a task. To do so it was necessary to generalise the experience of all world science and to develop a new, scientific outlook on the world, cognise the laws of social development, and show that they inevitably lead society to communism, and to develop a new, revolutionary ideology and methodology of action making it possible to change the world.

The philosophers of the past, and contemporary bourgeois philosophers, addressed their works as a rule to a limited circle of members of the dominant, ruling class. Their works were inaccessible to the broad strata of the working people. An idea of philosophy itself therefore took shape as something vague and foggy and beyond the understanding of the ordinary person. That evaluation is quite unacceptable to the philosophy of Marxism-Leninism, i. e., the true philosophy of the contemporary world that responds to all its acute questions and expresses the fundamental, deep interests of the broad masses of the working people. "As philosophy finds its *material* weapons in the proletariat, so the proletariat finds its *spiritual* weapons in philosophy".[1]

The Basic Question. The Subject-Matter and Method of Philosophy

007 *The Basic Question of Philosophy*

Every science has its main, basic question, its subject-matter, i. e., the range of the phenomena and processes it studies, and finally its special method of investigation and research. For a deeper understanding of what philosophy is, consequently, we must define its basic question, and its subject-matter and method.

In order to tackle the main task of philosophy (006) it is first necessary to say *what man's relation to the world around him is*, to answer whether man can know and transform it. And that is the essence of the basic question of philosophy. And since people have

[1] Karl Marx and Frederick Engels. *Collected Works*, Vol. 3, Progress Publishers, Moscow, 1975, p. 187.

long seen their main peculiarity in their being thinking, rational, conscious beings, unlike all other creatures, the problem of man's relation to the world was usually formulated as that *of the relation of consciousness and thought to being, and to the surrounding reality, or matter.*

This question is not only the basic one of philosophy but also its specific problem. Sciences like physics, astronomy, and biology try to answer what are the laws of motion of elementary particles or the propagation of light, how the Universe is constructed, and what is life. The social sciences, for example history and political economy, try to answer how humanity originated, what are the laws of social production, and so on. There are also special sciences of thinking and mental activity, like psychology and logic. They try to answer how our notions and sense images arise, what are anger and joy, delight and sorrow, what rules man should be guided by so that his arguments and proofs do not lead to mistaken conclusions, and so on. But not one of these sciences is concerned with man's relation to the world as a whole, i. e., with the relation of thought to matter. Yet the answer to that is important not just for natural and social scientists but also for politicians and for practical life. The scientist, for example, needs to know whether our consciousness and our thinking give correct information about the laws of motion of particles and the propagation of light, whether we can know the historical past by means of our thinking, and study the fundamentals of economic activity. The statesman and political leader trying to change and improve public affairs needs to know what to begin social reforms with: from changes in people's consciousness, or from changes in material social being. So, it turns out, the answer to the basic question of philosophy sooner or later attracts the attention of scientists and public figures, both of those who are occupied with theoretical studies, and of those who devote themselves wholly to active practical work.

The deep link of the basic question of philosophy with all forms and aspects of human activity was not immediately understood. It only became evident and clear in

modern times when the rapid development of science and the mounting revolutionary struggle of the working people made it possible to bring out fully the significance of this question for science and social practice. Study of the relation of thought to matter, and of consciousness to being acquired special importance for more recent philosophy, i. e., the philosophy of Marxism.

The basic question of philosophy has two aspects. In order to understand the relation of consciousness to being more deeply we must discuss each of these aspects in detail.

008 *The First Aspect of the Basic Question of Philosophy. Idealism and Materialism*

When reflecting on the relation of matter and thought we rightly ask: which is *primary (i. e., which is first in time) — the material world and the things around us, or thought and consciousness?* This is what forms the first aspect of the basic question of philosophy. Our life experience indicates that it is quite simple to answer this question in each concrete case. The Moon, for instance, existed long before the concept (thought) of the Moon and poetic images of it arose. The material object, the Moon, consequently preceded its scientific or poetic form, i. e., the idea and concept of the moon. On the contrary, before the Soviet moon-rover and US astronauts landed on the Moon, an idea of jet engines, a system of flight control, etc., must have arisen and been developed by designers, inventors, scientists and engineers. Only when this idea had been embodied in definite technical apparatus could a flight to the Moon be made. The engineering and scientific idea preceded the creation, here, of material objects in the form of a rocket-vehicle and automatic lunar laboratory. If it were just a matter of such cases, the answer to the first part of the basic question of philosophy would be quite simple. But philosophy does not examine such simple cases but rather man's attitude and relation to the world as a whole. It therefore proves to be not so simple to understand this part of the question correctly. In fact, it is necessary to clarify which is primary and determinant on the scale of the whole historical

evolution of the Universe: thought or the material world, and which is determinant in man's activity in any of its forms: consciousness or material being. The question only has sense within this context (127). Philosophers are divided into two great camps or trends according to how they answer it, viz., *materialists and idealists.* Materialists affirm that matter is primary and determinant, and consciousness secondary and determined. Idealists consider thought, consciousness, the primary, and matter secondary.

Idealism, as a definite philosophical trend, falls into two main tendencies. One recognises as primary a certain idea, thought, or consciousness that allegedly existed long before the origin of matter and man. This trend is called *objective idealism.* The second current, known as *subjective idealism,* recognises the existence only of individual human consciousness, i. e., the consciousness of a given subject. The whole of the remaining material world is explained as simply non-existent and apparent.

There have also been thinkers, in the history of philosophy, who have tried to take an intermediate, compromise stance. They recognised a kind of parallelism, independence, and equality of two world elements, viz., matter and consciousness. These thinkers are known as dualists. Dualism had no independent significance and had no great influence on the development of science, because its greatest and most consistent spokesmen sooner or later passed either to position of idealism or to that of materialism.

The overwhelming majority of people are natural, unconscious materialists in ordinary life. They therefore often ask the perplexed question of how one can in general come to idealism, to a notion that thought, the idea, and mind preceded the material world in its development, and determine all of people's activity. But there is nothing surprising in the existence of idealism. Its emergence was due to social and historical circumstances. The first philosophic doctrines that arose in antiquity took shape in conditions when the influence of religion was still very strong. According to most religious doctrines, ancient and modern, the world was created by a god or gods, by immaterial,

supernatural, omnipotent beings. These views had a definite influence on a number of philosophic doctrines that accepted a religious, idealist explanation of the world.

Why does idealism continue to exist in our day when the development of science and engineering have given a host of indisputable confirmations of the correctness of materialism? The point is that idealism has definite roots in human thought itself, and in the conditions of social life. I shall examine these roots later in more detail (506), but now I merely point out that idealism is closely linked with the world outlook and ideology of dominant classes, and is useful to certain social forces, since it provides arguments in favour of the eternity and invariance of the existing world order. It does not, moreover, simply cite the authority of religion, but adduces definite arguments in defence of its position. Contemporary materialists therefore cannot simply brush idealism aside and reject its arguments as something insubstantial. They have to discuss them, demonstrate their flimsiness, and oppose them by their own argumentation, based on all the achievements of science and social and political practice. Only then will the superiority of materialist philosophy be incontestable.

009 *A Dialogue of a Materialist and an Idealist*

Let us see what arguments a materialist and an idealist can advance in defence of their views. Imagine two personages — Materialist (M) and Objective Idealist (OI). Here is how their dispute would roughly look.

M. You say that thoughts or ideas are primary and precede material things.

OI. Just so.

M. I don't agree. For we are surrounded by sense-perceived material things that I can see, touch, smell, and taste, but I have never come across independent concepts and images that are not related to things and are not a reflection of them. I therefore do not admit that thoughts or ideas can precede things or exist without them, and, furthermore, before them.

OI. Try to follow my argument closely; I hope I shall convince you that thoughts and ideas precede material

things and can exist without them, before them, and independently of them.

M. I'm ready.

OI. Please tell me where your suit and the chair you are sitting in came from.

M. A tailor made my suit and a joiner made the chair.

OI. Excellent. But in order to make the suit or the chair the tailor or the joiner must have had a plan. He must have thought out the cut of the suit or the shape of the chair long before he set about stitching or hammering.

M. That's true, but what next?

OI. Before even the simplest thing is made, its creator or maker must have a plan and be aware of what he intends to do, i. e., an idea must precede the created object.

M. Well, what of it?

OI. The world is very complicated, and one can only wonder at its manyfaceted nature and the coherence of its parts. Look how purposeful everything is. There are bees that gather honey and pollen exactly when this is necessary so as to pollinate plants; there are rivers and rain whose moisture Nature needs; there is a succession of day and night without which many living creatures could not exist. There is a constant quantity of carbon dioxide gas around our Earth, which is necessary for plants, and of oxygen, which is necessary for animals.

M. So what do your examples prove?

OI. Now I'll put my arguments together. Look. If even such a simple thing as your suit or chair has to be made by someone, such a complex and organised world as the one around us could not have arisen of itself. If the tailor or joiner has to have an idea in order to make a suit or a chair, the creation of the world must have been preceded by a much more complicated and grandiose idea than that of the tailor or the joiner.

M. Whose idea was it?

OI. I would say that such a complicated thought, in which all the interconnections of animals and plants, air and water were foreseen, could not have been that of an individual person, even if he were a genius. It is an idea in itself. Religious people call it God, but I am a philosopher and prefer to call it world reason or the absolute (or primary) idea. The point is not in its name but in recognising that there must first have been an idea or

thought and, moreover, an eternal, grandiose thought, in order to create such a perfect, diverse, and complicated world. So I conclude that thought is primary and matter secondary.

M. You say that the whole material world was created according to some mysterious plan. But whose plan? Everyone has seen a joiner or a tailor, but your "absolute idea" or "world reason" does not belong to anyone. Where is the head that thought it? Your whole argument is built on your seeing one side of the matter and deliberately ignoring the other. Modern science explains all the facts you mention without recourse to the aid of God, world reason, or the eternal idea. Biochemistry has shown that living creatures could arise from inanimate matter in certain conditions; the oxygen in the atmosphere is the result of the life activity of plants, which liberate it through the effect of sunlight, while carbon dioxide is the result of animals' life activity. Science has shown, besides, that man himself is the result of a long, historical evolution, and that thought and consciousness are a product of the activity of the human brain (120—124). Furthermore, the world is not so purposeful as you say in ascribing its structure to divine reason. There are infectious diseases, wars, human suffering, etc. in the world. We know that they can and must be combated. If all this is the result of divine providence, it would be impossible to counteract the elemental forces of nature and social injustice, in any way. Yet the one and the other can be overcome by science and human efforts. Your view is one-sided. It contradicts science, and the great advances in social development that we are parties to and witnesses of.

Here a new personage joins the dialogue, Subjective Idealist (SI), who expresses his point of view.

SI. I don't agree with either materialists or objective idealists. I claim that there is no matter at all, that its existence cannot be demonstrated, and that separate material objects only seem so to us, are simply our habit.

M. How do you prove your opinions?

SI. Tell me, how do you know there is an apple on the table in front of you?

M. I see a round object on the table in front of me, rosy on one side, greenish on the other, that exudes a pleasant aroma, and has a sour-sweet taste. I call

this object an apple, and say that it is, because I see it, touch it, and taste it.

SI. So "apple" is simply a name for your sensations: sour-sweet, round, rosy on one side and greenish on the other, that exudes a pleasant aroma. When you say "apple", you simply mean that you simultaneously experience visual, taste, tactile, and aromatic sensations.

M. What follows from that?

SI. It follows that there is no material object independent of us, but there is a combination, an ensemble of certain sensations, and, moreover, our sensations, inherent in our thought, in our consciousness, or, in short, in our Ego. We call this combination of sensations "apple"; it is only the name for a certain combination of visual, tactile, and other sensations.

M. But in that case you must affirm that the whole world is only a combination of our sensations, and that the world simply does not exist.

SI. That is precisely what I have in mind when I say there is no matter. For "matter" is also simply a name for a vast assemblage of sensations, that we are used to thinking are reflections of things. I also claim that there are no things; we are simply used to talking about things. In actual fact there is only my thoughts, i. e., only my Ego and the sensations inherent in it. The material world only appears to be to us; it is only a certain way of speaking about our sensations.

M. (smiling ironically). In that case you inevitably contradict yourself.

SI. And what is this contradiction, according to you?

M. You are talking with me. But you only know that I exist from your sensations. From your point of view I too am only a combination of sensations, and not a living, real, material person.

SI. So what?

M. It follows that I do not exist in myself but am a combination of your sensations; and all your arguments are addressed to your own sensations, i. e., in essence, you are arguing with yourself and trying to convince yourself that you are right. To be consistent, other people apart from you and your Ego do not exist. So, after all, only you exist and there are no other people in the world.

SI (pensively). I don't mean that, but perhaps you are right, and there is something wrong in my argument.

I shall have occasion more than once to criticise both subjective and objective idealism. Here it is important simply to note a feature of them that Materialist correctly noticed in the dialogue above, namely, that consistent subjective idealism leads to solipsism (from Lat. *solus*, alone, and *ipse* self), i. e., to denial of the existence of other people except the person expressing the idealist point of view.

The whole history of the struggle of materialism against subjective and objective idealism shows that both these trends are incompatible with science and contradict all its conclusions. In reality, however, the views of subjective and objective idealists are, as a rule, masked and disguised and not so open as in my dialogue, and materialists therefore have to do much critical work to bring out the idealism's real arguments and have to expend no little effort to a consistent, scientifically grounded refutation of them.

Materialism is irreconcilable with any idealism, but a serious materialist cannot simply reject idealists' arguments out of hand. Idealism cannot be refuted just by verbal arguments. Materialism substantiates its claim by generalising the results of the development of all the natural sciences, engineering and applied science, the study of human thought and thinking, and so on. Therefore, guided by these considerations, I shall devote several special chapters to the position of philosophical materialism, and especially of its highest contemporary form, dialectical materialism. In them I shall examine not only the critique of objective and subjective idealism, but also the whole positive content of materialist philosophy in connection with the results and achievements of the contemporary natural, social, and technical and applied sciences.

010 *The Second Aspect of the Basic Question of Philosophy*

When we examine the relation of thought to matter, and consciousness to being, we can ask whether our thinking can correctly cognise the external world, wheth-

er we can get a correct idea of the phenomena and processes around us, and whether we can express a true opinion about them and act successfully on the basis of our judgements and statements. The question *whether the world is knowable, and if so how far, and whether man can correctly, or approximately correctly, cognise, comprehend, and investigate the reality around him,* is the second aspect of the basic question of philosophy.

Philosophies fall into one of two trends according to how they answer the question of the knowability of the world. One trend embraces supporters of its knowability (materialists and a considerable number of objective idealists); the other includes opponents of this knowability who consider the world to be wholly or partially unknowable (as a rule, subjective idealists). Opponents of the knowability of the world are usually called agnostics. It will readily be understood that the question of the knowability of the world and of the means of checking the correctness of our knowledge is most important in present-day conditions. In order to be confident of the correctness of our stance, we have to be sure that we know the world, and that our outlook on the world and ideology provide a correct view of the world and a correct appreciation of the events happening in it. Agnosticism therefore not only undermines the foundations of science, but also those of a scientific world outlook and progressive ideology. It is not surprising, therefore, that agnosticism is a weapon employed in the ideological struggle by opponents of the progressive classes in contemporary society. By denying the knowability of the world, agnosticism deprives us of a true orientation in the world. Its adherents develop subtle, crafty means for defending their views. Struggle against them is one of the most important tasks of contemporary philosophical materialism.

011 *A Dialogue about the Knowability of the World*

How do agnostics and advocates of the knowability of the world defend their views? Since agnostics are mainly subjective idealists, and advocates of the knowability of the world are materialists, let the personages already known to us (009) debate this question, namely Materialist (M) and Subjective Idealist (SI).

M. It is hard even to imagine that a normal person denies the knowability of the world. Our whole life experience teaches us that the world is knowable.

SI. Quite the contrary. Our everyday life experience is based on observation of the objects around us, on sense perception of them by means of vision, hearing, touch, etc., and this is an extremely unreliable source of knowledge.

M. Why?

SI. I'm holding a pencil. It looks straight. Now I put it half into a glass of water. How does the pencil look to you now?

M. I see that it is bent by a small angle.

SI. So, vision says that in one case the pencil is straight and in the other bent. Which should we believe? How can we say after this that we know something reliable about even such a simple object?

M. Your example is not convincing. There are several ways of checking which of the visual impressions is correct and which mistaken. (1) I can take hold of the pencil without pulling it out of the water, and assure myself that the bend is only apparent. (2) I can immerse the pencil completely in the water; then it is as straight as in the air. (3) I can make a narrow slightly bent pencil-case similar to the bend of the immersed pencil and try to insert the pencil in it without taking it out of the water. But I won't be able to.

SI. What do you deduce from that?

M. It is not enough just to observe in order to prove what knowledge is correct and true, i. e., corresponds to reality. It is necessary to carry out an experiment, even the simplest, i. e., to perform a certain activity with our pencil and the glass of water, and then we will be able to separate the optical illusion from the real state of affairs.

SI (stubbornly continuing). There are other reasons, too, for doubting the correctness of knowledge.

M. What ones?

SI. A century ago scientists still considered atoms to be indivisible. Then through experiments they came to the conclusion that atoms consist of a nucleus and electrons, elementary particles not further divisible. In recent years scientists have been inclined to think that

elementary particles themselves consist of special physical elements, quarks and physical fields "glued" onto them (gluons). So what was considered true at the end of the nineteenth century proved to be false at the beginning of the twentieth, and what was considered true then is considered untrue in our day. How then can we speak of correct knowledge of the world?

M. You do not allow for the pattern of development of science. The point is that we do not simply discard the previous untrue views as our knowledge becomes deeper but correct them, make them more accurate and fuller and truer. Figuratively speaking, knowledge is not some isolated "slice", but a spiral consisting of endless turns. Therefore we are dealing with a process of knowing in which we move forward all the time to truer, fuller knowledge of the world. Your example only confirms that contemporary physics knows the structure of the atom better than 50 or 100 years ago. That confirms my point of view and not yours; we know the world and this knowledge has no limits.

Two important conclusions follow from that dialogue.

1. The agnostic uses an illusion of the senses (in my example, an optical illusion) to support his views, and relies only on passive observation and, moreover, takes one observation without a link with others. The materialist, for example, an advocate of the knowability of the world, resorts to an experiment to refute the agnostic, and that is an important part of practice, i. e., of people's social and production activity. It is practice that helps demonstrate that the world is knowable.

2. The agnostic regards the different stages in the development of science unconnected with each other. He does not take note of their inner unity and interconnection, or of the development of science, and therefore cannot understand that one stage supplements another during development or evolution, and that some knowledge deepens and refines other knowledge. Consequently, knowledge itself develops, and we know more and more about the external world.

Each special science studies its own subject-matter and special field of reality. Physicists study the motion and interaction of material bodies and fields. Chemists explain how molecules are built up from atoms. Biolo-

gists seek to understand what life is, and what its laws are, and so on. But not one of these sciences explains how man knows the external world, and how and in what way he checks the correctness of his knowledge. Only philosophy does that, when discussing the second aspect of its basic question. We call the department of philosophy that studies the process of cognition and the ways of checking the correctness of knowledge the theory of knowledge or epistemology (Gr. *episteme* — knowledge and *logos* -- discourse). Therefore, when stressing the importance of the theory of knowledge for understanding the essence of philosophy, we can call the basic question the epistemological question. By developing the theory of knowledge and of its sources and development, and the means of checking and separating out correct knowledge, i. e., true knowledge, from mistaken, i. e., false, philosophy tackles important problems that no other science resolves. That is another of its important functions, the *epistemological*. I shall examine it in more detail in Chapter V.

012 *The Method of Philosophy; the Preliminary Concept of Dialectics and Metaphysics*

In the dialogue above the results and conclusions to which the speakers came were quite opposite. That was largely due to the fact that they employed different methods of argument and proof. The method employed in the dialogue by Materialist is called dialectical.

The dialectical method of cognition calls for all phenomena in the world around us to be examined in their interconnection, interaction, and constant development. This method posits that man can only know the external world and himself, provided he will examine and study all phenomena in motion, in constant change, paying attention primarily to the mutual transitions or phenomena and to their mutual conversion into one another. In that way the dialectical method tries to find, and actually does, the inner source of development in each form of motion and in each fact of change. This source is the inner contradictions that exist in every phenomenon and processs, and the struggle and resolution of these contradictions. Development itself is understood, not as repetition or movement in a

circle, but as the constant emergence of the new on condition that separate aspects and characteristics in the qualitatively new phenomena repeat, as it were, what already existed in preceding stages. During development there is a constant breaking up and disappearance of the old and a rise of the new, preserving everything valuable and viable in the process.

The method opposite to the dialectical is called metaphysical. It treats each phenomenon in isolation, outside the connection and interaction of phenomena with one another. And if it has to take these connections and interactions into account, it does so superficially and shallowly. *The metaphysical method, when dealing with change and motion, does not see the genuine development, and therefore also does not recognise the possibility of the appearance of fundamentally new phenomena and processes in nature, society, and man's thinking.* From the metaphysical angle everything in the world sooner or later repeats itself; everything moves as it were in a circle, and the sources of motion and change are not found within objects and phenomena but rather in an external impulse, in forces that are external as regards the phenomenon concerned. The metaphysical method does not recognise radical qualitative transformations and revolutionary changes in the external world, and tries to present everything as a smooth evolution and insignificant quantitative changes.

The metaphysical and dialectical methods are at bottom opposite to one another. In our stormy age, a period of profound revolutionary changes and rapid development of social relations, economy, science, engineering, and culture as a whole, only a philosophical doctrine that is based on the dialectical method and employs it to tackle its problems can successfully act as the "intellectual quintessence of its time" (002).

The words "dialectical" and "metaphysical" have a Greek origin. The former initially meant the art or rule of reaching the truth in a dispute through comparison of opposite views. The latter (literally meaning "after physics") became the title of the main philosophic work of the outstanding Greek philosopher Aristotle (384—322 B. C.). Philosophy was called metaphysics for centuries out of respect for him. But in time the sense

of these words changed radically, and I shall follow Marx, Engels, and Lenin in employing them in the sense and meaning in which they are used in this section. The dialectical method will be examined in more detail in Chapter IV.

013 *The Subject-Matter of Marxist-Leninist Philosophy*

Marxism-Leninism is a theory of the revolutionary transformation of society, and of the building of socialism and communism. Its constituent parts are the following: the theory of scientific communism, which studies the patterns of socialist revolution, and the building of socialism and communism; political economy, which studies the laws of social production and people's economic activity; and the philosophy of Marxism-Leninism. As regards the theory of scientific communism and political economy, Marxist-Leninist philosophy functions as their world outlook and ideological and methodological basis, and develops the theoretical principles and methods of scientific knowledge that they employ to tackle their tasks. The constituent parts of Marxism-Leninism are inseparable and form a close unity.

The academic title of Marxist-Leninist philosophy is dialectical and historical materialism.

The title "dialectical materialism" stresses that this philosophic doctrine gives a materialist answer to the basic question of philosophy and employs the dialectical method when discussing and resolving the most complicated philosophical, world-outlook, methodological, ideological, and epistemological problems. It thus differs radically from all preceding forms and types of philosophy, and also from other non-Marxian philosophic doctrines that exist in our day.

Materialist philosophy arose back in antiquity. But materialism extended only to understanding of the interconnection of nature and thought; idealist views predominated in views on society right down to the rise of dialectical materialism. The thinkers of the past, irrespective of how they answered the basic question of philosophy, agreed that the decisive factor in public affairs was ideas, consciousness, and people's views, and that material activity, social relations, and the production of material wealth depended on these ideas and views,

and were only the means of realising the latter. That is why public figures and social groups that were striving to alter an unjust social system tried to begin their transformation with a change in people's ideas, consciousness, and views, and so each time suffered defeat. Since the main task of the philosophy of Marxism-Leninism is not simply to explain the world but to substantiate ways of transforming it, its founders, Marx and Engels, studied the experience of their predecessors and took a different road. They extended the materialist conception not only to nature and thinking but also to the whole history of human society and to all forms of social activity. Dialectical materialism is therefore at the same time also historical materialism. Its fundamental difference from all preceding materialist doctrines is that it, figuratively, "completed the building" of materialism with the materialist conception of history and society's life. It is consequently wrong to think that dialectical and historical materialism are two different philosophic systems or two independent branches of the philosophy of Marxism-Leninism. This philosophy is a unity; it is dialectical materialism since it develops and applies the dialectical method of cognition and answers the basic question of philosophy in a materialist way. It is also, at the same time, historical materialism, since it extends materialism to society, considers that material social being determines social consciousness, and treats history as a developing, dialectical process.

The philosophy of Marxism-Leninism thus studies man's most general relations with the world and discloses the universal laws and connections in the development of nature, society, and thinking. This constitutes the subject-matter of Marxist-Leninist philosophy, which is the theoretical basis of the most advanced, revolutionary ideology and scientific world outlook of modern times.

014 *The Principle of Partisanship in Philosophy*

In everyday life, and even in politics, people who hold different views may reach agreement on one matter or another, and even find a compromise decision. When, however, it becomes a matter of the philosophical principles of a world outlook that express an idealist

or materialist point of view, such an agreement or compromise is impossible. There have been no few attempts in the history of philosophy to reconcile these opposing and mutually exclusive views of the world. But the real essence of these attempts has always proved to be one and the same, viz., to subordinate materialism to idealism, to tear up the former in favour of the latter. Consistent materialists and idealists have therefore waged a sharp, irreconcilable fight from antiquity to our day, and still do. Lenin called these two trends the lines of Democritus and Plato after the Greek materialist Democritus (c. 460—c. 370 B. C.), and the objective idealist Plato (c. 427—347 B. C.), and stressed that they constituted irreconcilable parties in philosophy. Recognition of the irreconcilability of idealism and materialism is a prime important feature of the Marxian principle of partisanship in philosophy. This irreconcilability is rooted in social life itself.

From its very origin to our day philosophy has served (and serves) as the mouthpiece of the spiritual, world-outlook, and ideological interests and needs of definite social forces, groups, and classes. But the founders of the various philosophic doctrines have always striven to present their views as the expression of universal human interests, disguising their class essence and ideological orientation.

Unlike all preceding doctrines, dialectical materialism openly comes forward as the one that substantiates the world outlook and ideology of the working class and the masses of working people led by it. Frank recognition of the link of philosophic views and doctrines with the interests of classes and class struggle is a second important feature of the principle of partisanship in philosophy.

One must not fully identify the principle of partisanship in philosophy with partisanship or party-spirit in the political sense, which signifies membership of a definite political organisation, or some political party. Dialectical materialism is the philosophical basis of the world outlook, ideology, and methodology of the activity of Communist and Workers' Parties, but that does not exclude its broad dissemination among people who, while holding progressive political and social convictions, are

not members of these parties.

The link of the different philosophic doctrines with class interests and class struggle is not a simple or direct one. It is necessary in each separate case, therefore, to study the respective philosophical views carefully; only then can one say with certainty what social forces, and whose aims and interests they serve. The principle of partisanship is thus an important means of determining the social stance of each philosopher, scientist, scholar, or public figure who holds philosophical views of some kind or other and applies them in his or her activity. I shall consistently follow this principle in all the next chapters.

The Origin and Development of Philosophy

015 *The Philosophy of Antiquity*

The first philosophical doctrines arose in the seventh and sixth centuries B. C. in China, India, and Greece. The origin of philosophy coincided with the transition from the primitive communal system to a class, slave-owning society. This transitional period was accompanied with a sharp struggle of the haves and the have-nots, and the origin of statehood and of the rudiments of scientific knowledge, which also determined the character of the main philosophic doctrines that substantiated the new social world order. The line leading from Greek philosophy presents the greatest interest for understanding contemporary philosophy.

It is customary to call everything relating to the history of Greece and Rome antique. Antique philosophy took shape on the basis of the emerging scientific knowledge. From the very beginning it largely contradicted and opposed the religious-mythological world outlook that had taken shape in the last period of the primitive communal classless system. The emergent science, primarily mathematics, was based on evidence and proof, and not on faith and belief. Proofs played a major role in the social and political affairs of the Greek city-states. Philosophy, which developed rules for systematising knowledge, and for its substantiation and proof, came into contradiction with the systemless and

proofless character of mythology based on faith.

Originally philosophy embraced all knowledge and wisdom. At its centre was the question how the world was constructed, whether it could be explained "by itself", and whether man could attain bliss and calm by knowing the structure of the world. Materialist and idealist orientations emerged at the very beginning of philosophy. Spokesmen of the materialist trend considered that material elements which we encounter every day (water, air, fire, or earth) were the principle (or substance) of the world. Subsequently Democritus advanced a doctrine of material indivisible particles, or atoms, as the basis of the world. The ancient materialists were spontaneous, unconscious defenders of the primacy of the material world, and suggested that it even preceded the gods. The idealists, Pythagoras (c. 570—c. 500 B. C.) and his followers, the Pythagoreans, and Plato, on the contrary, considered that the world was underlain by forms of consciousness (numbers according to Pythagoras, or ideas according to Plato).

When Greek thinkers examined the world they perceived it as a single cosmos in which everything flowed, changed, disappeared, and emerged. This view was still naive, yet at the same time dialectical. The antique thinkers had risen to an understanding that the source of the motion and change of separate phenomena was the inner contradictions inherent in them. But their understanding of development was limited; they recognised that everything in the cosmos sooner or later repeated itself and that there was nothing completely new. The central problem of Greek philosophy and science was study of the change, motion, and structure of cosmos. It reached its pinnacle in the works of Aristotle, who systematised all the knowledge available to him in physics, biology, ethics, and the social humanities, and created the first systematic, developed doctrine of proof. While criticising the idealist views of his teacher Plato, Aristotle himself did not shake off idealism completely. In particular, he considered the motion of the world to be caused by some external impulse or prime mover. His views had a great influence on the subsequent development of philosophy.

016 *The Philosophy of the Orient*

The philosophical doctrines of China and India, and of the peoples of the Arab East made a significant contribution to the development of world culture. They were developed by many schools and thinkers throughout the whole history of those countries and spread beyond them to a number of countries in Asia. A distinguishing feature of the ancient and mediaeval Oriental religious-philosophical doctrines is their principal orientation on man's inner world. For Confucianism, for example, a close link between and even merging of, moral and religious and socio-political doctrines were characteristic; in them problems of personal perfection were closely tied in with teaching on the family, political government, labour, honour and respect for the old, and so on. A deep unity of cosmic and personal principles was characteristic of the religious-philosophical schools of India. In basing themselves on religious-philosophical doctrines, the thinkers of ancient and mediaeval India paid immense attention to the problem of spiritual and mental equilibrium, emancipation from suffering, and achievement of man's unity with the world and its fundamental principle. Their deep interest in man's subjective, psychological, inner world enabled Indian philosophers to substantiate the necessity of man's constant self-perfection and improvement. Another fundamentally important feature of Indian philosophical thinking was substantiation of peaceableness, of non-violent actions, and a striving to spare oneself and others suffering, and for emancipation from earthly passions and desires of the flesh.

Conceptual and practical mechanisms of self-education and training of the will and the mind, a technique of curbing passions, and the inculcation of a certain emotional culture, were developed in the context of the philosophical, ethical doctrines of ancient China and India. The technique of meditation and self-training developed in that way is of undoubted interest for the contemporary science of man. Many leading Indian politicians, who devoted their energies to the struggle for India's independence and freedom, for ideals of justice and peaceful coexistence of countries with different social

and political systems, and promoted growth of India's standing and authority (Gandhi, Nehru, and Raja Krishnan) were great students of Indian philosophy and repeatedly stressed its role in moulding their world outlook and political views.

After the rise of Islam in the seventh century A. D. Islamic philosophy took shape and began to develop rapidly in the countries of the Arab East. Arab thinkers deeply assimilated the heritage of Greece and made a big contribution to the development of mathematics, astronomy, medicine, and ethics. Ibn Sina (Avicenna) (980—1037) and Ibn Rushd (Averroes) (1126—1198) wrote works of encyclopaedic scope in which they discussed problems of cosmology, logic, mathematics, and a whole number of very complicated philosophical matters. The works of the Arab thinkers had an enormous influence on European mediaeval philosophy; they preserved the philosophical heritage of antiquity and made it available to the scholars of the European Middle Ages. One can say, without exaggeration, that Islamic philosophy was involved, in a certain sense, in the preparation of the profound cultural shifts that took place in philosophy during the Renaissance.

The achievements of the philosophical thought of the Orient thus played and continue to play a substantial and essential role in the development of world culture.

017 *The Philosophy of the Middle Ages*

The decline of antique society caused by its inner contradictions led to the rise of feudalism. A new feudal mediaeval culture took shape. The Christian religion and Church had a dominant place in it. Kings, dukes, and barons on earth corresponded to God, the archangels, and angels in heaven. Christianity, having become the dominant religion in Europe, most fully expressed the interests of the dominant class and substantiated its ideology. In order to justify and confirm the truth of Christianity, the mediaeval theologians were forced to turn to the philosophical legacy of the past. For that they employed the idealist views of Plato and Aristotle's doctrine of logical proof, which were adapted to the needs of Christianity throughout the Middle Ages (roughly from the fifth to the fourteenth centuries). Phi-

losophy then became handmaiden of theology. Its centre of attention was God and man's relation to Him. Philosophy began to be studied in the university schools; its teachers came to be called Schoolmen or scholastics. In developing complicated proofs of the being of God, the latter very soon lost all connection with life and the practical needs of social development. A philosophy divorced from life and extremely involved and complicated has been called scholastic since then.

The materialist tradition did not disappear, however, in the Middle Ages, though it was extremely weak. The philosophers who maintained the materialist tradition, while persecuted by the Church and scholastics, tried to show that human thought, especially language, was a means of describing and knowing really existing things. At the end of the mediaeval period scholasticism finally became obsolete and a brake on the nascent science of Modern Times, preventing development of a new culture and a new society.

018 *The Philosophy and Culture of the Renaissance*

In the fourteenth and fifteenth centuries, at first in Italy, and later in other European countries, bourgeois social relations began to take shape. A new social class, the bourgeoisie, was longing for power. A new bourgeois culture that came to be called the culture of the Renaissance began to take shape in struggle against the old ideology and religion that hallowed feudalism. The ideology of the rising capitalist class called forth a rebirth of antique culture, philosophy, and science. The artists, sculptors, philosophers, poets, and scholars of this period, in essence demolished scholasticism and the stagnant culture of the Middle Ages connected with it, which had lost its vitality and viability.

Christianity taught that God was the creator of the world, and man was passive and submissive to Him, even though endowed with a soul. All the rest of the world was only a stage on which man lived according to a scenario written by God. The philosophy of the Renaissance, on the contrary, considered man the creator of his fate. It brought to the fore the clear, courageous figure of man the creator, the energetic figure of his time. This notion of man found expression in the paint-

ing, sculpture, and literature of the Renaissance, especially in the works of Dante, Petrarch, Leonardo da Vinci, Michelangelo, and Raphael. The thinkers of the Renaissance, when speaking of the active human personality, placed man at the centre of the Universe and sincerely thought they were defending the common interests of the people of all ages. In actual fact they expressed the interests of the rising, nascent bourgeoisie and lauded its human ideal, a strong, energetic personality, an individualist following his goals in spite of all the obstacles put in his way by feudal caste relations, mediaeval prejudices, state, and law. In this is clearly to be seen the profound link of philosophy with the world outlook of that historical age.

019 *The Philosophy of Bourgeois Society*

In the seventeenth and eighteenth centuries bourgeois revolutions took place in the most developed countries of Europe. Their result was seizure of power by the bourgeoisie, which had a dominant place in the new, capitalist society.

Philosophical doctrines that expressed the interests and needs of the new ruling class played a dual role. During the period of the preparation of the bourgeois revolutions they undermined the ideological and world-outlook foundations of the old feudal system, and justified and substantiated the bourgeoisie's claims to leadership of society. Their progressive and critical role was displayed in that. After the coming to power of the bourgeoisie, it became the task of its outlook and ideology to prove the inevitability of the existing world order, and the eternal character of the dominance of capital. It should not be thought, however, that the new philosophy's functions consisted only in that. The growth of capitalist production was accompanied with a rapid growth of scientific knowledge. Successful development of research and scientific investigations was only possible through a new methodology of cognition, so that the greatest bourgeois philosophers of the seventeenth to nineteenth centuries paid much attention to developing a general methodology and theory of knowledge, and to epistemological problems, which began to occupy the foreground of almost all philosophical doc-

trines, along with problems of social development.

The English materialist philosophers developed an empirical (Gr. *empeirikos* a trial) methodology of knowledge that demonstrated how scientific laws and theories arose on the basis of experience and experiment. The French materialists of the eighteenth century established close co-operation with the scientists of their time; in actively opposing religion and the Church, they, especially Denis Diderot (1713—1784), advanced a doctrine of the origin of consciousness and thought from inanimate non-organic nature. This doctrine subsequently came to be called the theory of reflection and was developed on a fundamentally new basis by Lenin.

In the seventeenth and eighteenth centuries the natural sciences developed tempestuously, especially physics, astronomy, and mechanics. The materialist philosophy associated with them itself became mechanistic. It reduced all matter to physical substance, and complex forms of motion to a simple mechanical displacement in space. Looking back from our day the mechanistic and metaphysical materialism of the seventeenth and eighteenth centuries seems limited and over-simple, but for its time it was a progressive, historically necessary phenomenon and played a positive role in the fight against idealism, especially subjective idealism.

Pre-Marxian philosophy got its highest development in German classical philosophy, mainly by Kant (1724—1804) and Hegel (1770—1831). The spokesmen of this trend were idealists and rationalists. They devoted urgent attention to study of the laws of thought, and reason, and achieved significant results in that field. Kant and Hegel, in particular, managed to raise and formulate several important propositions of the dialectical method of cognition. Their dialectic was much superior to the naive dialectic of antiquity. They profoundly understood the complex, inner contradictory character of progressive development. But, being idealists, they only treated the dialectic of thinking and the dialectic of reason, and did not recognise that development is also inherent in the objective material world. Their dialectical methods therefore remained idealist and could not find application in the natural sciences of the time. The limitedness of idealist dialectics also

showed itself in that, in satisfying certain class interests, especially in the Hegelian exposition, it crowned the development of society with the development of bourgeois statehood and so deprived mankind of a further prospect.

The shortcomings and drawbacks of German classical philosophy and the idealist dialectic formulated in its context became particularly noticeable in the 1830s and 1840s. Because of that, Ludwig Feuerbach (1804—1872), a former pupil of Hegel's, broke with the idealist views of his forerunners and passed to a position of materialism. But his materialism was metaphysical, i. e., anti-dialectical, and was not extended to public affairs and society. In his understanding of society and human history Feuerbach remained an idealist. Although he rose to an understanding of the injustice of capitalist society, he saw the way out in man's universal love for man, and not in a practical reconstruction of this society and in revolutionary struggle. The reason for that was the anthropologism (Gr. *anthropos* man) of his philosophy. He concentrated his attention on an individual abstract man whose views, wishes, intentions, and aims were governed by his biological nature and were the same for all times and nations. That prevented him from understanding man's social essence and from recognising that man could not be emancipated and social justice established by a transformation of his nature, but rather through radical social transformations.

020 *The Philosophical, Social, and Scientific Prerequisites of Marxian Philosophy*

Marxian philosophy arose in the first half of the nineteenth century. Its origin and development were prepared and conditioned by the general course of society's life. *The ensemble of the conditions leading to the development of a fundamentally new philosophic doctrine is customarily called its prerequisites.*

The most important social prerequisite for the rise of Marxian philosophy was the development of an industrial working class, which went hand in hand with growth of its revolutionary character. In the 1830s and 1840s the revolutionary actions of the working class

in the more developed capitalist countries of Europe had shown that this class was confidently moving to the foreground of world history. In the conditions of rising industrial capitalism the working class was a united, organised social force. That was connected with the very character of industrial production, which united and organised great masses of workers. Unlike all other exploited classes, the *working class* has a special *historical mission*. The slaves, mediaeval serfs, and the guild craftsmen never set themselves the aim, when fighting against oppression and exploitation, of abolishing exploitation in general and creating a classless society. There were not the objective conditions for such demands also. The working class, on the contrary, must, so as to emancipate itself, abolish the exploitation of man by man and emancipate all working people and all mankind from the power of the minority, from social and economic inequality and political oppression. And for that it must *radically transform all social relations*. Previous efforts to change the world ended in defeat because they started from a striving to alter people's social consciousness first, and their ideas and morals. The revolutionary movement of the proletariat objectively advanced the task first of creating an ideology and world outlook that aimed at an urgent transformation of social being and of socio-economic relations. The historical mission of the working class therefore urgently demanded development of a materialist conception of history and a new understanding of the aim of philosophy as the methodology (004) of the revolutionary transformation of society. In other words, it led to a need to unite the materialist world outlook with a revolutionary ideology and the dialectical method of cognition and activity.

The second prerequisite was connected with the peculiarities of the development of science of the middle of the nineteenth century. Seventeenth and eighteenth century science had been permeated by a spirit of mechanism (018). In the nineteenth century great discoveries had been made that led to understanding that all phenomena both in nature and in society are interconnected and in continuous development, in the course of which something new constantly arises and the old dies out. The discoveries that living organisms

consist of microscopic cells revealed the unity of man in his structure with all animate nature, in spite of the Bible and mediaeval theology. The discovery and experimental proof of the law of conservation of energy showed that the motion of matter is eternal and indestructible: some forms of motion and energy can pass into others but cannot disappear. On the one hand that confirmed the material unity of the world, and on the other the diversity of its forms of existence and motion. Darwin's discovery of the theory of biological evolution revealed that the source of development of living nature is intraspecific and interspecific struggle. That evoked the idea that any development occurred as the result of the resolution of internal contradictions rather than by virtue of an external impulse. The old metaphysical and mechanistic materialism no longer corresponded to the new scientific data. Science really required a uniting of materialism with the dialectical method of cognition. Mendeleev's discovery of the periodic law of chemical elements proved that general laws of dialectical development operated in the inorganic world, and so gave this requirement a general scientific character.

The third prerequisite is usually called philosophical. The point is that the requisite conditions for the rise of the philosophy of dialectical materialism had been prepared in the development itself of the preceding philosophic doctrines.

The dialectical method of knowledge had been developed in the works of Hegel and his predecessors. The contribution of Hegel's dialectic to the ideological preparation of the philosophy of Marxism was considerable. It suffered, however, from three major shortcomings: (1) it was created on the basis of idealism, i. e., it concentrated solely on study of the development of forms of thinking; (2) matter was treated as passive so that development in nature was denied, which contradicted the discoveries of the new science; (3) it claimed that social development occurred only in the past and that it had been completed in the German bourgeois state in which bourgeois society attained perfection, and that it was consequently impossible to build a more just, classless society.

Feuerbach, as I have already mentioned, rejected

Hegelian idealism, but he also discarded dialectics along with it. His own materialism was therefore metaphysical, it underestimated the role of class struggle and social contradictions as a source of development, and was not extended to understanding how society develops.

Yet, in spite of their historical inadequacy Hegel's dialectic and Feuerbach's materialism were the greatest achievements of pre-Marxian philosophy, and were employed by Marx and Engels to create a new revolutionary philosophy. Hegel's idealist dialectic and Feuerbach's metaphysical materialism could not, of course, be taken over ready-made, combined primitively and mechanically, and used to cope with the new social tasks of a revolutionary transformation of society. Hegel's dialectic, in Marx's apt expression, stood on its head; it was necessary to turn it back onto its feet. Feuerbach's materialism was inconsistent and limited, and also needed radical transformation. By bringing out the rational kernel and progressive elements in the works of these thinkers, generalising the advances of science, and thoroughly analysing the lessons of the revolutionary labour movement, Marx and Engels were able to create a fundamentally new ideology and new world outlook that were substantiated by their philosophy, dialectical materialism.

021 *The Rise of Dialectical Materialism: a Radical Turn in the Development of Philosophy*

The rise of dialectical materialism was a radical turning-point in the history of philosophy. Its essence was the following.

(1) For the first time a conscious philosophical materialism was combined with scientifically developed dialectics. The new doctrine, in giving a materialist answer to the basic question of philosophy, called for study and examination of all events, objects, and processes of nature, society, and thought in their development, motion, interconnection, and mutual determination. It stressed the need for deep study of the laws of the origin of everything new, of the sources of development, and of the ways of resolving the inner contradictions in the phenomena studied.

(2) For the first time materialism was extended to

understanding of the life of society and history. The materialist conception of history is a genuine revolutionary result of the rise and development of Marxian philosophy.

(3) While recognising the world as knowable, dialectical materialism showed for the first time that the basis, criterion, and source of correct scientific knowledge was primarily people's social-production activity, i. e., practice.

(4) Unlike other philosophic doctrines, schools, and trends, dialectical materialism is not limited to explaining the world, but sees its main task in developing the principles and laws of its revolutionary transformation on a basis of social justice, equality, and freedom for all people.

(5) Dialectical materialism is a component of Marxism-Leninism, the basis of the proletarian ideology and scientific world outlook, it openly proclaims and defends the principle of partisanship in philosophy (014), recognising the irreconcilability of idealism and materialism.

(6) Dialectical materialism bases its conclusions and proofs on the achievements of advanced modern science.

(7) Being scientific and revolutionary in character, dialectical materialism develops the theoretical and methodological principles of scientific socialism, serves as an important weapon of ideological struggle, and of the development of the spiritual culture of socialist society, and in every way promotes the building of socialism.

At the same time dialectical materialism is not a narrow, sectarian doctrine. Lenin stressed that Marxism did not arise on a side-road of world civilisation. Marxist philosophy is a direct continuation of the most progressive doctrines of the past. By critically evaluating the achievements of preceding philosophic thought, dialectical materialism absorbed everything valuable and everything that was necessary and useful for coping with the very complex tasks of modern times; in that sense it preserves and develops the best achievements and traditions of the culture of the past, striving to link them with the advanced socialist culture of our age.

022 *A New Stage in the Development of Marxist Philosophy*

At the turn of the century, when capitalism had entered its last stage, that of imperialism, which was accompanied with acute social conflicts, collapse of the single system of capitalism, the triumph of socialist revolutions, and the rise of socialist states, a new stage in the development of dialectical materialism set in. It was prepared by such new revolutionary breakthroughs in natural science as the discovery of natural radioactivity, the divisibility of the atom, creation of the theory of relativity and quantum mechanics, and so on. This stage is closely linked with the philosophical and revolutionary activity of V. I. Lenin and his colleagues and successors, and is therefore called Lenin's stage in the Soviet Union.

Struggle for the cause of the working class, and for a socialist transformation of society with the aim of building socialism and communism, had a central place in the life and work of Lenin. He was the founder of the Russian Communist Party, a revolutionary party of a new type, and of the first socialist state in the world. He stood at the sources of a new socialist society, and was the greatest political figure and social thinker of our time. The most important feature of his activity was a creative approach to solution of the problems facing his Party and the state, which was primarily expressed in an ability to observe and notice everything new and to support it in struggle against the forces of reaction, in a constant striving to link theory with the tasks of practical, economic, and political affairs, and in a deep understanding of the radical interests of the people. These features were also fully displayed in his work to elaborate and further develop the philosophy of Marxism.

Lenin waged an irreconcilable struggle against subjective idealism and agnosticism. These trends tried to exploit the revolution in science that took place at the turn of the century so as to consolidate their positions, interpreting the advances of physics incorrectly and treating them in a one-sided way. Lenin clearly formulated the principle of partisanship (014) and showed

that only an alliance of materialist philosophers and natural scientists, and scholars of other disciplines, on the one hand, could provide substantiation and development of the theory of reflection (118) and dialectics, and, on the other hand, arm science with a profoundly materialist world outlook. He doggedly stressed that in the complex, rapidly changing conditions of the contemporary world the philosophical science of thought and proofs, and of the method of cognition, i. e., logic, must be combined with dialectics and a materialist theory of knowledge, i. e., become a dialectical logic.

Lenin made an exceptionally important contribution to the doctrine of the materialist conception of society and history. He indicated the law-governed character of the victory of the socialist revolution in Russia, substantiated the need for the dictatorship of the proletariat in the transition period from capitalism to socialism, and gave a philosophical substantiation of new forms of socialist statehood.

In his fight against reactionary populism, and revisionists and reformers, Lenin defended and developed the theory of socio-economic formations, and of the law-governed process of the consecutive succession of certain stages of society's development by others, and raised it to a new level.

While fighting opportunism in the labour movement Lenin constantly linked elaboration of philosophical problems with the tasks of revolutionary practice. In that connection he repeatedly showed that the divorce of philosophical theory from practice inevitably led to scholasticism, dogmatism, and distortion of Marxism. In the first years of building socialism in Russia, Lenin, generalising the rich experience of the masses, and of the international revolutionary and labour movement, worked out a dialectical doctrine of the diversity of the forms of the socialist revolution on the basis of the general objective patterns of social development. He constantly stressed the importance of developing the general theoretical and philosophical principles of the moulding of socialist and communist consciousness, of communist education of the working people, and the moulding of a new man. Its deep interest in the problem of man, and his all-round development, and in the

creation of the appropriate material and spiritual conditions, make Leninism the pinnacle of humanism.

The Leninist stage in the development of dialectical materialism continues. The Leninism of our day is the highest achievement of Marxism. The profound originality and historical significance of Leninism is that it is linked in a very close way with the solution of concrete practical tasks. These are primarily the further development of socialist society, work for peace and prevention of thermonuclear disaster, and for development and deepening of the world revolutionary process. The Leninist stage of the development of Marxian philosophy is characterised by the development of methodological principles for coping with practical problems, substantiation of the need for a new thinking to deal with the international problems and social tasks advanced by today's stage in mankind's development. Marxists in other countries have a notable place in the further development of Marxist social philosophy and the materialist conception of history, and in perfecting the dialectical method. In the 1920s and 1930s a situation built up in Western Europe that demanded creative application of dialectics for a deeper understanding of the outlook for the working-class movement, and substantiation of the strategy and tactics of Communist and Workers' parties. Antonio Gramsci, whose works were highly appreciated by Lenin and who attentively studied the experience of the socialist revolution in Russia, made a big contribution to the solution of these tasks. His conception of the working class's positional struggle, and of the necessity for a flexible, dialectical reaction to the new situation in the developed capitalist countries of Western Europe, has retained its significance to our day and continues to have a marked influence on the development of Marxist theory in today's period.

The development of Soviet society has entered a new stage. The Soviet Union, having restored its economy after the immense losses inflicted by the Second World War, began a rapid economic and social movement, developing its productive forces and furthering its science and culture. But, since the middle of the 1970s, the rates of economic, social, and cultural development

slowed markedly, stagnation set in, and negative trends in the life of society emerged. Many democratic institutions slackened their work and activity, and the creative activity of the working people fell off.

History tells us that a lowering of the rates of social development, a slowing down of progress, and furthermore stagnation in the realm of material production and intellectual life sooner or later lead to inevitable social disasters, which the antique slave-owning, mediaeval feudal, and capitalist societies did not succeed in avoiding.

The distinguishing feature of socialism as a new social system, however, is that there are no social forces in it that have an interest, because of their objective position, and in order to maintain their political power, in slowing down scientific, technical, and social progress, in weakening democracy, and lowering the level of openness, publicity and information for society. Matters are rather the opposite. Soviet society has an interest in rapid, all-round development; for that it is necessary to overcome the stagnant tendencies, to carry through a radical reorganisation and reconstruction in the economic and public affairs, to inject new force and energy into socialist democracy, subject our own shortcomings, mistakes, and blunders to sharp criticism, and to overcome them and find the most direct, effective road for eliminating existing difficulties and accelerating socio-economic development.

It is necessary, in order to cope with these tasks, to take a new look at the role of man and the human factor in contemporary social and public affairs and in the development of technology and state administration. It is necessary to understand more profoundly how to stimulate the activity of human consciousness, how conservatism can be overcome, what is needed to make socialist society, unlike all other social systems, able to guarantee attainment of social justice in conditions of rapid socio-economic progress, to ensure more democracy, genuine freedom and worthy conditions of life for every individual.

The tackling of these tasks calls for a special, profound reorganisation, revolutionary in its substance, and that in turn is impossible without profound philosophical

awareness of the attitude of contemporary man to the contemporary, rapidly changing world, without working out a new methodology of far-reaching revolutionary changes, and without comprehension of the dependence of value attitudes and moral principles on the objective conditions and historical patterns of society's development. That is why interest in philosophy is growing today. Philosophy has to maintain closer links with reality, penetrate more deeply into society's life, into individual and social being and consciousness. Philosophy's remoteness from life is impermissible. That is why the political leaders of Soviet society, when discussing very complex social and political problems, taking responsible decisions, and developing a new strategy for socio-economic acceleration, for peace and disarmament, are turning again and again to the principles of the Marxist-Leninist world outlook, to the ideas and principles of social and political philosophy. They are stressing the need to develop it creatively, to bring it into close contact with the contemporary world and with the latter's most difficult and acute problems.

Chapter I
MATTER AND CONSCIOUSNESS

I shall begin my exposition of the principles of Marxist-Leninist philosophy with a discussion of the first aspect of the basic question of philosophy (007,008). For that it is necessary to go into detail about the most important philosophical concepts viz., "matter" and "consciousness", "motion", "time", "space", etc.

Matter and the Picture of the World

101 *Notion and Category*

When people discuss some event in their personal lives or public affairs, and think about some problem, they express their intentions, wishes, and thoughts by means of concepts. In ordinary life we use the concepts "baby", "flat", "shop", "shoes", "television", and so on. In industry we use the concepts "machine-tool", "labour productivity", "product", and so on. There are also special scientific concepts: "electron", "chemical reaction", etc.

Each concept is expressed by a separate word or word combination that generalises objects and processes of one kind or another in the external world. These objects and processes constitute the meaning of the concepts; the attributes that describe their most important properties, and by which we distinguish them from other phenomena, form the essence of the concepts. The meaning of the concept "human being" is the whole community of living people; its essence is conveyed by the expressions "a rational social being capable of making tools and various objects by means of other tools".

Philosophy also has its own special concepts, which are called *philosophical categories* or simply *categories.* The main difference between categories and other scientific concepts, and the concepts of everyday life, is that they have an extremely broad meaning. Philosophical categories relate to all the phenomena of the world around us. Since *categories are very broad, all-embracing, universal concepts that express the general, universal conditions of the existence, motion, and development of phenomena in nature, society, and thinking,* all the special sciences that study special fields and separate parts of nature, society, or mental activity must rely on them when developing their own concepts. That also explains why philosophy can perform the role of the general methodology of cognition and activity (004).

When a concept is not defined precisely, and is too narrow or too broad, and when its essence is diffuse or unclear, its meaning cannot be established. Such concepts cannot be used in scientific, practical, and social activity because that leads to mistakes and muddle. For a deep, true understanding of philosophy itself, and above all of dialectical materialism, it is necessary first to define its categories and make them precise. The most important and broadest ones are "matter" and "consciousness", by which the basic question of philosophy is formulated and answered.

102 *What Is Matter?*

What are the philosophical essense and meaning of the concept or category "matter"?

We are surrounded by a host of very different things and processes: animals and plants, various machines and instruments, chemical compounds, works of art, phenomena of nature, and so on. We know that all objects consist of molecules and atoms, and modern astronomy reports that the visible Universe numbers billions of stars, stellar nebulae and galactic systems. At first glance that may seem a heterogeneous collection of unconnected objects and phenomena. The world therefore often seems a chaos to people, a tangle of chance things and processes and in it man seems a mere grain of sand. But, among all the objects and phenomena, for all

their difference, there is a common distinguishing feature, viz., that *they exist outside man's consciousness and independent of him.* In other words the world of things and processes around us is an objective reality.

It is thus necessary to differentiate the objective reality existing outside man and independent of him, and outside his consciousness, and the corresponding philosophical category, i. e., special concept, that reflects and generalises reality. They must not be confused, just as a real motor-car and the concept "motor-car" must not. One can drive a real car, but one cannot drive the concept of one that exists in a person's head.

The outstanding achievement of dialectical materialism was to develop a truly scientific definition of the philosophical category "matter". Here is how Lenin defined it:

> Matter is a philosophical category denoting the objective reality which is given to man by his sensations, and which is copied, photographed and reflected by our sensations, while existing independently of them.[1]

It follows from that definition that (1) the meaning of the category "matter" is formed by the whole world surrounding man, by everything that is not consciousness and is outside it; (2) the sense of this category is that the sole, most important attribute of any material object, property, relation, or process is its objectivity and independence from consciousness; (3) the category "matter" is applied to phenomena both of nature and of society, to social processes and relations taking place and existing outside man's consciousness and independent of it; (4) that all material processes and phenomena are cognised by man or are reflected in his consciousness through sensations and sense perceptions. This involves not only the objects and phenomena that can be directly perceived by one's hearing, vision, touch, or smell, but also those that require very complicated modern instruments (telescopes, microscopes, radars, etc.), which strengthen the human organs of perception.

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[1] V. I. Lenin. *Collected Works*, Vol. 14, Progress Publishers, Moscow, 1966, p. 130.

Subjective idealism in general denies the existence of a material world (009). As for objective idealism, while it recognises the existence of matter outside and independent of human consciousness (009), it claims that matter is secondary and derivative in regard to the absolute idea, the world spirit, or the divine plan that created the material world. The fundamental difference between the dialectical materialist conception of matter and the idealist one is that the former recognises matter as existing outside and independent of human consciousness, as eternal, uncreated, indestructible, and infinite in time and space. That is why consciousness, which is not eternal, depends on matter, while matter does not depend on consciousness. In that sense consciousness is secondary and derivative.

In order to understand what exceptionally important significance Lenin's definition of matter has, and what an outstanding achievement it was in the history of philosophy, we must compare it with the notions of matter and the material world that existed before the origin of dialectical materialism.

103 *How Views of Matter Developed*

In deep antiquity people were already thinking about what the objects around them consisted of and whether they had a single principle or basis. The earliest philosophers of antiquity (015) based their guesses on everyday experience and observations. Thales of Miletus (c. 625—c. 547 B. C.), noticing that animals and peoples needed water, that the sea washed the shores of the land, and that the wine press squeezed moisture from grapes, proclaimed water the principle of everything. His pupil Anaximenes (c. 588—c. 525 B. C.) considered the principle to be air; and the famous Heraclitus of Ephesus (c. 520—c. 460 B. C.) saw the principle in fire since, in his view, the sun was celestial fire. Subsequently earth was added and it was considered that everything consisted of four elements. That was matter. But in the view of Aristotle, it was passive and formless, and needed a special force to give it form, just as a sculptor made a statue from a formless stone.

Leucippus (c. 500—c. 440 B. C.), Democritus, and their successor Epicurus (341-270 B. C.) considered the

invisible atoms to be the basis of the world. But what did people learn about their existence from? Philosophical knowledge showed how. In order to confirm his guess about atoms, Democritus argued as follows. We usually do not see the dust in the air of a room. But if we darken the room with curtains, leaving only a narrow slit, then we can see myriads of particles moving without any external impulse in the sunshine penetrating the room. Atoms, too, cannot be seen, but they can be imagined by "mental vision" or reason; they exist forever, and continuous motion is inherent in them. But these arguments of the atomists of antiquity remained only a guess right down to our century.

Mediaeval philosophy (016) considered the material world the product of divine creation. Everything material was recognised as base, vile, and sinful, and therefore unworthy of attention.

Only with the development of science in the seventeenth and eighteenth centuries did the question of the material nature of the world once more become the centre of philosophy's attention. Since the leading scientific discipline of that time was mechanics, a mechanistic view of matter also predominated. The French philosopher Descartes (1596-1650), the English physicist Newton (1643-1727), and the Russian scientist Mikhail Lomonosov (1711-1765), considered moving particles, corpuscles like tiny hard balls, the basis of matter. Since mechanics studied the displacement and interaction in space of various substances moving in straight lines, the concept "matter" was completely identified with the concept "substance". Insofar as substance had a constant mass and geometrical shape, moved along definite lines, and was limited in space, these same properties were also ascribed to all matter. Such was the view of matter of the metaphysical and mechanistic materialism of the seventeenth and eighteenth centuries. At the end of the nineteenth century and in the early twentieth there was a revolution in science, especially in physics, which caused a radical change in the understanding of matter. Quite new phenomena, previously unknown, physical fields, were discovered. At the present time electromagnetic fields, gravitational fields, nuclear fields, etc., are known. Many seemingly isolated phenomena

have become explicable by them. It proved, for example, that radio waves and visible light are fluxes of electromagnetic fields possessing different energies. Particles like neutrons that do not have an electric charge, and protons that do, are held in a unity within atomic nuclei by powerful fields operating at microscopically short distances. It is their energy that is released in atomic explosions or the controlled nuclear processes employed for peaceful purposes. The attraction of the planets and sun, and other terrestrial and celestial bodies is caused by gravitational fields.

Physical fields do not have rest mass like the particles of matter (substance); they do not have a geometrical shape, or finite dimensions, and do not move along strictly defined trajectories. They therefore do not coincide with the old mechanistic concept of matter. After it had been shown, in the twentieth century, that elementary particles could be converted into fields in certain conditions, many idealist philosophers and some physicists began to claim that matter disappeared, was converted into energy which, in their view, was immaterial since it was insubstantial. Lenin had already shown, at the beginning of the century, that the point was, in fact, not that of matter disappearing but that the old metaphysical concept of matter had proved too narrow. It was closely linked with historically limited notions of the physical structure of the world. Insofar as the concept "matter" was equated with the concept "substance", that prevented realisation that physical fields are a special form of matter. For, in spite of their amazing features, they (like atoms and elementary particles) exist outside man's consciousness and independent of it. It is that which is the sole, and at the same time decisive attribute making it possible to answer what is material and what is immaterial, i. e., ideal. A telegraph pole has mass, and is impenetrable by light, and so on. Its shadow does not have mass and the concept of impenetrability is inapplicable to it. Nevertheless the telegraph pole and its shadow are material, since they objectively exist.

The metaphysical and mechanistic concepts of matter were also limited and untrue because it was impossible to employ them outside mechanics and physics. Human

society and social relations cannot be characterised by such properties as mass, trajectory, geometrical shape, impenetrability, etc. The former concepts of matter and the old materialism therefore could not be extended to society and social processes and consequently could not be used to create a materialist conception of history. But it is society and its life that primarily interest man, especially in the age of great social transformations when the question arises: what it is necessary to begin with — material social relations or the phenomena of spiritual life. That is why Lenin's definition of matter, applicable both to phenomena of nature and to public affairs, has acquired social and political significance in our day as well as scientific and philosophical meaning.

104 *The Contemporary Scientific Picture of the World*

As we see, the philosophical doctrine of matter is closely linked with the level of knowledge of the world reached by science in a given period. Scientific notions may alter with changes in this level because of new discoveries. When, at the end of the nineteenth century and in the early twentieth, subjective idealists began, under the impact of the revolutionary discoveries in physics (the discovery of natural radioactivity, *X*-rays, the divisibility of the atom, etc.), to speak of the disappearance of matter, Lenin noted in replying to them that matter did not disappear but changed the limits within which we had previously known it.

Each historical period develops its own graphic-figurative notions of the structure of the material world in accordance with the level of development of science, viz., the scientific notions of the structure of matter from which the more general *picture of the world* is built up. The "picture of the world" is an important philosophical category. A world view corresponding to the historical period in question is substantiated by it. The idealist picture of the world, the central figure of which is God who created the world, leads to an idealist world view. The materialist picture, based on the achievements of science, and above all of physics, represents matter as eternal, uncreated, and

indestructible, and leads to a materialist world view. What, then, is the contemporary picture of the world?

Modern science divides all phenomena into two levels, as it were: the micro-level to which atoms and so-called elementary particles belong, and the macro-level to which molecules and the bigger bodies composed of them belong. The physics of our day no longer looks for the smallest bricklets of the universe, not further decomposable. It had already been discovered at the beginning of the century that the atom consists of a nucleus and very small particles, electrons. It has since been discovered that there are many other elementary particles (neutrons, protons, neutrinos, hyperons, mesons, etc.) in addition to electrons. Some of them have an electrical charge and some do not. The particles differ from one another in size, mass, the presence or absence of an electromagnetic moment, and so on. Some are stable and exist for billions of years, others "live" for a billionth of a second and are constantly arising and being broken down. In recent years a hypothesis has been put forward and meticulously checked that particles consist of quarks that have a fractional charge. It has now received quite good experimental confirmation. The picture of the structure of matter is thus infinitely complicated.

The combining of atoms by means of various physical links and fields leads to the creation of relatively stable molecules. Organic molecules, especially the gigantic polymer molecules, contain hundreds and even thousands of atoms of different chemical elements. The molecule of deoxyribonucleic acid (DNA), which controls the heredity of living organisms is coiled in a double helix and occupies a microscopic volume of thousandths of a cubic millimetre. But when uncoiled and stretched out in special experiments it attains a length of several metres. The bodies of animate and inanimate nature around us, including plants, animals, and man, consist of various molecules. Study of the Moon, Venus, Mars, and other planets by means of spacecraft has fully confirmed that they all consist of bodies made up of molecules formed by the chemical elements embraced by the famous Mendeleev table. Spectrum analysis of other star worlds and nebulae indicates complete

physico-chemical unity of the structure of all the Universe known to us.

Modern astronomy has extended our knowledge of the external world. The diameter of the visible Universe is billions of light-years. To understand how great a light-year is, remember that light travels 300,000 kilometres a second. There is an immense number of stars and galaxies in the Universe, and each galaxy consists of billions of stars. Modern telescopes have helped establish that the stars and galaxies are continually receding from one another. As astronomic equipment and instruments develop we get to know more and more remote corners of the Universe, and this makes it possible to consider that it is practically infinite.

The Universe is constantly developing. There are no grounds for thinking, as some idealists do, that sooner or later all the energy of the stars will be expended and "thermal death" of the Universe will set in. This idea of "thermal death" is based on the second law of thermodynamics, according to which heat passes from a warmer body to a cooler one, so that equilibrium and immobility of the whole system sets in. In fact this law only holds for limited, isolated, and closed systems and is inapplicable to the whole Universe.

The contemporary astrophysical picture of the world is thus very complex and, of course, will change, develop, and become more complicated as new astronomical and physical discoveries are made, but leaves no doubt about the materiality of the world. It must be clearly understood that the scientific ideas of the structure of the world and the general picture of it built on them do not coincide with the philosophical concept of matter. The category "matter" expresses the general properties of objective reality, i. e., its existence outside and independent of consciousness, and is not altered with each new discovery, while new lines and details, and new features emerge in the picture of the world with each such discovery. The categories "picture of the world" and "matter" are closely linked and mutually supplement each other, but they must not be confused, since they play a dissimilar role in the development of a world outlook.

105 *The Material Unity of the World*

By examining the development and change of the picture of the world, and basing ourselves on Lenin's definition of matter (102), we can formulate an important world-outlook and methodological conclusion: *unity is inherent in the world.* What does that mean? First of all that one can affirm, on the basis of contemporary scientific notions of the properties of the objects around us on Earth and beyond it, in outer space, that they all have a single physico-chemical structure. In other words, every material phenomenon and process consists of molecules, atoms, elementary particles, and other types of substance (matter) and also of very different physical fields. From that it follows that all material phenomena can be studied, described, and understood by man on the basis of science, experiment, and practice, without enlisting any idealist views, and without appealing to something mysterious and supernatural.

The Christian world outlook also asserts that the world is one, but it sees its unity in its having been created by God according to a single design incomprehensible to man. In fact, however, *the real unity of the world consists in its materiality*, from which it follows that the single objective world is an interconnected whole that develops according to its own laws. Ancient man considered the world unknowable and chaotic, mysterious and enigmatic, because he was weak in the face of the blind, elemental forces of nature. Modern man, armed with the latest scientific technology and instruments, no longer considers the world chaotic and enigmatic. He can know the material world as a single, interconnected whole, and can interact with it and transform it.

106 *System, Structure, Element*

When I say that the material world is one, I mean that all its parts, from inanimate objects to living creatures, from celestial bodies to human society are somehow connected. *Everything that is interconnected in a certain way and governed by corresponding laws is called a system.*

In the distant past, the thinkers of antiquity opposed

the concept "whole" or "system" to that of "chaos" or "disorder". These concepts are employed extremely widely both in ordinary life and in engineering and science. The piles of bricks and heaps of cement and building materials on a building site may have no order. The building erected from them, in which each brick is firmly joined with others, and each ceiling beam occupies a strictly determined place, is no longer chaos but a definite system. Every animal is a system, and its separate organs connected and interacting with one another and ensuring its life activity are subsystems or parts of the living organism. When these links are broken and the interaction ceases the organism dies. A big factory is a system, and its shops and departments and production sectors are subsystems, and the separate machine-tools and the workers are elements of the factory system. If the connections, relations and interactions between shops and sectors are disrupted, a stoppage occurs. All modern society is a gigantic, complex system, and the social classes and groups involved in various relations (e. g., relations of class struggle under capitalism or co-operation under socialism) are its subsystems.

There can be various relations, connections, and interactions between the parts and subsystems of a system. *Similar, uniform, stable relations, connections, and interactions are called a structure.* Since there can be a host of different connections and relations within one and the same system, especially a big, complicated one (for example, within a telephone system, a transport system, a social system, etc.), a number of structures can be distinguished in it. Such systems are called multistructural. In the organism of mammals, for example, a structure of digestive organs, a structure of the nervous system, a structure of the organs of locomotion, etc., can be distinguished.

The "lowest" cellule of each system, the "bricklet" that cannot be divided further, is an element. Each system has its elements. It is very important to understand that the phenomenon looked upon as an element, i. e., as something uncomposable, in one system, may prove, with another approach, to be itself a complex system with its own elements. A machine-tool, for example, can be considered an element of a factory

system, but it would be wrong to consider a separate detail or element of the machine-tool itself an element of the factory. Similarly, man is an element of the social system. When we regard man as a system, in turn, we can consider the separate organs or cells of the human body his elements. It would be a gross error, however, to regard them as elements of society.

The concepts "system", "structure", and "element" have become particularly common since the middle of our century, because science and engineering have come up against problems of constructing and controlling various systems of immense complexity. These systems sometimes include billions of elements and require very complicated, perfected methods to study and control them. These methods, it turns out, are not just applicable to engineering and technology. They have become widely applied to control production and space flights, to administer society scientifically, to study systems of communications, and so on. It has been discovered that the concepts "system", "structure", and "element" are very broad, practically universal. That enables us to include them among the most important social science concepts and philosophical categories.

The material world as a whole is a gigantic supercomplicated system that is in constant change, motion, and development governed by certain general objective laws. Philosophy studies the latter, since it is the sole science that treats man's relation to the world as a whole (007, 013). The other sciences examine and study separate subsystems of the world, for example, stellar nebulae, living nature, society, etc., and the laws that govern them. In order to elucidate the interconnection of the subsystems they study with each other, these sciences have to base themselves on philosophical knowledge of the world, and of matter and its laws. Understanding of what objective laws are, i. e., laws that govern the change, motion, and development of the material world as a whole, and of its separate subsystems, is thus a most important condition of scientific cognition of the world. People's cognitive activity cannot be organised without it. But to understand what a law is we have to examine the most important categories of dialectical materialism, viz., "necessity" and "chance".

107 *Necessity and Chance*

When a strong gust of wind scatters the seeds of dandelions, they fly in all directions, and it is impossible to say in advance where they will fall. In this case we say that the place is quite accidental. At the same time scattering of the seeds is a necessary condition for dandelions' existence. Without it this plant species would disappear from the face of the earth. One can cite a host of such examples. We can easily discover in the world around us *short-term, unstable, external, changeable, and rapidly disappearing connections and interactions that a phenomenon can exist and develop without.* We call them *chance.* In each system and each phenomenon, however, there are links, interactions, and relations, elements and subsystems, *without which it cannot exist and develop.* We call them *necessary.*

The concepts "necessity" and "chance" are most important categories of dialectical materialism. They characterise the objective properties of every material system. Since there is an endless host of different interacting objects in the world, it is wrong to speak of some one, sole necessity as many idealists and metaphysicians do. It is wrong and undialectical to separate "necessity" from "chance", and especially to counterpose them to one another. Chance is as objective as necessity, and like it exists outside man's consciousness. There is a deep internal connection between them; they can pass into one another in the course of the development and motion of matter, and change places as it were. What is chance in one respect and in one system may become necessity in another relation and another system, and vice versa. Necessity is thus always driving a path for itself and revealing itself through chance, while every chance event contains a certain moment of necessity.

The metaphysical method separated the two, and counterposed chance and necessary processes. The dialectical method maintains the need, in accordance with modern science, to investigate their connections. Only such an approach makes it possible to understand and cognise nature and society correctly.

It is therefore wrong to think that science is an enemy of chance. Only a scientist who attentively studies each

chance phenomenon can discover the profound stable necessary connections behind the accumulation of chance phenomena. In order to clarify this idea, let me adduce a dialogue between a scientist and his assistant, which demonstrates a truly scientific approach to chance phenomena.

Scientist (examining the medium in a transparent vessel, in which streptococci or staphylococci are being cultured). It seems to me that the vessel was badly sealed and that something has got into it.

Assistant. Sorry, chief. It was quite by accident. I'll correct the mistake.

S. I see there are light-coloured bubbles in the completely yellowish solution. The bacteria there are obviously dead.

A. Let me empty out this solution and make a fresh one. These droplets are a pure accident.

S. There are no "pure" accidents in the world, my friend. We must study these droplets under the microscope and find out what caused them (and puts drops under the microscope).

A. What do you see?

S. Spores of a saprophytic fungus got into the solution which secreted some substance lethal for streptococci.

A. What must we do?

S. Study this phenomenon as carefully as we can; if it turns out that this substance was necessarily secreted by the fungus, it may be that we have created a new medicine that can fight diseases caused by such microorganisms.

So it happened. Spores got into the solution with the microorganisms by chance, but the substances secreted by the fungus, deadly for the microorganisms were a necessary result of its live activity. That is how penicillin was discovered, the first of the many antibiotics that are now widely employed in medicine. The point for us here is that events that are chance in one respect contain necessity in another.

The dialectic of necessity and chance plays an enormous role in the development of society. From the angle of world history the socialist revolution is necessary because without it further development of society is

impossible. But its precise date, the day when it occurs is historical chance from this point of view because it depends on the intersection and interaction of many necessary conditions that cannot always be taken fully into account. In the specific conditions of Russian reality as it existed in October 1917 Lenin could affirm with every justification that the choice of the date of the armed insurrection that began the socialist revolution was not a matter of chance and was dictated by the definite conditions and concrete alignment of class forces at that moment of time. In his letter to members of the Central Committee of the Russian Social-Democratic Labour Party of 24 October 1917 he therefore pointed out that it was necessary to begin the insurrection precisely in the night of October 25, otherwise it would be too late.[1] The choice of this date, while chance from the angle of world history, was a necessity from the standpoint of the specific historical conditions of a certain time. A correct understanding of the interconnection of chance and necessity in social development is a very important condition of people's conscious activity and of scientific leadership of society.

Those who deny any role to chance in the development of nature and society are called fatalists. Those, on the contrary, who deny any necessity and claim that the world is a realm of chance and chaos, are called indeterminists. Indeterminism denies any stable, constant ordering and regulating connections and relations, and makes man powerless in the face of the events around him. Fatalism and indeterminism simplify and incorrectly reflect objective reality, selecting some aspects of it, separating them from and counterposing them to the others. Both are therefore incompatible at bottom with dialectical materialism and the dialectical method.

108 *Laws of the Objective World*

Having clarified what necessity and chance are, we can pass on to discussion of the category "law".

The word "law" is multisemantic. In jurisprudence it means the special norms and rules confirmed by the state,

[1] See V. I. Lenin. *Collected Works*, Vol. 26, Progress Publishers, Moscow, 1977, pp. 234-235.

and defining what can and cannot be done in a society, what punishments and penalties are applicable to those who break them. We also speak of laws of science and laws of the objective world. I shall go into laws of science when I come to consider the theory of knowledge (510), but here we must examine laws of the objective world.

Laws of the objective world are stable, necessary, internal connections and interactions between the different phenomena and processes of the material world. There are such connections both in nature and in society. Let us consider two examples.

When physicists were studying the properties of gases, they noticed that the volume of a gas altered in accordance with its temperature. By mounting experiments with very different gases in various conditions, they discovered that the higher the temperature the greater the volume of the gas and that when the gas was compressed, its temperature rose. They were able to express this dependence in a mathematical formula that is now widely employed in science and engineering. At first glance the temperature of the physical system (the gas) and its volume are in no way connected. But it proved possible to demonstrate experimentally that there is a profound internal dependence between them and a stable necessary connection. That is an objective law of this physical system.

Bourgeois historians understood back at the beginning of the nineteenth century that the development and history of society were closely linked with class struggle. But they tried to picture it as a "deplorable misunderstanding": it was sufficient for people to realise how "disadvantageous" the class struggle was for it to be stopped. Such views are common among bourgeois ideologists even today. Their supporters claim that scientific and technological advance and the new electronic technique are providing the conditions for a society of universal prosperity in which exploiters and exploited would remain but class struggle would disappear. But Marx and Engels showed that class struggle is an objective law of capitalist society and a necessary consequence of capitalist exploitation and so a necessary condition for society's further development. It will ne-

cessarily disappear, but only in socialist society, i. e., when another social system arises and abolishes exploitation of man by man. The law of class struggle, consequently, which operates in the capitalist system, will cease to operate only with the disappearance of that system. Other laws and interrelations between classes and social groups are characteristic of the other, socialist system.

We thus see that laws are objectively inherent in material systems themselves both in nature and in society.

Are there laws by which our consciousness and thinking are governed? Dialectical materialism answers in the affirmative. Thought is secondary; unlike matter it does not exist eternally but arose and developed according to certain laws; and it "works" according to its own special laws, which are studied by logic, dialectics, and the theory of knowledge (see Ch. V). What man thinks about, and what objects and phenomena he studies and discusses, depend to some extent on his choice, will, and desire, but the laws that govern his cognitive activity and thinking do not depend on his will. They are objective, and in general identical for all people. They are themselves the product of historical development. If it were otherwise people would simply be unable to understand each other, to interact, and to know the world, since each one would be guided by his own laws of thinking and knowing, and the results of his activity would not have any significance and sense for other people. But because the laws of nature, thought, and society are objective they have general common features. Philosophy studies the common features inherent in them. It follows therefore that when we want to orient ourselves in the external world we must first of all try to find what is necessary, stable, and constant i. e., what are the law-governed connections of the system concerned beneath the external, chance, and transient connections.[1] We can therefore rightly consider

[1] The concepts "law" and "regularity" are used in this book as equivalent, with the sole reservation that when we speak of regularities we usually are giving our attention to the existence of a number of laws that are interconnected, interacting, and that supplement one another.

that the category "law" reflects the stable, "tranquil" in phenomena. Knowledge and use of categories like "necessity" and "law" are the result of mankind's long historical evolution and development. As Lenin wrote:

> the concept of *law* is *one* of the stages of the cognition by man of *unity* and *connection*, of the reciprocal dependence and totality of the world process.[2]

Denial of the regular character of the material world leads at once to agnosticism and subjective idealism. It only remains for whoever denies the objective patterns and regularities of the world as the most important feature of all material systems to think one thing, that talk about objective laws is a product of our Ego; and it is not far from that to solipcism (009) and complete denial of any order in the world, and even of its very existence.

Does recognition of objective laws mean that man is unable to alter the external world and society in any way? Does it mean recognition of man's passivity? By no means. There is an unlimited variety of very different phenomena and processes in the world. They are all governed by various objective laws and regularities. People cannot alter or "abolish" these laws at will, but they can, undoubtedly, know them and understand the conditions they operate in, and change these conditions to some extent through known laws. And they are able, moreover, to counteract some laws, or rather their consequences, by relying on other laws. According to the universal law of gravity, for instance, heavier-than-air flying machines should fall to the ground, but by relying on the known laws of mechanics and aerodynamics people have not only learned to fly in aircraft but also to launch spacecraft. That did not happen because any laws were abolished: on the contrary it happened because people knew them and learned to act on this knowledge and employ known laws for their purposes. The same has happened with the laws of nature and the laws of public life. One must bear in mind, moreover, that the laws of social development only operate when the appropriate conditions exist, and manifest themselves

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[2] V. I. Lenin. *Collected Works*, Vol. 38, Progress Publishers, Moscow, 1981, pp. 150-151.

differently in different conditions. One of these conditions is the direction of people's socially significant activity. Since different tendencies always operate in public life, governed by different laws, the question of which of them will gain the ascendency in a given concrete historical situation depends on the balance of social forces, the awareness of the given law or regularity, and the ability to rely thereupon to alter the situation in one direction or another. It would therefore be mistaken to underestimate the subjective factor in the realisation of social laws, and to suppose that they will make their way quite automatically, independent of people's will and consciousness.

Knowledge of the laws of the objective world is the loftiest goal of science, philosophy, and Marxism-Leninism. Man's conscious creative activity to change the world can only be successful when it is based on knowledge of its objective laws. That is why the doctrine of the materiality of the world and of man's relation to it is inseparable from the doctrine of objective laws and from the law-governed character of the changes taking place in the world and of the various forms of motion and development.

Motion, Time and Space

109 *Matter and Motion*

When doing various things and observing the world around us, we notice that some objects are altered, change their position in space, change colour, taste, shape, chemical composition, etc., and that others are inert, remain unchanged, and retain their shape, colour and inner structure. The philosophers of antiquity (015) therefore had already expressed two opposite points of view. According to one, motion was an integral property of the world as a whole. "All is flux, nothing stays still", Heraclitus said. Therefore, "no one can go twice into the same stream". His follower Cratylus (early 4th century B. C.) took this proposition to the extreme, saying "it could not once be entered". The world was so mobile and changing, Cratylus considered, that man could not rely on anything firm and stable in his activity

and knowledge. Subjective idealists deduced from that, both in antiquity and today, that people's knowledge of the external world in unreliable and that the external world itself is only our illusion, since what is unstable and all the time changing and turning into something else cannot exist objectively.

The supporters of the other viewpoint, while agreeing that the external world and motion are an illusion, claimed that something objective did exist which did not depend on man, an immobile, invariant, eternal world. For idealists who were associated with Plato, the basis of this world was the eternal realm of unchanging ideas. For the Eleatics (after Elea, where they lived), the unchanging, immobile basis of the world was eternal, invariant being, equal to itself. Both points of view merged into one; they separated motion completely from rest, counterposed them, and deprived man of the possibility of saying whether, when coming up against mobile, changing things in his activity, he could rely on something firm and reliable, for example, objective laws of the material world. Counterposing and separation of motion and rest is a basic feature of the metaphysical method. Anyone who adheres to it must sooner or later conclude that matter itself does not exist. That was precisely the conclusion that the subjective idealists known as Machists (after Ernst Mach (1838-1916), the Austrian philosopher and physicist), came to at the end of the nineteenth century and beginning of this claiming that matter disappeared when converted into energy, and that energy was pure movement without any matter. Lenin criticised Machists sharply, and showed that energy, like substance, was material (102, 104) and existed objectively outside man's consciousness. There is no matter without motion and no motion without matter, he said. This conclusion has been fully confirmed by the development of modern physics. The reciprocal conversion of energy and substance has confirmed the proposition of the unity and interconnection of matter and motion. What is motion?

The category "motion" reflects any change taking place, above all, in the objective world. Unlike mechanistic materialism, which understood motion very narrowly as the simple shifting of bodies in space, dialectical materialism understands by motion not only change

of position but also chemical and physical changes, processes of growth and metabolism in living organisms, social processes like class struggle, economic changes, and all other forms of human activity. Our consciousness reflects these changes by means of concepts, the most important, most common and universal of which is the category "motion" applied to nature, society, and thought.

But if everything in the world is moving and changing, is it the same with the opposing views on motion and rest mentioned above? Or perhaps the thinkers are right who suggest that recognition of universal motion does not provide man with any basis on which he could rely in his own activity, and does not make it possible to know objective laws, since such laws are necessary, stable, constant connections in material systems?

110 *Dialogue on Motion and Rest*

These questions are discussed by a Dialectical Materialist (DM) and Metaphysical Materialist (MM).

MM. We both recognise that the world is material, objectively exists, and is not the fruit of our imagination.

DM. Quite right.

MM. But I insist that some objects and phenomena in the world move (for example, celestial bodies rotate, sea waves splash, clouds float in the sky); other things are at rest (the Egyptian pyramids have not moved for thousands of years, the chairs we are sitting in are immobile, and we ourselves have not changed since yesterday).

DM. You have completely divorced rest from motion, and that is your main mistake.

MM. Try and prove it.

DM. I claim that everything in the world is constantly changing and is in eternal, unceasing motion.

MM. (interrupting). But how can that be with things at rest?

DM. Rest also exists objectively but it has to be understood correctly; motion is absolute; it happens everywhere and all the time, while rest is relative.

MM. What does that mean?

DM. The relativity of rest means that one phenomenon is at rest relative to some other phenomenon, one

change is imperceptible in relation to another. Rest cannot be eternal. It exists, but only temporarily, relatively, as a moment, a state of an eternally moving world. That is the main sense of my statement.

MM. Explain by an example.

DM. Motion and rest only seem at first glance to be opposite and unconnected, but that isn't so. If two clouds are floating in the sky, driven by one gust of wind, and the distance between them does not change, they are at rest relative to one another, but are moving in relation to the ground. The Egyptian pyramids and our chairs are at rest in relation to the Earth but are rotating with it around its axis and around the sun. Constant changes are going on in a person's body; metabolism, assimilation of oxygen, and excretion of carbon dioxide; blood flows in the vessels, cells divide and new ones are formed. In atoms the electrons are constantly moving round the immobile nucleus; the atoms themselves are either moving freely in space or fluctuating around a mean position when they form part of a molecule or crystal. The sun, which is the immobile centre of our solar system and in that sense is at rest, is itself moving along a definite orbit in our Galaxy, and the Galaxy is moving on the scale of the Universe. A tree, while at rest in one spot, is growing, its leaves are shaken by the wind, flowers blossom and wilt, and so on.

MM. What do you conclude?

DM. The conclusion is quite clear; motion and rest are opposite, but at the same time are a unity. Motion is absolute, rest is relative. Rest is as objective as motion and therefore, in any system and any processes, however significant, stable, relatively constant, necessary connections and relations can be distinguished that determine and are the basis of all changes, and allow us to speak of objective laws of the material world (108). That is why I consider not only erroneous but also harmful metaphysically to oppose motion to rest or divorce one from the other.

111 *Form and Content*

So, the world around us is in constant motion. This motion takes place in various forms. We often speak of form and content in literature and musical works,

about the forms and content of mass political work, about forms of socialist emulation, and so on. In everyday life we seldom ponder on the precise scientific sense of these words. But it is necessary to do so when discussing theoretical philosophical matters.

What are form and content? The phenomena around us are very complicated. As I have already said, they consist of numerous parts and elements between which there are stable relations, connections, or interactions called structures (106). Structures have both an inner and an outer aspect. *The outer aspect of a structure is called its form, and the inner, together with the elements and processes that compose it, are its content.* Hence the form and content of any phenomenon are closely linked, although they do not coincide. And, moreover, they are inseparable. All objects interact with one another and with man, in their external aspect as it were; the internal aspect, i. e., their content, does not come to light immediately but through the mediation of the external aspect, i. e., form. Since form and content are inseparable, form is always meaningful and content has form and order. The internal aspect of phenomena can therefore only be known through their form. Since objective laws always embrace the content of phenomena, science, in passing from form to content and penetrating the depth of external phenomena, cognises their most stable, recurrent, necessary connections, i. e., laws. Later, having studied the content and cognised the laws, science can explain form, and the externals perceived by man's sensory activity, more deeply and truly.

The categories "content", "necessity", and "law" are thus concepts of the same order. They characterise the deep, most important, stable properties of phenomena.

One and the same content can be expressed in different forms. The love of two young people, for instance, and the events linked with that, can provide the content of works in various literary form (novels, plays, or poems). On the other hand, world outlooks, emotional experiences, and approaches to life different in content can be expressed in one and the same literary form, say, in a novel.

The content is the determinant aspect of any phenomenon or process. New content, developing within an

old form, sooner or later comes into conflict with the latter and prepares its change or replacement by a new form. The new form exerts a positive influence on the development of the content, and encourages it, but the content is the determinant aspect in all cases. The dialectic of form and content, i. e., their interaction and reciprocal conversion, are most important for understanding social phenomena, and I shall employ these categories more than once in what is to follow (206, 207, 227-232, 406, 409). But now let us discuss the interaction and change of the forms of the motion of matter.

112 *The Forms of the Motion of Matter*

The changes that take place in the world around us have a different content and form. Their content is determined by the type of matter and the properties of the various material objects and processes. But form depends on the character of the interaction of these objects and processes and the changes and transformations that occur in them. Each form of matter therefore has corresponding, more or less definite forms of motion.

Engels distinguished six forms of the motion of matter a hundred years ago in accordance with the level of development of science then. He linked the mechanical form of motion with the shifting and interaction of solid, gaseous, and liquid bodies in space. The physical form of motion embraced the interaction of molecules and electromagnetic processes, the propagation and conversion of thermal energy, etc. The chemical form covered the processes of the forming of molecules from atoms and the conversion of some chemical substances into others, and the biological form covered all types of the life activity of plant and animal organisms. The social form of motion, Engels considered, was the aggregate of all the types of man's social activity. He also recognised thought as a special form of the motion of matter, although thought is not in itself material but ideal (I shall go into this feature of thinking in the next sections of this chapter.)

Over the past hundred years there have been gigantic changes in scientific notions of the structure of the world (104). We now know a host of new forms of the motion

of matter connected with intra-atomic processes, with the interaction of quarks, various physical fields and elementary particles, and with other forms of matter arising at the junction of animate and inanimate nature, in complex cosmic processes, and so on. Scientific notions of new forms of matter and forms of their motion will constantly be born; the question of how many forms of the motion of matter there are, therefore, and what they are, gets a new answer each time in accordance with the level of scientific knowledge of the world attained. From the philosophic angle we must note the exceptional importance of Engels's idea that new forms of material objects and processes arise during the evolution of the material world, that is to say, new forms of matter and, consequently, new forms of motion. More complicated objects and processes have correspondingly more complicated forms of motion. The more complicated a form of matter is, the more varied are the forms of the motion in which it is at the same time. Living organisms, for instance, are more complicated than any physical formation, consisting of molecules, crystals, etc. The biological form of motion is inherent in them, but they are governed at the same time by physical laws (e. g., the law of gravity), and the chemical laws that govern the combination of molecules that form the organs of animals or plants, etc. Man is included in the social form of motion, but at the same time also (as a living creature) in the biological form, and so on. It is the same with the planets of the solar system, which come within special planetary forms of motion (e. g., the Earth in the geological form). At the same time they are very complex systems the parts and elements of which are involved in physical, chemical, and other forms of motion.

The higher, more complicated forms of motion include within themselves the simpler forms established in preceding stages of evolution and development. But the more complicated forms cannot be reduced to the simpler ones. Society, as a special form of motion cannot be reduced to the biological form. Any attempt to do so would be tantamount to the disruption of society and the conversion of people into animals. Each form of the motion of matter has its corresponding special

objective laws. Just as one cannot reduce more complicated forms of the motion of matter to simpler ones, so too one cannot reduce the laws of more complicated forms of motion to those of simpler forms. But it would be wrong to think that there are no inner connections between these laws. Such a connection arises during development, and its study is an important job of Marxian dialectics (see Ch. IV).

Motion occurs in time and space. Further discussion of matter and of the laws of motion and development therefore calls for an answer to what time and space are, a question of the greatest importance for both science and philosophy.

113 *Time and Space*

Dialectical materialism affirms, in full accordance with modern science, that time and space exist objectively. Like motion they too are inseparable from matter.

One must clearly differentiate time and space as modes of being and objective properties of moving matter from the philosophical categories "time" and "space", and also from the ordinary everyday and scientific notions of time and space characteristic of each historical epoch.

Objective time and space are themselves material, i. e., exist outside man's consciousness and independent of his will. The philosophical categories "time" and "space" reflect the most important, universal characteristics of objective time and objective space.

The category "time" reflects the existence of more or less irreversible changes in all forms of the motion of matter, and also the existence of a certain succession of events of the objective world, i. e., that they occur in a certain order, one after the other. Hence time has a certain direction and it is impossible to move backward in time. All experimental attempts to discover a reverse direction of time have been unsuccessful.

The category "space" reflects another feature of moving matter, which is that simultaneously with any event, object, process, or phenomenon, and alongside it, and near it, there are other events, objects, processes, and phenomena. Spatial changes, i. e., displacements, are reversible. We usually say that any material object has

three dimensions (length, breadth, and height). Reverse movement is possible in each of these dimensions: forward, backward, to the right or left, and up or down.

Changes in time and space are closely linked and form a unity. The categories "time" and "space" reflect only various aspects, various "cross-sections" of a single process of motion. In essence they reflect the fact that in nature, society, and thought there is something that can recur and something that cannot, that there are reversible and irreversible processes.

It may be objected that certain phenomena can also be repeated in time. At various moments of time, one and the same objects can be used, a film can be seen several times, one can work for many years at one and the same machine, and so on. This objection is false. Any object, however invariant it may seem, changes in time although the changes may be imperceptible. The walls of a vessel we use repeatedly wear away, a film wears out, and so does a machine. Irreversible time changes are of immense significance both in nature and in society. The irreversibility of history is connected with them. Separate phenomena of society's life may be repeated, but the repetition is never absolutely the same. The problem of time is therefore of immense social significance. Society, which undergoes radical changes in time (e. g., social revolutions) cannot be turned back and exactly repeat past stages of historical development. Since temporal processes are irreversible, the problem of time is important for the organisation of society's life, including industry, administration, education, etc. That is why philosophy, which studies man's relation to the external world, pays so much attention to discussing what time and space are, and how notions about them have changed and been formed.

114 *The Irreconcilability of the Idealist and Materialist Conceptions of Time and Space*

Materialism and idealism occupy opposite positions on time and space. The idealist views are the product of a certain period, arising from an incorrect interpretation of the mechanistic understanding of time.

Newton, the founder of classical mechanics, considered that time and space were external conditions of the

movement of mechanical bodies. Space rather resembled a huge empty box in which a body could move backward and forward in each of the three dimensions. Time was pictured as something like an unfolding ribbon. Newton pictured time, space, and the bodies moving in them, as existing outside man's consciousness. Time was measured by a watch, and space by a ruler. These views were on the whole materialist, but because of their mechanical nature they contained a possibility of idealism. What did this consist in? Since time and space were regarded as external conditions of the displacement of bodies, unconnected with the latters' material properties and not dependent on them, the question arose of what time and space depended on. If they did not depend on the material bodies and were external in regard to them, the answer suggested itself that they depended only on man, the subject of knowing.

Immanuel Kant (1724-1804), the great German philosopher of the eighteenth century, proposed just such a subjective-idealist answer, assuming that time and space were not properties of material phenomena but conditions of man's perception of them. According to him, we receive sensations when interacting with things. Time and space help us to put these sensations into some order. Time "distributes" sensations one after the other, space one beside another. Time and space were thus a sort of schema inherent in our sensuality and faculty to perceive, by means of which we put order into the disorderly stream of our sensations and perceptions. From Kant's point of view, and that of his followers it was senseless to talk about objective order in the external world.

Objective idealists consider that time and space are created by world reason or the absolute spirit and are basic properties of it and not forms of the being of matter. Time and space can therefore exist before the origin of matter and independently of it.

Lenin's book *Materialism and Empirio-Criticism* contains decisive objections to idealist views on space and time. Modern science provides convincing arguments for a materialist conception of them. Our star world has existed around ten billion years, and Earth around five billion; the first living organisms appeared on Earth

around three billion years ago, and the direct ancestors of man around five and a half million years ago. Consequently Earth and the star world existed in space and developed in time long before the appearance of thinking man *(Homo sapiens)* and his ideas and notions about time and space. They thus exist outside and independent of man. The latest discoveries of radioastronomy and astrophysics indicate that processes of the genesis of new star worlds and disappearance of old ones are constantly going on in the universe. There are no grounds for thinking that these processes have a beginning and end in time or are limited in space. Dialectical materialism affirms, in accordance with modern scientific data that *time and space are inseparable from moving matter, and that the latter is infinite in time and space.*

115 *Modern Scientific Notions of Time and Space*

Mechanistic views were based on the notion that time and space did not depend on the properties of material bodies and the peculiarities of their motion. The geometry created in Ancient Greece by Euclid was used to describe all mechanical motions. According to it only one line parallel to a given line can be drawn through a point on a plane. The sum of the internal angles of a triangle is 180° and does not depend on its size. And all space is penetrated, as it were, by gigantic invisible planes through any two points of which an ideal straight line can be drawn. But the Russian mathematician Nikolai Lobachevsky (1792-1856) discovered a new, non-Euclidean geometry in the first half of the nineteenth century. He showed that a spatial structure is possible in which a bunch of lines can be drawn through a point outside a straight line that do not intersect that line, and that the sum of the angles of a triangle depends on its size and may be less than 180°. Figuratively speaking this space is "bent" or "curved".

It was considered for some time that Lobachevsky's geometry had no relation to objective reality. At the beginning of our century special and general theories of relativity were created. In accordance with them, time, space, and motion are objective and inseparably connected. Their connection is hardly noticeable at the ord-

inary velocities of motion that man has to do with in everyday life. But at velocities approaching that of light (300,000 km/s) the dimension of moving bodies is reduced and time slows down. This was confirmed experimentally on modern elementary particle accelerators. In addition the character of space changes in accordance with the body's mass: the greater the mass, the more space deviates from Euclidean space and acquires properties described in non-Euclidean geometry. At the same time with the "bending" of space the course of time alters. These results have found practical experimental confirmation. The trajectories of the Soviet space laboratories sent to Venus, and which made soft landings on its surface, were calculated by means of them.

The connection of space, time, and motion is so close and inseparable from material phenomena that physicists often speak of a single space-time continuum and measure motion not by three spatial co-ordinates but by four, adding a time co-ordinate to them. This gives rise to the notion of four-dimensional space. Time and space thus prove to be objective properties of matter that depend on the character of its motion.

The scientific understanding of the interconnection of motion, time, and space provides a solid substantiation of the materialist answer to the basic question of philosophy, making it possible to demonstrate convincingly the affirmation of philosophical materialism to the effect that consciousness is secondary and is a product of the protracted development and growing complexity of matter in motion.

116 *Cause and Effect*

All phenomena, events, or processes in nature, society, and thought are caused or governed by other phenomena, events, or processes, that is to say by more or less definite causes. *A phenomenon (process, event) is said to be the cause of another phenomenon (process, event), when (1) the first precedes the second in time; (2) the first is a necessary precondition or basis for the rise, change, or development of the second.* In other words the first gives rise to or causes the second.

Cause and effect are objective. The relation between

them is called a causal connection. The philosophical categories "cause" and "effect" reflect objective causal connections that have universal significance and exist in all forms of the motion of matter. Study of these connections is a very important task of the natural, technical and social sciences.

Every phenomenon has its cause. Conversely, every change in the material world has some sort of consequence. But it does not follow that some phenomena are always only the cause and others only the effect. Materialist dialectics, being based on people's experience and historical practice and the advances of science, shows that a certain phenomenon (the accumulation of moisture in rain clouds, for example) is the consequence of another phenomenon (the evaporation, say, of water from the earth's surface), and itself may be the cause of a new phenomenon, rain. In that sense one can say that cause and effect change places as it were; what is the effect at one moment may be the cause of another phenomenon in the next. That is of great importance in man's life. A higher level of educational, and professional training, help one to work better, get a promotion and as a rule improve his living standard. That is the most probable consequence of a rise in education and professional training. But higher living standards and prosperity in turn make it possible to bring about a rise in professional standards, education, and provision of information, and that again creates new possibilities in man's personal and social life.

The categories "cause" and "effect" are closely linked with the category "condition". *A condition is a set of various material phenomena and processes without which a cause cannot give rise to an effect.* Yet conditions do not play an active, decisive role in the origin of an effect.

One and the same cause may lead, in different conditions, to different effects. The application of chemistry to industry, for instance, may lead to the creation of effective medicines, a rise in harvest yields, and the creation of new artificial materials, but it may also cause pollution of the environment, water, atmosphere, etc. On the other hand, one and the same effect may be produced by different causes. A rise in crop yields, for

instance, may be due to the use of high-yield varieties of seed, the application of fertilisers, improved land tilling methods, and so on. In the different social conditions under capitalism and socialism, contemporary scientific and technological progress (312) may lead to quite different effects; to unemployment and an increase of exploitation in a capitalist society and all-round development in a socialist society. Understanding of the interconnection of conditions, causes, and effects is therefore extremely important for a correct appreciation of phenomena, above all of social ones, especially when allowance is made for the fact that not a single cause, but a host of causes are behind the phenomena around us.

Idealists and materialists, metaphysicians and dialecticians hold opposite views on causal relations. Metaphysicians consider that any phenomenon has its special cause, and that every cause, on the contrary, gives rise to its certain effect. Such a point of view, known as mechanistic determinism, is characteristic of metaphysical materialism. Agnostics and subjective idealists hold opposing views. They argue as follows: one can never say exactly whether a plant will grow from a certain seed or whether the seed will die because of unfavourable conditions. Sharp class struggle leads to armed clashes in some cases but takes peaceful forms in others. Modern science, they continue, often deals with complex systems with a host of interconnected, and mutually influencing processes and phenomena, so that it is impossible to say with any certainty, which of them has caused a new phenomenon. People who hold this view are therefore inclined to claim that there are causeless phenomena that arise spontaneously and are not caused or given rise to of necessity by any other phenomena and processes. This is called indeterminism.

Mechanistic determinism is extremely limited. There are no strictly uniform links between causes and effects in reality. Dialectical materialism demonstrates that causes and effects change places in the course of development. Any phenomenon can be caused by a number of different causes, and the same cause may lead to various effects. It therefore holds a view that can be called dialectical determinism, which allows for the com-

plexity, and constant change and development of causal connections and relations.

The spokesmen of indeterminism are even more mistaken. As contemporary science indicates, especially quantum physics, causal interactions in the world of elementary particles and intra-atomic phenomena do not have a strictly unambiguous, single-valued character but an ambiguous one. It is difficult to predict the effect of any separate cause with certainty. When describing such phenomena scientists have to employ the theory of probability, which helps them evaluate the degree of this indeterminacy. But this means that causality has a probability or statistical character in the world of atomic physics, but not at all that there are no causal connections in it. If the latter were so, scientists would be unable in general to predict new phenomena and discover new particles, let alone control atomic and other energy processes.

Later, when we are examining the origin of consciousness, the development of society, the causes of social revolutions, and the patterns of the building of socialism, we will see again and again what a great role the categories "cause" and "effect" play.

Reflection as a General Property of Matter

117 *The Basic Question of Philosophy in the "Computer Age"*

Some years ago a small, but quite complicated maze was built for scientific purposes in which artificial electronic mice fitted with artificial sensors and intellect were started up. These devices could decide certain problems and correct mistakes made. The task of the electronic mice was to find their way out of the maze. The one that took the least time and made the fewest mistakes was considered the winner. To everyone's surprise the winner proved to be the most primitive and simplest "mouse".

Experiments like that force one to think about the following questions. What are consciousness and thought? Does an electronic machine possess them? Can it replace human reason and intellect?

All these questions have been hotly debated in the scientific and philosophical literature for several decades now. In our day many intellectual operations really are performed by computers, which are becoming faster and more compact from generation to generation. Spokesmen of the various idealist schools and scientists conclude from this that consciousness and thought can exist independently of man. Some of them even preach that God or absolute reason is nothing else than the universal machine programme that preceded the creation of the world, and that the Universe and our solar system, and man himself, are only structures and devices that realise this programme.

In the age of great social changes and the scientific and technical revolution connected with the creation of superpowerful computers, the old philosophical question of the inter-relation of consciousness and matter is thus acquiring a new ring, a new social meaning, and special philosophical and methodological importance. Understanding of social problems and certain trends of research depend on its solution. What position does dialectical materialism take on all these matters, and what answer does it give to these questions?

118 *What Is Reflection?*

Back in the eighteenth century philosophers hotly debated whether consciousness was possible without matter, and if not where did it come from. The French materialist Denis Diderot (1713-1784), arguing against the claims of the Irish Bishop George Berkeley (1685-1753) that the external material world was only a complex of our sensations and existed only in our imagination (009), compared subjective idealists with a "sentient harpsichord". The harpsichord (man) emitted sounds and reproduced harmonic music (sensations and thoughts) when the pianist (nature) struck its keys (sense organs). The sentient harpsichord (i. e., subjective idealists) considered that all the sounds and all the music were made by it itself. In replying to the subjective idealists' question of where consciousness came from if matter were inanimate, Diderot made a guess that there was a special property in the very foundation of matter essentially similar to sensations. The faculty for sensa-

tion, and later for thought, arose from it. To support his guess he adduced the example of the egg and the chick. An egg did not have a capacity for sensation and perception of the world, while the live chick did. Consequently, he argued, the capacity for sensations arose from inanimate matter. Since eighteenth-century science had little information at its disposal on the origin of life and consciousness, compared with our day, Diderot could not create a finished, substantiated philosophic theory of the connection of consciousness and matter.

Such a theory was created and developed by Lenin, who cited Diderot as his predecessor. It has come to be called the theory of reflection.

Reflection is a universal fundamental, inalienable, and objective property of matter and is just as objective as its other properties (motion, time, and space). Furthermore, reflection is impossible without the motion of material phenomena in time and space. What is this reflection? *Reflection is a special property of every material object (subject of reflection) to react in a definite way to the effect of other material objects interacting with it.* During the long evolution of the material world and the growing complexity of the forms of the motion of matter this property ultimately led to the origin of human consciousness and thought. *Consciousness is the highest form of reflection.*

The doctrines of the material nature of the world and of its dialectical development are close and inextricably connected in the theory of reflection. Idealists, and likewise metaphysicians, are unable to understand this connection and therefore cannot give a correct answer that accords with modern science to the question of the origin of consciousness.

119 *Reflection in the Inorganic World*

The simplest form of reflection is that in the inorganic world embraced by mechanical, chemical, physical, and certain other forms of the motion of matter. Let us look at four examples so as to understand what the peculiarity of this form of reflection is.

1. We strike a billiard ball with a cue. The ball rolls in a certain direction and for a certain distance at a rate depending on the force of the blow.

2. Two elementary physical particles, an electron with a negative charge and a positron with a positive charge collide in certain conditions and annihilate, i. e., are transformed into two photons or quanta of light.

3. When water falls onto an iron article not protected against corrosion, the article will rust as a result of a chemical reaction of oxidation.

4. Even a cliff composed of the hardest rock is gradually broken down, cracked, weathered, converted into small fragments, and finally into sand, by the action of sun, water, and wind carrying separate grains of sand and pebbles.

In these examples we come up against various forms of the motion of matter (mechanical, physical, chemical, and so-called geological, which is a sort of combination of the other three). In the first case there is a simple displacement of the ball in space. The subject of reflection (the ball) itself is not altered thereby. In the other three examples the subject of the external action (one of the particles, the iron article, the cliff) not only reacts in a definite way to the effect of objective factors but is also broken down by their influence and converted into something else (a photon, rust, granulated rock). In all cases the subject of reflection reacts in a quite definite way to an external effect. The changes happening with them correspond to the character of the external influence. If the iron article had been struck by a cue, it would not become covered by rust, and the ivory ball, splashed with water, would not have moved from its place. How the subject of reflection reacts to external influence depends not only on the character of the object but also on the subject's properties, on its physical, mechanical, and chemical peculiarities. From the standpoint of the various sciences, in our examples we are dealing with the display of some form of the motion of matter. From the standpoint of philosophy, these examples are united by one feature, namely that the subject responds in a definite way to the effect of the object, i. e., takes part in a process of reflection. It thereby either changes place (example one) or undergoes deep qualitative changes on being converted into something else (the elementary particles into quanta of light, the iron into rust, the cliff into gravel and sand).

The destruction or qualitative (411) modification of the subject during reflection is a characteristic feature of reflection in the inorganic world.

120 *The Complication of Reflection during the Transition to Animate Nature*

Life arose on Earth roughly three billion years ago. There was nothing miraculous about it. In the hot ocean, and in Earth's atmosphere saturated with water vapour, there was an abundance of carbon, hydrogen, nitrogen, oxygen, and other elements. Organic compounds arose from them as a result of complicated physico-chemical processes. Through the works of Alexei Bach, Nikolai Zelinsky, Alexander Oparin, John Haldane, Harold Urey, and other scientists, modern science has developed methods of obtaining these compounds in the laboratory. For billions of years Earth was an immense laboratory of sort, where, under the action of solar energy, the energy of volcanoes, and the influence of electric charges in the atmosphere, and of other natural factors, a host of different compounds was formed by "trial and error". Among them were supercomplex molecules. Some of them rapidly broke down; others existed for a long time.

These molecules, above all proteins, which form part of all living organisms, had properties that are extremely important for us. Under the impact of external objects they did not break down, were not converted into qualitatively different systems, but were preserved and continued to exist. Only some of their individual structures were altered. This means that a change took place in the reciprocal internal disposition of the parts or elements of the complex molecule or the substance composed of these molecules; the energy links between the particles and elements were altered but the system itself (the subject of the effect) was not broken down into its constituent parts and elements. When the factor causing such changes ceases to operate, the subject returns to its initial position.

We can thus characterise the period of the transition from the non-organic world and from inanimate nature to the organic world and animate nature as a special stage in the development of reflection. On the level of

complex organic systems reflection is seen in that the subject responds to the objects action by reversible changes in some of its inner structures. When the action ceases, these structures return to their original state, thus making it possible for the subject of reflection to exist and develop.

121 *The Evolution of Life and Origin of the Nervous System*

The further development of reflection was associated with the evolution of life. Life is a special form of the existence and motion of matter. Its basic material vectors are proteins and nucleic acids, which ensure control of living organisms' reproduction, and the transmission of heredity. The distinguishing features of living organisms are metabolism, growth, irritability, a capacity to proliferate, self-reproduction, self-regulation, and adaptability to the environment. The simplest living organisms are unicellular. The further perfecting of life came about through a process of lengthy, complicated, contradictory development known as biological evolution.

During evolution living organisms became more complicated and perfected. Because the environment and all the conditions of life gradually changed, only those forms of organisms survived that were best adapted to these changes. Adaptation to the environment is based on two processes: retention of organisms' properties and peculiarities transmitted from generation to generation (heredity), and variability (mutation). The individual traits of organisms may suddenly change in an abrupt saltatory way under the impact of various causes. These changes may be chance ones from the angle of the species as a whole. If an unexpected change proved useful (a capacity for better adaptation to the external medium and transmission through inheritance) the descendants of this organism survived more easily in the struggle for existence with other species of plants and animals. Thus chance developed into necessity (107).

Living organisms are not only subject to the action of the external environment, but themselves also influence it. During their life activity, in adapting to the environment, they exert a quite definite action or perform a definite function. This is particularly important from

the angle of the theory of reflection, since reflection is associated among animals not only with reversible changes of inner structures but also with their vital functions.

As organisms became more complicated and perfected in the struggle for existence, there was a transition from unicellular to multicellular organisms. The groups of cells and individual organs of multicellular organisms became specialised to perform separate functions. Some perform functions of locomotion, others functions of feeding and nutrition, others functions of reproduction, and so on. *With time special groups of cells, called nerve cells, appear, which are specialised to perform functions of reflection.* In living organisms reflection is manifested as a property of irritability, i. e., as the organism's capacity to respond to the effect of the environment, modifying itself in a certain interval of time in such a way that it is better adapted to the effect, and to survive and preserve itself. Material bioelectrical processes underlie irritability.

In the next stage of evolution a complicated ramified nervous system appeared in the more developed animals (insects, fish, amphibians, mammals). The new specialisation and "division of duties" led to some nerve cells beginning to perceive only light effects of the environment, others its sound effects, others mechanical effects, and so on. A special group of cells mediated a connection between the others and fulfilled special functions, viz., to transmit nerve impulses to other organs, to store (remember) information about previous effects, and to process and alter signals obtained from the environment. In higher animals a special organ controlling all reflection from and interaction with the environment arose from these special nerve cells. This organ is the brain.

With the origin of a nervous system, and especially of the brain, reflection was raised to a new, higher level. Reversible structural changes as a reaction to the objective effect of the external world were supplemented by functional changes adapted not only to maintaining or preserving the organism but also to its better adaptation to and interaction with the habitat.

Does the origin of a nervous system and brain mean that higher animals possess thought and reason and can behave consciously? A contemporary Soviet naturalist tells, in one of his books, how the big red slavemaking Amazon ant captures small common black ants, plants them in its hill, and converts them into "slaves". But the "slaves" also display a special activity in their behaviour.

> One morning I went to the Amazon anthill and watched. Two black "slaves" were pulling an Amazon ant by the legs from the entrance to the nest and it was resisting. But they did not let go, and its resistance was passive. They dragged it an inch or so from the nest and stopped. The Amazon now quickly tried to get back. But the "slaves" caught it, seized it by the legs, and again dragged it further from the entrance. And stopped. This time the Amazon ant, it seems, reconciled itself to necessity. It sat for a while on the spot, groomed itself, and went off somewhere into the jungle of grass (as I decided) to hunt for food, or slave raid. Because I could not explain all this strange activity of the black ants otherwise (and they repeated it many times); seemingly the "slaves" drove the "master" to work — on a raid in the neighbouring ground, so as not to be a lay-about, and to search for food.[1]

At first glance this description would seem to give grounds for thinking that ants and other insects have reason and conscious behaviour. But in fact it does not.

In the simplest unicellular organisms reflection of reality exists in an extremely primitive form. If acid concentration in one part of a vessel with a unicellular organism, an amoeba, is increased, the amoeba will move to where the acid concentration is lower. If it bumps by chance into food, it engulfs it with any part of its body. The amoeba does not select a definite direction of movement and does not set itself definite aims. Only passive adaptation to reality is possible on the basis of irritability (121). *Passive adaptation* means that an animal organism only selects more favourable conditions of its existence from those available in the environment, but does not seek them out, let alone create them. Multicellular organisms, including plants, also possess irritability. A geranium standing in a window

[1] Akimushkin. *Prichudy prirody* (Whims of Nature), Moscow, 1981, p. 35.

turns its leaves so that more of the sunshine necessary for their life-activity will fall on them, through the movement of hormones from the illuminated side of the stem to the side in shadow. That is also a form of selective, but still passive adaptation, because the geranium does not move in search of light, and furthermore does not itself create the necessary illumination when the latter is lacking.

As the nervous system became more complicated and developed, and a brain arose, there was a gradual transition from passive to *active adaptation.* In higher animals (birds and especially mammals) active adaptation is associated with a search for favourable conditions for habitation, and leads to the development of quite complex forms of behaviour. We find even more complex forms of behaviour among the highest mammals. Wolves, for example, mark out their range, barring other wolves from hunting within it. One researcher observed how a hungry she-wolf, trying to catch the attention of "curious" wild geese and draw them onto the bank of a lake a little further away from the water, held an "amateur concert" on the bank; by jumping, tossing from side to side in the grass, and dancing, she drew the geese further and further from the water, and only when the distance between them had been reduced, jumped on the quarry. Ants and bees, we know, build very complicated structures; and beavers not only build lodges with roofs and underwater entrances leading into the water, but also real dams; after forcing specially cut stakes into the bottom of a river or stream, they weave them with branches, fill in stones, and daub the dams with mud; moreover, they leave an opening for the outflow of water, and regulate it according to its level in the pond. All that gives grounds for speaking of the allegedly rational, conscious behaviour of animals. In fact, it may only be a matter of higher animals' active adaptation to the environment on the basis of highly developed forms of reflection. Active adaptation consists in higher animals' active utilisation of elements of the environment for their habitat, seeking out more favourable conditions, and adapting the environment, though on a limited scale, to their life activity. But they do not have a plan of activity and

do not transform external reality in a radical way. Many complicated forms of animals' behaviour are innate, developed over millions of years of evolution, and are transmitted by heredity. These innate forms of behaviour are called instincts and can be very complicated. But with a sharp change in living conditions the animals prove to be "prisoners" of their instincts and unable to change them by adapting to the new conditions; furthermore, they are not in a position to alter the conditions decisively and adapt them to their needs. To illustrate that let me cite another example from the life of highly organised insects. The caterpillars of the processionary pine moth advance in a dense column in search of food. Each caterpillar follows the one in front, touching it with its hairs. The caterpillars excrete thin cobwebs that serve as a guide thread for the ones following. The head caterpillar leads the whole hungry army to new "pastures" at the tops of pines.

The eminent French naturalist Jan Fabre brought the head of the lead caterpillar to the "tail" of the last one in the column. It fastened itself onto the guide thread and was at once converted from the "general" to a "common soldier" and followed in the track of the caterpillar that it now held onto. The head and tail of the column was closed, and the caterpillars began an endless circling in the same place, travelling round the edge of a big jar. Instinct proved helpless to get them out of this stupid situation. Food was placed alongside, but the caterpillars paid no attention to it.

An hour passed, and another; days passed, and the caterpillars still circled and circled, literally bewitched. They circled for a whole week! Then the column fell apart; the caterpillars were so weakened that they could no longer move any further. So, only a negative answer can be given to the question posed at the beginning of this section.

123 *The Psychic and the Physical, the Ideal and the Material*

The nervous system and brain are material. Various physical and chemical processes occur in them, viz., metabolism, propagation of bioelectric impulses, and so on. The result of the interaction of the brain and the

external material world is called psyche (the mind), and its functioning is called mental or psychic activity. The mind includes the following: (1) visual-sensory, optical, aural, tactile, and aromatic images of things and processes occurring in the objective material world; (2) a capacity to select aims and to achieve them, which is inherent only in higher animals possessing purposive behaviour (will and willful behaviour were developed in man from this capacity); (3) emotions, experiences, feelings, by which animals respond directly to effects of the environment (e. g., anger, joy, fear, attachment, etc.); (4) a capacity to store and process information, above all rules, norms, and standards controlling behaviour and making it possible to adapt to the environment (consciousness and thought originate in man from this capacity).

It is very important to understand that the mind, being the product of the brain's activity, is not reducible to simple passive reflection of external reality and is not an exact, mirror image of it. It possesses a capacity to receive and transform information that makes it possible to work our rules of behaviour, and a capacity for an active combining and reorganisation of mental images and reactions. Through long evolution these capacities were converted, with the advent of man, into a peculiarly human capacity for creative work or activity. But rudiments of it can be seen in the psychic activity of higher animals. Even with the origin of human consciousness there remain several levels and forms of mental activity that do not include consciousness, are not subordinated to conscious control, and remain the sphere of unconscious mental activity. The origin and functioning of the mind, and the relation of the conscious and the unconscious in mental activity, are studied by a special science, psychology.

The concepts "consciousness" and "thought" are usually employed as synonyms. That is how Engels used them when formulating the basic question of philosophy (007). But there is a certain difference between them. Thought (thinking) means, in the main, the process of working up knowledge about external reality, the process of creating concepts, judgments, and conclusions, the initial stage of which is the forming of sensations and

sense perceptions (101, 505, 507), while consciousness means the result of this process, and activity to apply and employ already created concepts, judgments, and conclusions to the external world so as to understand and change it.

Thought and consciousness are thus the highest level of the mind and of mental activity. They are inherent only in man. Animals possess only the rudiments, the simplest elements, or rather capacities, from which human thought and consciousness arose over a long period of development.

The mind, including thought and consciousness, is ideal. Although they arise as a result of the material interaction of the material brain and the material external world, they do not have the properties and features inherent in all material phenomena (extension in space, geometrical shape, volume, rest mass or motion). Mental phenomena do not have any physical or chemical characteristics. They do not contain the electric charges of atoms, molecules, elementary particles, quarks, physical fields, etc. In short, they are not what can be considered today as the "bricks" of matter. Mental phenomena are not governed by the laws of physical, chemical, or biological motion. Material phenomena are in continuous, constant motion irrespective of whether the psyche of some animal or other changes. A change in the mind, on the contrary, depends on changes in the material brain and external material objects.

The mind is secondary in relation to the material physical world, since the latter does not depend on it and is primary. The mind is a result of development of the property of reflection inherent in all matter; it is not developed by all matter, however, but only by the most complicated form of animate matter, the brain. This conclusion from Lenin's theory of reflection makes it possible to reject hylozoism (Gr. *hyle* — wood or matter, *zoe* — life), according to which all matter is animated and possesses psychic properties.

Lenin's theory of reflection exposes the complete unsoundness of mechanical and vulgar materialism on the one hand and objective and subjective idealism on the other.

The French philosopher Descartes, who took a stance

of dualism (008), claimed, when opposing man (allegedly possessing an immortal, divine soul) to "soulless" animals, that animals were simply complex machines that only reacted mechanically in their behaviour to effects and actions of the environment. The French mechanist materialist, La Mettrie (1709—1751), extended this mechanistic theory to the behaviour of man, who was also, in his opinion, nothing else than an extremely complicated machine like a gigantic clockwork mechanism. The vulgar materialists of the nineteenth century (Karl Vogt, Ludwig Büchner, and Jakob Moleschott) claimed that thought and consciousness were material and even a substantial material product of the organism's activity. Thought, they suggested, was secreted by the brain just as bile was secreted by the liver.

Such frank vulgar materialism is no longer met, of course, in the second half of the twentieth century; yet even now mechanistic and physicalist views are quite common among Western philosophers, views that deny a qualitative specific character to mental activity, and in particular to thought. The Australian philosopher D. M. Armstrong, for instance, claims straight out that reason is nothing else than the brain, and that thought can be reduced to a description of the brain's physical properties.

The views of both mechanistic and vulgar materialists are completely refuted by the facts of modern science. By relying on these facts Lenin's theory of reflection provides an irrefutable argument against idealism as well. It shows that the mind cannot exist without its material vehicle, without the brain that develops it. Both objective idealism, which asserts that consciousness and world reason exist eternally outside matter and independent of it, and subjective idealists, who deny the very existence of matter and admit the possibility of thought without nervous activity that gives rise to it, are refuted by this.

While relying on the facts of modern science, dialectical materialism at the same time asserts that the mind, though secondary, develops and operates according to its own laws and cannot be reduced mechanically to physical, chemical, or biological phenomena and processes.

Having reviewed the development of reflection, we have thereby arrived immediately at the question of the specific nature of human consciousness as the highest form of the reflection of reality.

Human Consciousness

124 *The Brain as the Material Organ of Mental Activity*

The brain of a whale is roughly 500 times lighter than its body, that of a lion roughly 150 times lighter, and that of a human only 60 to 65 times lighter. This shows that the "ratio" of psychic activity or the psychic functions to the other functions in the life of higher mammals varies considerably. The point, of course, is not what the volume and weight of the brain is, but what activity it carries out. There is a fundamental, qualitative difference between the mental, psychic, or spiritual activity of man and that of the higher mammals. Man is capable of creating things that do not exist in nature, of proving mathematical theorems, of devoting himself to art, of building machines, and even of flying into outer space far beyond the limits of Earth. None of that is in the power of animals; at the same time it is all done through the activity of the brain. The brain is the highest, most complicated and organised form of animate matter.

As Ivan Pavlov (1849-1936) and his followers showed, unconditioned and conditioned reflexes of the brain underlie mental activity. When external objects act on the nerve endings of the sense organs, strictly determined bioelectric impulses are sent to the brain via the nervous system. They evoke a number of complex physico-chemical changes during which the impulse (signal) received is changed and evokes a response reaction of the organism. The brain, on the basis of this signal, sends a response impulse to the corresponding internal organs or locomotory organs, causing the most purposive action. When an animal sees food it secretes saliva; when a human touches a very hot object, he instantaneously withdraws his hand. The process is known as an unconditioned reflex or instinct.

The signals that evoke an unconditioned reflex are objects and processes of objective reality vitally important for the organism's whole activity. Conditioned reflexes are formed from unconditioned ones. If, for instance, a bell is constantly rung before a dog is fed, its organism will, in time, secrete saliva in response to the ringing of the bell, even when no food is presented. In nature such conditioned reflexes help animals to adapt to rapidly changing conditions of the environment. In the above example the bell became a "substitute" for meat and was a conditioned signal of a vitally important object.

Conditioned and unconditioned reflexes are elaborated by the cortex of the hemispheres of the brain of higher animals and man. The sectors of the brain that perceive visual, aural, tactile, and olfactory stimulation, are now quite exactly known, and also the sectors that control the working of the various organs (arms, legs, tongue, etc.). When they are damaged in experimental animals or in man (through illness or injury) the corresponding functions are badly disturbed, which undoubtedly shows that ideal psychic activity is by its nature the result of the working of the material brain.

It has been established of late that the right and left cerebral hemispheres of higher animals and man perform different functions. Figurative, sensory information about the external world (sensations of sounds, odours, visual images, etc.) are accumulated, processed, and stored in the form of memory in the right-hand hemisphere. Rules and norms of activity of a kind are stored in the left-hand hemisphere. Our knowledge of the brain and of mental activity is thus being deepened, and will be further deepened.

125 *Work as the Basis of Consciousness*

Why, however, do animals only have rudiments of thinking and cannot solve problems and perform actions that man can cope with and do? The answer to that is as follows: man's thinking and consciousness differ qualitatively from the psychic activity of animals because of work. But surely animals cannot work?

The bald eagle, picking up a round pebble in its beak, flies up and toward big ostrich egg that it is

unable to break by its beak, and then diving down releases the stone like a small bomb several metres above its target. The shell is cracked, and the eagle feasts on its favourite delicacy. Chimpanzees both in the wild and in laboratories, readily employ a stick in order to knock down a high-hanging banana. And legends are spun about the industrious bees and ants. Yet, all the same, animals do not work (labour). They assimilate material of nature they need in order to live, obtain food, and build nests and burrows by means of their natural organs (tusks, claws, beaks and bills). The distinguishing feature of man's work is that he interposes tools between himself and nature. Man not only assimilates material from nature by means of tools, but also alters it and gives it the special form necessary to satisfy his wants. In the process of labour he humanises nature, often creating things, as well, that simply do not exist in it. The relation of animals to nature is direct. The animals themselves are part of it. But there are production tools between man and nature (implements, instruments, complicated mechanisms, and machines). People's relation to nature is therefore indirect and mediated, i. e., is effected by means of tools. In that way man separates himself from nature and opposes himself to her. But don't the examples of the eagle and chimpanzee cited above contradict that?

The real work process by which our remote ancestors were converted into men was linked with the making and fashioning of special tools intended precisely for work, and not with the use of objects found to hand in nature. The eagle does not prepare its stone. The chimpanzee does not plane and chisel his stick. But even the oldest of our ancestors fashioned primitive stone tools, trimming one stone by means of another. They sharpened the ends of sticks by means of flint scrapers and burnt them in a fire to harden them. None of the highest modern animals, including anthropoid apes, is able to do anything like that. That is why any activity of animals for which they sometimes use objects found in the wild differ qualitatively, in principle, from the work of man.

Work not only makes it possible to transform and alter surrounding objects, but also leads to the transformation and development of man himself. By repeating

certain operations billions of times over hundreds of thousands of years, people perfected their organs and above all the hand; and with that the human brain also developed. That happened because the same sectors of the brain that control the work of the hands also regulate human speech and language, which are the centres of man's mental activity. The development of the brain in turn made it possible to accumulate and pass on information to the following generations about work techniques, about the ways of fashioning tools, and about habits of collective interaction and about the world around. During work man altered and transformed various objects, which helped him to know and study their properties, something inaccessible to the animal. The work process thus became the basis of the development of thought and consciousness as the highest form of mental activity. Having separated himself from nature, man not only became aware of his opposition to nature but also of himself as a special creature possessing consciousness, and differing because of that from other living creatures.

The origin of consciousness thus meant a transition to a higher form of the reflection of reality. This transition consisted in man's learning to adapt reality to his needs, instead of passively (and even actively) adapting himself to it, to change reality in accordance with his aims, and to create objects that do not exist in nature.

126 *Language and Thought*

Another powerful means of the development of consciousness is language. It is the direct reality of thought. In other words thought (an idea) is always expressed in language. And conversely, *language is the form of expression of thought.*

Language is a special signalling system. Any language consists of separate words, i. e., of conventional sound symbols that signify different objects and processes, and also rules or grammar that help form sentences from words. It is sentences that are the means of expressing thought. By means of interrogative sentences people ask questions, express their bewilderment or ignorance. By means of imperative ones they give commands and instructions; narrative sentences or statements serve to

describe the external world and to transmit and express our knowledge about it.

The aggregate of the words of a language form its vocabulary. The vocabularies of the most developed modern languages number tens of thousands of words. By means of them, thanks to the rules for combining and uniting words in sentences an unlimited number of meaningful phrases can be uttered or written and hundreds of millions of books and articles filled with them. By virtue of that language makes it possible to express the most varied thoughts, describe people's feelings and experiences, formulate mathematical theorems, and build scientific and technical knowledge.

Although thought and consciousness are ideal, the language expressing them is material. Oral and written language can be perceived by man's sense organs. *Language, which arose and developed during group labour activity, was an important means of the development of thought.* Knowledge is stored, processed, and passed on by means of it from person to person, and from generation to generation. *Language* arose in society; *it is a social phenomenon,* and performs two very important functions, those of the expression of consciousness and the transmission of information. There are rudiments of sound signalling among higher animals. Hens utter several dozen sounds that express a sense of danger, call chicks, and signal the presence or absence of food. Among such highly developed mammals as dolphins there are several hundred sound signals. Yet these are not a language in the true sense. The signalling of animals is based on sensations. Pavlov called them the first signalling system. It does not have rules of combination. The information conveyed by it is therefore very limited. Animals' signalling can express just as many bits or units of information as there are separate signals, while any human language can convey and express an unlimited amount of diverse knowledge.

Human language is a second signalling system. It arose historically during the process of labour and people's social activity, and was an important instrument for knowing and transforming the external world and man himself. The main distinguishing feature of this signalling system is that man is able, by relying on condi-

tional sign-words, and utterances composed of them, to pass beyond the limits of instincts and to develop knowledge unlimited in volume and diversity.

All attempts to teach anthropoid apes oral language have been unsuccessful because the animals' sound apparatus is not capable of reproducing the varied articulated sounds of human speech. It has proved possible in recent years to teach some chimpanzees to use separate gestures from deaf-and-dumb language in order to express the simplest emotions (hunger, fear, etc.). The most that the apes are capable of expressing in this language is conveyed by gestures, meaning "give me a drink", "take away the doll", and such like. More complicated propositions give them great trouble, namely ones that include the abstract concepts without which development of thought is impossible. An insurmountable obstacle to the development of ape's speech activity is that their brains are not big and developed enough to master human speech. The studies of this kind that have been made present definite scientific interest, yet at the same time show that the higher anthropoid apes are incapable not only of independently developing the second signalling system that underlies human mental activity, but also of mastering it.

Language activity, which arose in labour as the basis and means of development of thought and consciousness is a distinguishing feature of man.

It was during labour that a need for mutual understanding arose, for exchange of production experience, and a need to carry out commands in co-ordinated fashion, and to accumulate and pass on vital information. That led to the gradual development and complication of language which was originally directly interwoven in labour activity.

Labour and language were the basic factors furthering the development of human consciousness as the highest form of reflection of reality.

127 *On the Relative Character of the Opposition of Matter and Consciousness*

So, consciousness, in contrast to matter, is not eternal. It is a product of the development of matter. It is the highest, most complicated form of a special property

of matter, viz., reflection. Matter can exist without consciousness and precedes the latter during evolution and development, but consciousness cannot exist without matter. It is in that sense that it is secondary and derivative. And in that consists the opposition of matter and consciousness. The objects around us are material, while consciousness (which arises in our brains) is ideal; the opposition of matter and consciousness is also manifested in that. But this opposition is not itself absolute but relative. It has sense only within the context of the basic question of philosophy, when we are interested in which is primary: matter or consciousness, how consciousness is related to matter, and whether it can know the world around us.

Suppose we are reflecting on the objects around us, examining them, and studying them. Since they are outside us and do not depend on our consciousness, and we get information from them through our sense organs, we can say with confidence that they are all matter, i. e., objective reality (102). The images of these objects, concepts of them, and the judgments and statements that express our knowledge, are in our brains, form part of our consciousness, and in that sense are subjective. The subjective is thus a reflection of objective reality in certain conditions. And it is in that sense that consciousness is opposed to matter as objective reality.

Suppose, further, that while we are studying the material objects that interest us, someone else is watching us, examining us, studying and reflecting on our actions, words, and activities. For this person, and his consciousness, we ourselves, and our brains and their activity, are just as material as the rest of the objects of the material world around us. He can consequently regard us and the products of the activity of our brains as objective reality, as something lying outside his consciousness and outside his mental activity. Consequently, our thinking and minds function on the one hand in respect of the object interesting us as its reflection in our brains; on the other hand, our thinking and minds themselves can be regarded by the other observer as objective reality existing outside and independent of his own consciousness. Let us add that we in turn could

relate to the consciousness and mental activity of this observer in exactly the same way.

So, in the context of the basic question of philosophy, when it is necessary to answer whether consciousness can exist independent of matter, prior to it or without it we must answer quite definitely that consciousness is the product of the lengthy development of matter. Here it is necessary to counterpose the objective and the subjective clearly and to show that consciousness is secondary and derivative. When that aspect of the matter is clarified, and the truth of materialism is demonstrated, it would be an immense error to exaggerate this opposition. That would prevent scientific study of consciousness, thought, and other manifestations of mental activity such as will and feelings. Since the mind is manifested in man's material activity, in work, and various acts, in language activity, and so on, the opposition of matter and spirit, of the physical and the mental, and complete divorce of the one from the other, would only prevent scientific study of consciousness and other mental phenomena.

128 *Can Computers Think?*

I have explained how consciousness arose as a result of the objective development of matter, and what principles and factors influence the shaping of it. Now we can return to the questions posed at the beginning of section (117).

New scientific disciplines arose in the middle of this century and began to develop rapidly (cybernetics, the theory of information, the theory of artificial intellect, etc.). Their development was linked with the building of fast electronic computers. The special features of these is that, unlike other machines, they have been built to lighten man's mental labour rather than his physical work. The first computers could perform several thousand arithmetical and logical operations in a second, surpassing man in speed. Modern computers, and especially microones with very small dimensions, surpass their predecessors thousands of times over, and perform tens of millions of operations a second. Silicon chips no bigger than a postage stamp have now been made that have around a quarter of a million locations. And

now scientists and designers have begun to make super-large integral circuits on such chips, containing millions of transistor switches, by which it has proved possible to build microcomputers and microprocessors that perform very complex logical and computer operations with a huge amount of information in an infinitesimal interval of time. Information theory and the theory of artificial intelligence are helping develop complex programmes for computers that are written in special artificial mathematical languages and are a set of thousands of rules prescribing the set and sequence of the operations to be performed by a computer when solving a problem. Modern computers are able to fully automate a whole number of production processes and very complicated computations. There are self-programming computers that write new, better, and more complicated programmes from ones fed into them, correct mistakes made by the programmers, and even construct other, automatically operating, electronic devices. Hundreds of thousands of electronic automata and robots are now working in the world, taking the place of some of the factory workers who manned assembly lines, and fully automating welding and other heavy work. There are robots that can perform complex office work in banks. The number of robots will increase many times over by the end of the century, and will be much improved, and there will be new, more complicated programmes, and even more compact and faster computers and control devices.

It is often asked in that connection whether a computer can think. Will they not displace man as a thinking being? And replace him in time on our planet? These questions are not only of philosophical but also of socio-political relevance. Despite the fact that investigations in the field of the theory of artificial intelligence, the creation of expert systems capable of tackling complex tasks, and the construction of automatic robots have now gone far ahead, and there are grounds for thinking that there will be growing progress in these fields, there are no grounds for fears of such a kind, at least in the foreseeable future.

When we look at this problem from the angle of an analysis of the nature of thought and consciousness the answer to the questions posed is as follows. Man's

mental activity includes not only its highest form, logical thought, proceeding according to certain rules, but also many forms of emotional reflection of reality (such as happiness, anger, fear, satisfaction, love, friendship, enmity, hunger, satiation, etc.), and also various kinds of unconscious mental processes. Man's creativity presents special interest; it is a phenomenon not governed by previously established rules. On the contrary, it is in creation that new rules are worked out, qualitatively new ideas and principles of activity developed. If it were not so, people would constantly, like animals, perform one and the same set of innate types of activity transmitted to them by heredity. Creativity is precisely the mental, psychic peculiarity of man that is manifested in his capacity to change the environment qualitatively, to create something quite new, and which distinguishes him at bottom from all living creatures. A sharp line is drawn here that divides the possibilities of the best computers from those of any normal human. The computer cannot of itself think; it only obeys rules, by means of integral circuits and electronic devices, that are contained in programmes. The computer excells man in the speed of performing operations, and in the capacity of its memory (memory device), in its tirelessness, and in its capacity to work continuously for many years, and so on. But since the process of creation cannot be fully subordinated to rules and described by means of them, it cannot be programmed and "handed over" to computers. And it is impossible to develop science, engineering, and art without creation; and real thought, too, is impossible without it. No computer, even one that composes music according to set rules, can replace Ludwig van Beethoven. A computer programmed to compose a coherent text cannot write Tolstoy's *War and Peace*. A computer cannot in general solve problems not provided for by the programme fed into it.

In Victor Hugo's novel *Notre Dame de Paris*, describing events in Paris at the end of the fifteenth century, one of the characters, comparing a manuscript and a printed book, expresses a fear that the printing press (only just invented) would lead to people forgetting how to write and to a loss of literacy. We know now that this fear and forecast did not come true. The num-

ber of people who know how to read and write is continually growing throughout the world; the general standard of education is rising, and that is happening precisely because of printing. Similarly one can speak about "thinking computers". By taking over the performance of certain computing logical operations, robots and minicomputers displace people from routine, boring, and heavy work. Just as book-publishing led to a growth of universal literacy, so the spread of computers is promoting further development of human thinking. In a society free of exploitation and oppression of man by man, it can only lead to positive consequences. There will be a leap in people's education and culture, and in the development of their creative capacities. That will help mankind make another stride along the road of developing and perfecting its mental activity, and along the road of cognising and rationally changing the world in the interests of the overwhelming majority of people. Therefore one must see in the development of computers, and especially of microelectronics, not a danger of a rival to human thought but the basis for its further development and improvement.

129 *Some Conclusions. The Synthesising Function of Philosophy*

To wind up the discussion of the first aspect of the basic question of philosophy, we can draw the following conclusions.

The categories reviewed in this chapter are of major methodological importance. They show what the general direction of our cognitive activity is. The scientist, the public figure, any active conscious person, when studying the external world, must examine it not as a haphazard collection of chance events, but as a single, interconnected material process that objectively exists and develops according to its own laws. Not only is the world as a whole an immense material system, but its separate parts are also special systems that have necessary, inherent, stable connections and which have their own structures and elements. Hence the world cannot be known and cognised from a stance of subjective idealism, since it denies the objective character of the phenomena around us. One also cannot

approach cognition of the world from the positions of objective idealism, which only sees in the whole of surrounding phenomena a manifestation of consciousness, and finds only the pattern of thought, without understanding that thought and consciousness themselves are a product of the complex development of the material world.

Metaphysical materialism, finally, which denies the universal character of change and development, cannot answer how thought and consciousness arose, cannot direct our reason to studying the objective laws of motion and development, though that is a most important task of modern science. Those who do not note the universal, general character of the change, motion, and development of nature and society, will also be mistaken in their decision of practical, social and political problems. In the rapidly changing modern world knowledge of the objective laws of the change of social systems and structures is a necessary condition of successful activity.

The categories of dialectical materialism surveyed in this chapter perform yet another important function in addition to their world outlook and methodological functions. The most diverse scientific knowledge is synthesised and united by means of these categories into a single picture of the world, which makes it possible to examine all the forms of the motion of matter (from the simplest and mechanical to the highest and most complex) as a whole. Inanimate objects and live creatures, the lowest forms of reflection and its highest form, consciousness, the process of the origin of life, labour as social activity, and language as the material vehicle of thought, all prove to be "inscribed" in a single picture, united, and synthesised in a single world outlook.

Physics, chemistry, biology, astronomy, history, cybernetics, and other sciences tackle their problems by their own special methods, and develop their special, more or less broad concepts and notions about the objects studied. But none of them can synthesise and unite the results of the other sciences within a single picture of the world. Philosophy does not replace the other sciences, and does not substitute itself for them when developing categories that make it possible to synthesise the main,

basic conclusions of the separate sciences relating to the general picture of the world and providing a notion of it as of a whole. In that way it manages to synthesise and unite the most diverse phenomena within a single world outlook. That enables us to understand their place in the changing world and their interconnections, and to foresee their further development correctly. Philosophy thus also performs a function of synthesis of knowledge.

Chapter II

SOCIAL BEING AND SOCIAL CONSCIOUSNESS

In the preceding chapter I have explained how Marxist-Leninist philosophy answers the first aspect of the basic question of philosophy. But man lives in society, and the laws of social development interest him most. To understand them it is necessary to examine the basic question of philosophy in relation to social life. This means that we must clarify what is the interconnection and relationship of being and social consciousness, and what is primary and determining in people's activity and the history of society. The answer is given by historical materialism, or the materialist conception of history.

The Materialist Conception of Society and Its History

201 *A Talk about the Idealist and Materialist Conceptions of Society*

Historical materialism is opposed to historical idealism at bottom and irreconcilable with it. In order to clarify the radical difference between materialist and idealist views of society, let us listen to a talk between the imaginary personalities already familiar to us, the Dialectical Materialist (DM), the Objective Idealist (OI), and the Subjective Idealist (SI).

OI. While materialist views of nature and consciousness are in agreement with science, it does not follow that they are also applicable to understanding society's life and historical development.

DM. That is how metaphysical materialists used to think, and how all idealists think, but their positions have no foundation.

SI. (joining in the argument). Material objects are similar to one another. The most important thing in people, however, is their inimitable individuality that distinguishes them from one another. It follows (1) that there are no objective laws of people's activity. For they are guided by personal, inimitable aims, and that which is unrepeatable and chance is not governed by laws. Therefore (2) I consider that the main thing in society is the aims, will, and intentions of individual people. The ones who interest us most are great men; they draw the crowd after them, lead them along a chosen path which cannot be foreseen since they are creative personalities. And (3) it is senseless to talk about the development of society; one can only speak of the development of separate individuals.

OI. Unlike you I think that people are subject to and governed by general laws, but these are the laws of the development of ideas, of social consciousness, which governs in every age personal, individual desires and wills. In the Middle Ages, for example, people were religious in the mass, because the idea of God was dominant. On the eve of the bourgeois revolution in England and France the idea of freedom predominated, and the bourgeoisie used it in its struggle against feudal monarchies. Suppose the idea of universal well-being and class brotherhood became common in our day. If they conquer minds, then all struggle will cease, including class struggle, and the existing social system will be confirmed forever. In other words, everything that people do they do in accordance with the ideas that are dominant in society. It is only necessary to understand these ideas correctly.

DM. In your arguments, you take one aspect of reality to oppose it to the other aspects. That is a metaphysical approach. The main thing therefore lies outside your arguments. Subjective and objective idealism cannot, for example, explain why society passes through one and the same stages of slave-owning, feudalism, capitalism, and socialism. If there are no objective laws and patterns in society, how are we to explain the similarity of features of the bourgeois revolutions that occurred in England, France, America, the Netherlands, etc.? If everything depends on personal ar-

bitrariness, why have so many countries (with a population a third of mankind) taken the road of socialism and are moving, despite certain differences, toward a common goal, communism, a movement governed by common, similar laws? And, finally, how do you explain the fact that some ideas are predominant in one historical age, and others, often opposing ones, in another? Why, for example, couldn't the idea of scientific and technical progress arise in antiquity? Why is it that Marxism-Leninism has become the most widespread ideology in the world, as not only its friends recognise, but also its enemies? Furthermore, idealist views do not explain why the masses follow certain leaders in one historical age, rejecting the views and calls of others. There were periods in history when the masses took part in social movements led by people from their own ranks. Subjective and objective idealism do not provide answers to any of these questions, while historical materialism, which recognises the extreme complexity of social problems, substantiates theories by which it can develop and elaborate its own active stance on them.

202 *Man and Activity. Preconditions for the Materialist Conception of History*

What are the main principles of historical materialism? What is the meaning of the materialist conception of society and its history?

In order to answer that question we must determine and define the starting point or premises from which we should begin our discussion. What are the distinguishing features of human activity?

All changes in nature are objective. They are not linked with thought or with any form of consciousness. On the contrary, *the main distinguishing feature of man's activity is that each of his separate acts or actions contains two interconnected aspects: the material and the ideal, which includes thought.* Excluding actions performed in sleep or in a morbid, unconscious state, any action of a healthy, normal person is connected with some act of consciousness. Before a person can act, he sets himself some aim. The aim is an image, concept, or notion about something that does not

exist but for which one must strive. The individual's aim may be to acquire things, to build a house, and so on. The aim of a work collective may be to improve a production process, build a new industrial aggregate, and so on. The aim of a society may be to change the material conditions of its life and build a new social system, for example, socialism. In short, both activity as a whole and each of its components is a unity of two aspects, the material and the ideal. Any material action of a person (movements, sawing wood, working at a lathe, etc.) calls for understanding the meaning of the acts performed, knowing the rules of activity, possessing certain skills, and being aware of his aim. Without that man's activity is impossible. On the contrary not one single thought or wish of a person can be realised, and not one aim achieved, without material physical activity, without use of material means and tools. A person's thought itself is accessible to other people's understanding only through quite material language activity. The material and ideal aspects thus prove to be closely linked and inseparable in human activity. This is a dialectical unity in which the opposites supplement each other and intertwine (404).

Which is the determinant in the relation of the material and ideal sides of human activity?

As regards this question, the English historian and philosopher R. G. Collingwood (1889-1943) claimed that the main thing in man's activity was the "inner aspect", i. e., ideas, feelings, motives, intentions, aims, and conscious decisions. The "external" aspect, i. e., material sense-perceived acts and actions, needed to be considered only insofar as they helped penetrate the world of human consciousness. From his point of view, to understand history meant to understand the motives, intentions, and aims of people. This is a typical idealist conception of history. It is impossible to explain on its basis why similar aims, aspirations, and intentions developed among people in similar historical conditions; why they were different among members of different social groups and classes; and finally why some aims and intentions of people can be realised and others are unrealisable in certain conditions and lead to unexpected and sometimes even opposite results. It follows from this

that one can only abstract himself from the material conditions of his life activity in imagination.

In order to understand the specific nature of society's life and history it is necessary to examine both aspects of human activity, the material and the ideal, in a unity, in their interconnection, without separating the one from the other, and without opposing them to one another. For that it is necessary to answer which aspect of this activity is primary and determinant, and which is secondary and determined.

The theory of the development of society as a natural-historical process provides the answer.

203 *The Development of Society as a Natural-Historical Process*

None of the processes taking place in nature depends on man's will and consciousness. They are all objective or natural. The laws that govern the phenomena of nature are therefore objective. Can there be objective laws of the development of society, i. e., laws that do not depend on people's consciousness? For peopole's activity itself has two interconnected aspects, the material and the spiritual. Marx, Engels and Lenin answered this question in the affirmative. Generalising the experience of history they came to the conclusion that the laws of social development operate just as objectively and inevitably as the laws of nature, with the sole fundamental difference that they operate through the activity of people. That is why they called the development of society a natural-historical process. People may not be aware that their activity is ultimately governed by objective social laws, apart from their will and intentions. In such cases they say that society develops *spontaneously*. Spontaneity does not mean that people act quite unconsciously. That is quite impossible for normal, healthy people. At the spontaneous stage people are aware only of their direct personal and group aims, and formulate only them, and select means to cope with them that do not depend on knowledge of the laws of social development. In that case the results of their activity may turn out not to correspond with the aims set. When people are conscious of the real, true patterns of social development, their activity is *conscious* in the proper sense.

At the stage of conscious social activity its results fully correspond to the aims set and lead to achievement of them, since the aims themselves are posed and formulated in this case with due allowance for the objective historical patterns.

The conception of the history of society as a natural-historical process is based on recognition of the determinant role of the material side of human activity. At the same time it takes into account the fact that the spiritual side of this activity plays an important active role. It can have a marked effect on the material side, although this influence itself is determined and limited by the material conditions of people's life activity. In order better to understand the interaction and mutual influencing of these two sides of the natural-historical process, one needs to bear in mind the following important propositions put forward and substantiated by Marx and Engels.

(1) "History" is not, as it were, a person apart, using man as a means to achieve *its own* aims; history is *nothing but* the activity of man pursuing his aims.[1]

(2) Mankind thus inevitably sets itself only such tasks as it is able to solve, since closer examination will always show that the problem itself arises only when the material conditions for its solution are already present or at least in the course of formation.[2]

It will readily be seen from these propositions what a great role Marx and Engels assigned to social consciousness and formulation of the aims and tasks of social development. At the same time they constantly stressed that the character and content of these tasks was determined by the material conditions and means of human activity. It is clear, therefore, that the opponents of historical materialism distort the true position of things, reproaching its philosophical doctrine with underestimating the significance of the spiritual, mental aspect of human activity. At the same time they cannot understand that recognition of people's purposive activity as the real content of history does not contradict the

[1] Karl Marx and Frederick Engels. *Collected Works*, Vol. 4, Progress Publishers, Moscow, 1975, p. 93.

[2] Karl Marx. *A Contribution to the Critique of Political Economy*, Progress Publishers, Moscow, 1984, p. 21.

point that the determinant side of this activity is the material conditions and means of its realisation.

In the previous chapter, when we discussed the relation of matter and consciousness (127), we have established that matter is the objective reality existing outside and independent of the products of the brain's activity. Consciousness, on the contrary, is the result of the brain's activity and in that sense is subjective. By analogy with that description we will speak in what is to come about the objective, i. e., material, and the subjective, i. e., mental, aspects of human activity, and also about the objective and subjective factors of social development. In order to get a better understanding of their interaction, we must examine the various forms of human activity in more detail, and bring out the objective laws and patterns underlying them.

204 *The Mode of Production as the Basis of the Development and Functioning of Society*

People perform various kinds of activity in real life, such as family-domestic activity, and production, political, scientific, pedagogical, religious, military, sports activity, etc. In performing any of these they enter into certain relations with one another. The thinkers of earlier ages (who, as a rule, expressed the interests of the dominant classes in society), attributed the main role to intellectual activity. That happened because activity to produce spiritual culture, i. e., to elaborate philosophical, religious, political, scientific, and other ideas, was the privilege of the dominant, ruling classes.

An outstanding achievement of historical materialism was its understanding that the real basis of the development of society (and the basis of all other types of activity, including intellectual activity) was the process of labour, i. e., the production of material wealth. That proposition, which seems simple and understandable to us, was a real revolution in the understanding of society's life for its time (when Marx and Engels put it forward).

As shown in the previous chapter, labour and object-oriented practical activity as such (125) was the main cause of the differentiation of man from the animal kingdom and the basis of the rise of consciousness.

Labour is the basis of the historical development and functioning of society.

What is the labour process? And what is its structure? The basic elements of this process are the following: (1) man and his knowledge and skills; (2) tools, mechanisms, instruments, and technical devices; (3) the objects of work that man finds in nature or creates, from which he fashions finished products by means of tools. *Tools and the object of labour, taken together, are called the means of production.* They are material and exist objectively. *Man and his knowledge and skills, and the appropriate means of production form the productive forces of society.* This is the side of production where man affects nature. In acting on the external world by means of tools, man changes it, and gives external phenomena and processes a form more suitable for satisfying his needs. By changing the world around him, he also changes himself. Change and development of working people's knowledge and skills come about in the wake of change of tools and of the means of production as a whole. As a result, the level of development of the productive forces is also raised, and they are improved and perfected. The creation of new synthetic materials like capron fibres (an object of labour), for instance, led to the invention of new spinning machines, and that required new production knowledge and skills. The latter in turn made it possible to improve these machines and the whole technology of production, which in general promoted development of the productive forces. We thus see that the productive forces include both purely material components (tools, mechanisms, etc.), and mental, intellectual components (production knowledge and skills), but *the leading, determinant aspect of the development of production is the material components.* Moreover, *man, the worker, is the main productive force*, since it is he who puts tools into action, and contributes to change of the means of production as a whole. In our day special scientific knowledge is needed in order to develop the productive forces. This is why science is becoming a direct productive force, and the role of knowledge is continuously growing (311).

When performing production activity people enter in-

to relations of production not dependent on their will and consciousness. So *the process of production of material wealth, or the mode of production, has two interconnected sides, the productive forces and the relations of production.* The productive forces constitute the content of the mode of production, and the relations of production its form (111). The content is the determinant, leading side of any phenomenon, but the form also plays an important active role. It promotes development of a phenomenon when it corresponds to the content, and prevents it when this correspondence is disrupted.

There is an objective and necessary, i. e., law-governed, connection between the two aspects of the mode of production. This connection was first discovered and studied by Marx and can be formulated as a special objective law governing the development of any mode of production. This law is called *the law of the correspondence of the relations of production to the character and level of development of the productive forces.* It asserts that material production develops the more successfully, the fuller the relations of production correspond to the productive forces. But this correspondence is never absolutely full and constant. The productive forces, being the most mobile side of any mode of production, sooner or later outpace the relations of production in their development. A non-conformity or disharmony sets in between them. The relations of production change from being a motive force of production to a brake on it, and then an objective necessity to create new ones arises. As a result of this a new mode of production arises, and at the same time all social relations, and all other forms of social activity are also altered. As we see, the relations of production play a very important role in the development and perfecting of the mode of production. When we say that these relations are established independently of people's will and desire, we stress their objective, material character. But, after all, the people entering into relations with one another, for example relations of co-operation or of rivalry and competition, of mutual aid or struggle, understand what they are doing, and are aware of their actions to some extent or another. Why then can we

say that their relations built up in the process of production are objective?

Let us examine the relations of production in more detail. They consist of the following: (1) relations of ownership of the basic means of production, above all of instruments of labour; (2) relations arising directly in the process of production; and finally (3) relations connected with distribution of the product of labour, i. e., relations of distribution. The determinant relations among all these relations of production are the property relations, on which the remaining ones depend. The type of the mode of production that exists at any stage of social development also depends on the type of ownership. They distinguish *five main types of ownership*: primitive communal; slave-owning; feudal; capitalist; and communist (socialist).

It is important to understand that ownership is not a specific feature of things as many capitalist philosophers and economists claim. One and the same machine tool is private property in the capitalist system, but in the system of socialist production is socialist social property. Ownership is a special form of the relations in regard to means of production that people enter into of objective historical necessity, depending on the character and level of development of their productive forces. With the existence of stone tools in primitive society, for example, people could not enter into capitalist relations based on private ownership and appropriation of capitalist profit. The low level of the productive forces existing then simply did not make it possible to ensure production of profit. The collectivist relations of primitive society, based on common ownership of the means of production were therefore not established by the will and consciousness of primitive men but in accordance with the character and level of development of the material productive forces.

In modern capitalist society the productive forces are based on complex technologies employing automatic machines and robots. Millions of people have been drawn into the process of production. The productive forces consequently have a social character. The relations of production, however, are based on the private capitalist form of ownership which corresponded to the

character and level of development of the productive forces built up in the early stages of the development of capitalism. At that time capitalist relations of production most fully corresponded to the productive forces of society and provided scope for their rapid development. Capitalist relations of production no longer correspond to the character and level of development of the productive forces. Although these relations cannot stop technical progress, they strongly slow it down and prevent development of the productive forces. Consequently an objective, historical necessity arises, apart from people's will and desire to establish a new, collective, socialist form of ownership of the means of production. This means that new relations of production must objectively arise in place of the relations of capitalist exploitation and competition, namely relations of mutual aid and assistance, and socialist emulation and co-operation.

Each time a new type of ownership is established under the influence of the law of the correspondence of the relations of production to the productive forces, other relations determined by property relations are consequently also altered. This happens primarily in the sphere of the distribution of material wealth. In capitalist society those who own big capital also get the biggest profit. The rich become richer and the poor poorer. In socialist society, on the contrary, material wealth and social funds are distributed above all in accordance with the quantity and quality of labour expended. In both cases, of course, both under capitalism and under socialism, the forms of distribution may vary depending on the concrete situation, market conditions, the supply and demand of labour, and a number of other conditions, the level of wages may fluctuate, the profitability of an enterprise vary, and so on. But the deep-lying dependence of distribution on the dominant type of ownership remains. With a change of mode of production, consequently, the relations of production become entirely different.

People can be aware of the inevitability of such far-reaching social reforms and encourage them; they may also oppose them, defending the interests of the dominant classes, who are concerned to preserve the old relations of production. They cannot, however, prevent

the establishing of socialist relations of production because that is conditioned by the objective character of the development of the productive forces. It is in just that sense that the type of relations of production that characterises a mode of production, and above all the type of ownership which determines all the other relations of production, have an objective character and do not depend on people's will and desires. People can more or less promote or prevent the operation of the objective laws of the development of production, and above all of the law of the correspondence of the relations of production to the level of development of the productive forces, but they cannot abolish these laws, transform them, or stop their action.

It is very important, in order really to master the materialist conception of history, to understand that historical ages differ from one another not in what people produce but in how they produce it, i. e., in the mode of production. People do not produce material objects alone, they "produce", i. e., create, develop and elaborate religious, philosophical, political, and scientific views, works of art, moral norms and standards, juridical laws, etc. The creation of these belongs to intellectual, spiritual production, but the latter largely depends on the mode of production of material wealth. Appropriate material objects and conditions are required, of course, for the creation of work of art and literature. A change of the mode of production of wealth consequently also affects a change in spiritual production, and the activity of people in the production process and the relations that arise on its basis determine all the other forms of social activity and social relations. The mode of material production thus proves to be the basis of the development and functioning of society, and the objective laws that govern it underlie all other patterns and regularities of social development.

205 *Basis and Superstructure*

From the standpoint of historical idealism society is an aggregate of separate individuals and isolated personalities who take decisions and implement them at their peril and risk. Each such individual is a sort of

Robinson Crusoe living in solitude on an uninhabited island. Extreme individualism expresses such a view. Individual initiative, invention, and enterprise have played a significant role, of course, in the affairs of society. No few complex problems have been solved through them, but the sense of individualism does not lie in recognising and justifying the significance of individual activity but in counterposing it to collective, group action, and the very possibility of the solidarity of people. Yet it is such solidarity, effected on the basis of common aims and interests, that underlies class struggle, the activity of trade unions, the national liberation movement, etc.

In opposition to the idealist and individualist conception of society, historical materialism treats it as a complex system, or as a social organism, in which each individual is linked with other people by various social ties and relations. In order to understand society, and to study the laws of its development and functioning, it is necessary in the first place to comprehend existing social relations, ties, and processes. It is because of the existence of stable ties and relations between people that society, in spite of the change of generations, preserves its main features for centuries, and is governed by one and the same objective patterns. The key to understanding society's life thus lies in study of social relations and connections that embrace various groups of people and separate individuals rather than study of separate isolated Crusoes.

Which of these relations are the determinant ones? By recognising the mode of production as the basis of the development and functioning of society, historical materialism recognises the relations of production as the determinant ones. All other relations and forms of activity, for example family and domestic ones, legal, moral, political, artistic and aesthetic, military, national, and other relations, and also the forms of consciousness corresponding to them, are built as it were on top of the relations of production, just as the storeys of a building are erected on top of its foundations. It is therefore customary to call *the relations of production which form the economic system of society the basis of society. The ideological, legal, and political rela-*

tions, and the social and public organisations and institutions through which these relations are realised, are called the superstructure. It also includes the various forms of social consciousness that reflect the objective social phenomena and processes.

The superstructure not only rises on the basis and is not only determined by it, but also exerts an active feedback effect on it. We must therefore bear in mind that the superstructure of class societies includes social and public organisations and institutions that express the interests of various social groups and classes, and therefore act differently on the basis. Some strengthen and consolidate it, expressing the interests of the classes and social groups for whom this basis ensures a dominant position in society; other elements of the superstructure, which express the interests of exploited classes and social groups that lack rights and power, undermine the basis and strive to change it and ultimately establish new relations of production, a new mode of production, and consequently a new social system. In class societies the most important elements of the superstructure are the state and political parties. Let us now turn to an examination of these most important phenomena of the superstructure.

206 *Classes and Class Struggle*

The reason for the rise and functioning of states and political parties is classes and class struggle. That classes play an important role in society's affairs, and that their struggle influences society's history and determines its direction, was discovered by bourgeois historians and economists even before the genesis of historical materialism. As a rule, they saw the reasons for class division in the spiritual or racial superiority of some people over others, or in their innate "nobility". The French enlightener Jean Jacques Rousseau (1712-1778), it is true, argued that social inequality and class division were the result of the development of private property. Marx highly appreciated this argument. But Rousseau's mistake was that he considered the establishment of private property an act of personal arbitrariness. If the first property owners had been resisted, he suggested, the subsequent history of mankind would have

been quite different. Modern capitalist ideologists who recognise the class division of society either consider it eternal and unabolishable, or claim that the opposition of class interests can be eliminated by creating a society of universal prosperity, but without touching private property. One of the greatest achievements of historical materialism was discovery of the objective reasons for the origin of classes and class struggle, and proof of the proposition that with the disappearance of these causes a new phase in world history should ultimately set in, viz., classless communist society. What are these causes? And what are classes?

There were no classes in society before the genesis of private property. It arose when the productive forces reached a level high enough for certain surpluses to be produced above the minimum needed to satisfy urgent needs for food, clothing, shelter, etc. When that level was reached, it became profitable to employ and exploit the labour of others. That enabled wealth to be accumulated in the hands of a few and used to acquire economic power and authority over other members of society. From that moment *society was split into different classes.*

> Not all social groups are classes. As Lenin wrote, classes are large groups of people differing from each other by the place they occupy in a historically determined system of social production, by their relation (in most cases fixed and formulated in law) to the means of production, by their role in the social organisation of labour, and, consequently, by the dimensions of the share of social wealth of which they dispose.[1]

The most important of these attributes is ownership of the means of production. Classes that possess such property and utilise it to appropriate the results of the work of others are exploiters, while classes that do not have such property are exploited. Hence certain relations of production underlie the class division of society, and govern the character and level of development of the productive forces.

Each mode of production that prevails in a given historical age, has its corresponding main classes. These are slaves and slave-owners in one age, serfs and feudal

[1] V. I. Lenin. *Collected Works*, Vol. 29, Progress Publishers, Moscow, 1977, p. 421.

lords in another, capitalists and wage workers in a third. In socialist society, in which there is no private property in the means of production and consequently no exploiter class, the main classes are the working class and the co-operative peasantry.

In addition to the main classes there are other strata, which are not main ones, and which do not exploit the labour of others (individual peasants, craftsmen and artisans who are commodity producers), and also special social strata that do not occupy a strictly defined place in the system of production, for example, the intelligentsia. In exploiter societies these strata go along with the dominant classes, as a rule, and serve their interests. In socialist society, where there is no exploitation of man by man, the intelligentsia is formed from workers and peasants, and its interests and aims coincide with those of the working people.

Since the class division of society is due to the objective development of social production, classes can only disappear in certain objective conditions. The most important of these is abolition of private ownership of the means of production. Since the economic interests of the main classes of society given the prevalence of private property are opposed and irreconcilable, there has been an embittered struggle between them since the time classes arose. In societies in which some classes exist at the expense of others, the class struggle is violent and merciless. Such societies are called antagonistic (218-220). The internal antagonistic contradictions between the productive forces and the relations of production are resolved through this struggle, old forms of the organisation of society are broken up, and new ones created. As for the classes, they are aware of their economic and political aims and put forward certain views, doctrines, and theories needed to achieve these aims and to defeat their class opponents. Class struggle affects all aspects of society's life, from production and economic activity to social consciousness inclusive, and so proves to be *the most important motive force of history.*

Since exploiter classes are, as a rule, a minority in society, they need special institutions and organisations at each stage of historical development in order to

defend their economic interests and maintain their dominant place in the system of social production. The most important of these social institutions are the state and parties. These are part of the superstructure of all class societies and perform important legal and political functions.

207 *The State in the System of the Superstructure*

The state has not always existed. Hundreds of thousands of years passed before the splitting of society into classes, when people got along without a state and government bodies and agencies. Why then did the state arise? And what is it?

The English philosopher Thomas Hobbes (1588-1679) assumed that in natural conditions people continuously fought each other, because the condition of man is one "of war of everyman against everyman", and "every man is enemy to every man".[1] In order not to perish in unceasing struggle men were forced to conclude a social contract and create the state as a body of universal reconciliation. This idea was later elaborated in various versions by bourgeois ideologists, and continues to be so right down to our day. The state, they claim, is a body of reconciliation and regulation of all the contradictions in society, including class and antagonistic ones. All strata of society should therefore support the state as an institution acting in the interests of society as a whole, and of everybody individually, and not in those of some private groups or classes. Such views do not correspond to reality. The facts show that the first slave-owning states arose with the splitting of society into classes. The state is an ensemble of special groups of people fighting for and defending the interests of the dominant classes.

In Lenin's words the state is "a machine for maintaining the rule of one class over another".[2] The exploiter state performs several home and foreign (extern-

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[1] Thomas Hobbes. *Leviathan*, Routledge & Sons. London, 1894, p. 64.

[2] V. I. Lenin. *Collected Works*, Vol. 29, Progress Publishers, Moscow, 1977, p. 478.

al) functions. Its main domestic function is to suppress the class struggle of the working people. In order to exercise that function it includes several agencies, organisations, and institutions, such as armed forces (army), police, intelligence and counter-intelligence services, courts, procurator's offices, government and its executive agencies, and also legislative bodies. The latter elaborate a legal system (statutes, norms, and rules) that expresses the interests and views of the dominant classes on the social set-up, and consolidate their will and authority. The courts and law enforcement bodies see to strict observance of these laws, ruthlessly punishing and chastising offenders. That also applies to the individual members of the dominant classes, when they break laws beneficial to the dominant class, or do not obey the standards of behaviour established by the law. The state does not defend the personal interest of individuals but the common interests of the class. The references of capitalist ideologists to facts of the use of state measures and punitive acts against individual members of the dominant classes as evidence of the national character of the state in class societies are therefore quite insubstantial and flimsy.

Any exploiter state is a dictatorship of some dominant class. Three main types of exploiter state are distinguished in accordance with that, viz., slave-owning, feudal, and capitalist (218-220). The type of state consequently ultimately depends on the prevailing type of ownership and on the relations of production predominant in it that form its basis. In performing its functions the state consolidates and defends the basis.

With the transition to socialist society states of a new type arise, viz., socialist states. They are organisations exercising the political authority of the whole people. The state machinery created in capitalist society, in accordance with the concrete conditions of the country, the disposition of political forces, and the international situation, undergoes more or lees deep transformations, and a new legislation is passed. But there is not, and cannot be, any single, obligatory model of the organisation of state power, suitable for all countries and nations. The founding of a socialist state presupposes a great variety of concrete forms and stages, depending

on national traditions, the acuteness of the political struggle, and many other factors. The decisive factor, moreover, is the degree of resistance of the exploiting classes. When members of the national bourgeoisie, the petty bourgeoisie, farmers, and intelligentsia accept the basic principles of social reforms, these can be carried out gradually, on a broad democratic basis, involving all strata of the population who are ready to co-operate in the new state system. If, however, the resistance to socialist reforms is acute, the state naturally has to take quite justified measures to suppress the overthrown exploiters. The main function of the socialist state, however, is not that of suppression, which has a temporary, transient, defensive character, but a creative one, that of leadership of the masses who are building a new society on the principles of social justice, equality, democracy, and humanism.

The dictatorship of the proletariat plays a decisive role in creating the new society and itself undergoes changes in the course of its consolidation.

Having performed its historical mission the dictatorship of the proletariat develops into a political organisation of all the working people, and the proletarian state becomes a state of the whole people that expresses the interests of all. As society develops toward communism, the administrative, organising, and educational functions of the state are consolidated and extended. Some of these functions begin to be performed to an ever greater extent by various social organisations and work collectives. The democratic character of socialist society is manifested in that.

With creation of the requisite socio-political and ideological conditions and involvement of all citizens in administration and management, and given the absence of external danger and the existence of an appropriate international situation, the socialist state will take a form transitional from the state to the non-state, and the need for a state as a special political element of the superstructure will gradually disappear. At the present stage, however, the further development of socialism and advance toward communism are associated with development and consolidation of the socialist state of the whole people in every way. This is a most important

instrument in perfecting socialism and resolving contradictions that may arise.

The socialist state also performs external functions. Unlike exploiter states it has no drive for territorial conquest, since its external functions include only defence of its own territory, maintaining of international ties, above all with socialist states, and, finally, working toward international peace and security.

In contrast to the *type* of state, which is determined by the prevailing relations of production, its *form* depends on the relation of class forces at any stage of historical development, on the features of the history of a society, and its traditions and concrete external and home political circumstances. The most common forms of exploiter states are monarchy (rule by one man), the aristocratic or oligarchic republic (in which a small group of nobles or very rich citizens stand at the head of the state), and the democratic republic in which the legislative and executive bodies are elected by a more or less significant number of voters. In the majority of capitalist countries, today, there are varieties of bourgeois republics. The constitutional monarchies preserved in Great Britain, Sweden, and certain other capitalist countries differ from them only in their outward traditional forms; in them the functions of the president of a republic are performed by a hereditary king (queen), whose real power is greatly limited.

Bourgeois democracy is most convenient for exercise of the power of capital. By granting formal franchise to the working people it limits to the maximum their chances of being elected and taking part in the administration of the state. The formal equality before the law in contemporary capitalist society is not supported by real economic equality. When there is an acute exacerbation of class contradictions, however, the capitalist class does away with such moderate democracy and passes to forms of open military-police or fascist dictatorship. The history of the rise of fascist states in Italy and Germany in the first half of this century, and the Second World War caused by them, convincingly demonstrate that such dictatorial regimes serve the interests of the big monopoly capitalists. The military-police states that exist in some countries where the ordi-

nary methods of bourgeois democracy do not succeed in coping with the working people's struggle, also serve the same circles.

In contrast to all the varieties of bourgeois democracy, socialist democracy not only grants the working people very broad rights but also guarantees them the chance to take direct part in all levels of the administration of society, which is the socialist self-government of the people. These guarantees are most fully embodied in the Constitution (Fundamental Law) of the USSR. The rights and duties of Soviet citizens conform strictly with the real class structure of society. Genuine socialist democracy is expressed in each conscious, active citizen's not only taking part in legislative activity and in the administration of society and management of industry, but also actively discussing legislative acts and decisions of the executive bodies. Socialist democracy, being a form of the development of socialist statehood at the same time prepares the way for passing to forms of communist self-government.

208 *Political Parties in the System of the Superstructure*

Political parties, like the state, are a product of the class division of society. Parties are the most organised and conscious groups formed by a certain class or its separate strata, and expressing their interests. The most important distinguishing feature of parties, which determines their place in the system of the superstructure, is that they are aware of, and substantiate the political and economic aims of their class, develop its strategy and tactics in the struggle for power, put forward and justify appropriate ideals of society's life, and mobilise and organise all their forces in the fight for influence among the masses.

Political parties of one form or another exist in almost all class societies, but they occupy a most marked place in the superstructure of capitalist and socialist societies. Capitalist democracy provides the most favourable conditions for the rise of various capitalist parties. In present-day capitalist countries some of them take an extremely reactionary right-wing stance, others prefer a more liberal political position. The existence of

a number of political parties, known as political pluralism, provides an appearance of choice for the working people. In fact, however, all these parties, while differing only in the means and methods of tackling political tasks and problems, endeavour to consolidate the prevailing economic basis and the capitalist state.

The elementary democratic freedoms (freedom of speech, assembly, and organisation) won by the working people in tough class battles in certain capitalist countries enable them to create their own political parties. The various social-democratic and socialist parties, which do not as a rule recognise scientific socialism as their theoretical platform pursue a policy of shallow social reforms.

This means that even when they gain office such parties only carry out limited reforms calculated to "mitigate" the class struggle leaving the very foundation of capitalism — Big Business — untouched. That explains why such parties, even when in office, are unable to enlist the support of the working people and gradually lose their influence among the masses.

The role of political parties in today's world is determined by their contribution to the solution of a country's or a region's acute social problems, and to their stand on global problems. The most important of these are the struggle for peace and nuclear disarmament, prevention of ecological catastrophe, attainment of a more just economic order, struggle for human rights and for the establishing of flexible, equal cooperation between countries with different socio-economic systems. The question of the role of progressive parties that express the interests of the working people in the struggle for the social transformation of society is acquiring special importance. The role, and the strategy and tactics of these parties are determined by the concrete historical conditions and by their general ideological and socio-political precepts. In a number of socialist countries, and in countries that have taken a non-capitalist road of development, Communist, Workers' and national-revolutionary parties have a decisive place in the system of the superstructure. But the model of socialism with a one-party system is not the only one possible. Other models are possible in the concrete historical

conditions, including ones in which Communist and Workers' parties can co-operate fruitfully with other political parties and social organisations, relying on democratic institutions and the support of broad strata of the population. It is important to stress, in that connection, that one of the most important principles of the new thinking and ideology of renewal proclaimed by the Communist Party of the Soviet Union as its most important ideological, philosophical and political principles, is full equality and independence of all revolutionary, Communist, and Workers' parties, which independently develop their strategy and tactics, their line of political behaviour, and the machinery of their relations with other political organisations and institutions within the society's superstructure, i. e., its sociopolitical system.

In the conditions of a developing socialist society like, for example, Soviet society, the Communist Party has a particularly great role to play. The party's degree of maturity, and its real weight and authority in society are determined by its capacity at each stage of historical development to renew, regenerate, and develop its political strategy in accordance with real tasks. There are no political parties that could be completely insured against mistakes in carrying through profound social reforms. A party's maturity is determined precisely by its capacity to be critically aware of its mistakes, and to have the courage and strength to correct them. The essence of the ideology of renewal and the new thinking that the CPSU has been developing since the mid-1980s, and that is accepted by the majority of Soviet people, is just such an awareness. But it is not a simple or easy business to carry through a social and economic reorganisation and restructuring that will overcome stagnant, standstill tendencies, correct the mistakes of the past, and conduct public affairs in accordance with the humane principles of socialism.

Soviet reorganisation *(perestroika)* is meeting certain resistance from the bureaucracy, and among certain conservative figures. The CPSU is therefore faced with a specially complicated task, namely to create the conditions for socialist pluralism, for activating the human factor, and carrying out far-reaching social and econom-

ic reforms that are revolutionary in essence and capable of making socialist society attractive in the eyes of the broadest strata of the public. It is these tasks, and the capacity to tackle them, that determine the role of a Communist Party in the system of the socialist superstructure.

209 *Social Organisations in the System of the Superstructure*

Various social organisations form part of the superstructure in class societies, along with the state and political parties. They may be set up by both the exploiter and the exploited classes. Examples of ones that defended the interests of the exploiters were the nobles' unions, Church organisations, and merchants' guilds (in feudal society), and various corporative organisations of private property-owners and capitalists (unions of manufacturers, big farmers, and so on) in capitalist society.

As the class struggle developed and sharpened, and the class consciousness of the working people grew, they also set up organisations to defend their interests. The most important of these in capitalist society are the trade unions, whose main aim is to organise the struggle of the working class to improve its economic and social position. The character of the activity of trade unions largely depends on what political parties influence them. Lenin repeatedly stressed the importance of ideological, educational, political, and organisational work in the trade unions. Bourgeois ideologists, reformists, and revisionists seek to subordinate unions to the aims of the capitalists, and to deflect them from the path of revolutionary struggle into a fight for petty economic reforms that do not undermine the foundations of capitalism. The most important task of Communist and Workers' Parties in capitalist countries is to increase their influence in the trade union movement.

Apart from trade unions numerous youth, women's, artistic, literary, musical, anti-war, sports, and other organisations and institutions form part of the superstructure of contemporary Western society. Representing various social, group, and professional interests, they differ in their attitude to social phenomena and have

a varying effect on the basis of society. When, however, their activity touches the radical, root interests of the capitalist class, directly or indirectly, it meets resolute opposition from the capitalist state and its political parties.

The role of social organisations that express the interests of the working people is continuously growing in socialist society. They act under the direct ideological and political leadership of the Communist Party, aiming to consolidate the socialist economy, develop culture, and improve the forms and conditions of society's life. The activity of such organisations as trade unions, youth leagues, sports societies, environment protection societies, and various co-operatives, embraces almost all the population, which largely determines their growing weight in the socialist superstructure. One must specially stress the role of the various forms of co-operation, such as collective farms, consumer co-ops, housing co-operatives or associations, producer co-operative organisations and associations, which are an important form of social self-management, and an effective means of developing the economy. A distinguishing feature of the interaction of voluntary organisations with one another, and with the Communist Party and the Soviet state, is harmonious co-ordination of their aims, and the fact that they rely on support of the state and party as very important elements of the superstructure. This is explained by the absence of antagonistic contradictions in the basis of socialist society and in the structure of the social relations rising on that basis (406, 407).

As society moves toward communism and socialist democracy develops further, social organisations will perform ever more complicated and all-embracing functions in the administration and government of society, and their weight in the superstructure will steadily grow. From the philosophical point of view it is important to understand how objective and subjective factors are combined and manifested in this activity, what the determinant factor is in the functioning of all social institutions and organisations, and whether objective laws and patterns can be discerned in their activity. At this point we come to the most important categories

of historical materialism, viz., "social being" and "social consciousness".

210 *Social Being and Social Consciousness*

An interaction of two aspects (spiritual and material) is discoverable in the activity of the main elements of the superstructure, i. e., of the state, parties, and social organisations. In order to formulate the most general pattern regulating their relationship and interaction in all forms of social activity throughout the whole course of the development of society, we need to examine these two categories of historical materialism. *Social being includes the totality of objective social and practical relations that arise on the basis of the relations of production, and the material elements of the productive forces.*

Social consciousness includes the totality of all the doctrines, theories, views, knowledge, and experiences of the members of a society arising through reflection of social being. Social consciousness is not simply the sum total of the individual minds of the people living at a particular time and in a particular society; it is the general, or what is common, that is contained in the consciousness of the members of society, classes, and social groups in any given historical age.

These categories are central to historical materialism. "Social consciousness *reflects* social being — that is Marx's teaching", Lenin remarked.[1] The opponents of historical materialism have reproached it many times with deducing social consciousness directly from economies and reducing all aspects of social life simply to economic production activity. In actual fact it is the capitalist scholars themselves who are guilty of such primitive "economic materialism". The American sociologist and economist Walt Rostow, for instance, who put forward a theory of stages of growth, claimed that the whole development of society was determined by the level of development of industry, and that all social contradictions (including class ones) could be solved by a simple improvement in economic activity and provision

[1] V. I. Lenin. *Collected Works*, Vol. 14, Progress Publishers, Moscow, 1963, p. 323.

of an abundance of material wealth. Although this view is refuted by life, because the immense wealth created in capitalist countries is simply inaccessible to the working people, such views are still very common. In order to characterise the real materialist conception of the essence of social consciousness, let us examine some examples.

After the socialist revolution in Russia, and the civil war, the productive forces of the country were devastated, most factories and mills were not working, the productivity of agriculture had fallen. The economy was in a perilous state. Nevertheless the consciousness of the masses was revolutionary. It was permeated by historical optimism, faith in the possibility of building socialism, and a striving to build a new society. At the same time the economies of the leading capitalist countries like the USA, Great Britain, and France were in a better position. The level of their productive forces was relatively high. But their social consciousness was characterised by a general pessimistic complexion and a crisis of all spiritual culture. If the state and content of social consciousness had been determined only by the state of the productive forces and the economy, things would have been quite the contrary.

Or take another example. In countries that have taken the road of socialism and also in countries launching a national-liberation and anticolonial struggle, social consciousness is characterised by a steady growth of revolutionary feeling and growing unity in the understanding of the social goal, the general tasks, and the means of tackling them. It might seem that public awareness and public moods in the industrial countries of the West would be characterised by universal, serene optimism when crisis phenomena have been overcome, the rates of inflation have been partly reduced, growth of unemployment has been stopped, and a certain economic revival has been achieved. But in fact matters are not quite like that. The intensive scientific and technological revolution and the increase in society's information input are leading to considerable instability, and to lack of confidence in the morrow, among certain strata of the public and professional groups. For certain employees there is a constant danger of unemployment connected with the automation, robotisation, and comput-

erisation of industry. Even the fact that new technologies create additional jobs does not guarantee that many people will not find themselves outsiders, without work, and "surplus" in the social structure. Pessimistic notes therefore often drown out the optimistic ones in the public mind in these countries.

It follows from these examples that one cannot deduce all social views, all doctrines, ideals, and political theories directly from the basis, i. e., from the relations of production. These relations and the material, practical activity corresponding to them underlie all other relations and forms of activity and social processes, but this means that not only are the relations of production and production activity reflected in social consciousness, but also other objective social relations, forms of activity (and social phenomena and processes linked with them), i. e., social being. The categories "basis" and "superstructure" are thus still inadequate to explain how social consciousness reflects people's social activity, and what it reflects, and how it influences this activity. The category "social being" is broader than "basis", because it covers not only relations of production but also material elements of the productive forces, and other social relations and institutions, and various kinds of activity. The category "social being", on the contrary, is narrower than "superstructure" because the latter, in addition to social consciousness includes the state, parties, and other institutions and organisations that are involved in the "production" of social consciousness and in the creation of various theories, views, and doctrines, and struggle to realise them and give them life. But these institutions and organisations themselves exist objectively, outside consciousness, and their material elements reflect social consciousness. The relationship of social consciousness and social being is thus not simple; it is mediated by the activity of various social groups, classes, and social institutions.

Social consciousness not only reflects social being but also has feedback effect. Revolutionary ideas reflecting the inner crisis of capitalism can arise, for example, in the system of social consciousness and in the aggregate of the views and doctrines of the capitalist period. These ideas, when they grip the minds of the masses, can

be embodied in revolutionary activity and lead to a change of being itself. As a result, a new being, that of socialist society, arises in place of capitalist being. The more exactly social consciousness reflects social being, the more strongly it affects the latter. That is why Marxist-Leninist theory, which reflects the essence of social being most profoundly and truly, exerts the most powerful revolutionary and transforming influence on being.

Summing up what has been said above, we can now formulate the basic principle of historical materialism.

211 *The Basic Principle of Historical Materialism*

The category "social being" is the result of extension of the general philosophical category "matter" to social phenomena, just as the category "social consciousness" is the result of extension of the more general philosophical category "consciousness" to social phenomena. Dialectical materialism affirms, when answering the basic question of philosophy, in full accordance with modern science, that matter is primary and consciousness secondary. This means, first and foremost, that matter precedes consciousness in the course of evolution and can exist before, outside of, and independently of it. Consciousness, on the contrary, cannot exist independently of matter.

It would be erroneous, however, to think that social being can exist before social consciousness and quite independently of it. Although the social relations and the material phenomena that form part of social being exist objectively, they are created by people in the course of their purposive activity, i. e., activity performed by thinking beings. One cannot imagine human society in which social being has taken shape yet social consciousness is absent. Such a society simply could not exist. In that case, how is the materialist answer to the basic philosophical question extended to social life?

We have seen (204) that the mode of production of material wealth is the basis of all other forms of human activity including spiritual activity, just as the economic basis of society is the foundation on which the political and legal superstructure of society arises (205). The mode of production which conditions all other forms and modes of activity is ultimately the deepest cause of

changes in society's life, and the cause of the transition from one social system to another, and in that sense plays a decisive role, just as changes in the basis govern changes in the superstructure, being their first cause, in spite of the fact that the superstructure itself can exert an active influence on the basis. The determinant role of the basis is manifested in that.

It will now be readily understood in what way the basic question of philosophy can be applied to social life, and how a materialist answer can be given to it. In relation to society this question sounds as follows: "Which is determinant — social being or social consciousness?" When answering that, historical materialism, in contrast to historical idealism, affirms that it is not people's consciousness that determines their being but, on the contrary, their social being that determines their consciousness. That proposition of Marx's is a scientific generalisation of the whole historical experience of mankind, and at the same time the basic law of the development and functioning of society. Social being is material and primary in the sense that it is it which determines change in the content and form of social consciousness and even the character of its feedback on social being. That is why this proposition about the determinant role of social being in relation to social consciousness is a basic principle of historical materialism.

A number of things follow from this principle: (1) social being exists objectively, outside social consciousness; (2) social consciousness reflects social being; (3) because it is primary and material social being governs both the content and the forms of social consciousness; (4) all changes in social consciousness are directly or indirectly caused by changes in social being; (5) social consciousness can actively influence change and development of social being, but this influence itself is ultimately determined by the objective laws of the development and functioning of social being; (6) all the laws of social development rest on the basic principle of historical materialism and find their scientific explanation in it.

The basic principle of historical materialism stresses and substantiates the correctness of the proposition that the development of society is a natural-historical pro-

cess (203). That view is most fully embodied in the doctrine of socio-economic formations.

The Theory of Socio-Economic Formations

212 *The Individual, Particular, and Universal*

It is sufficient to look at the objects around us to notice that they almost all differ somehow from one another. Even two identical billiard balls, when very accurately weighed are found to differ in weight by thousands of a gramme. Although quantum mechanics affirms that similarly named elementary particles are indistinguishable, it must not be forgotten that, at any given moment, they are in different places, may form part of different atoms, and the atoms part of different molecules, and the molecules part of different material objects. Above all, of course, people differ from one another and these are differences of appearance, character, skills, fates, nationality, language, etc. In short, all the phenomena and processes around us have unique features and attributes that are to a greater or lesser extent inherent in them, i. e., have *individuality*. This property is reflected in the category *"individual"* (or unique, single).

At the same time there are quite individual phenomena and processes that have no similarity to other ones. All crows, for example, have black wings, all liquids have a similar property of fluidity. In spite of all the individual differences that make people so dissimilar to one another, they also have similar features and properties or, so to say, special features enabling them to be classed into several groups. People can be grouped by age, sex, skin colour, hair colour, blood group, nationality, language, etc., just as chemical elements, in spite of their differences in chemical structure, can be grouped into alkali metals, halogens, and inert gases (each of which has its special chemical properties). Whatever their fates, appearance, and concrete deeds and actions, several similar features can be discovered in the personalities of Alexander the Great, Julius Caesar, Napoleon, and Suvorov: will, courage, military tal-

ent, organising abilities, etc., which made it possible for them to become great generals. Individual or single phenomena thus contain attributes and properties that not only distinguish them from one another but also make them similar to other. On that basis we can group them and establish group features. *The objective traits and properties inherent in certain groups of phenomena and processes are reflected by the category "particular".*

Together with the properties and attributes inherent in separate groups of phenomena and processes, there are, in objective reality, *features, properties, and relations characteristic of all phenomena and processes of a given kind. They are reflected in the category "common" or "general".* Common to all chemical elements is the fact that their atoms have a structure consisting of an atomic nucleus and an electron envelope. It is common to all people, irrespective of their sex, language, race, nationality, etc., that they are rational social beings capable of making various objects by means of tools. We thus come to an important conclusion, viz., that the categories "individual", "particular", and "general" reflect objective properties of the world around us.

Between the common (general), particular, and individual there is a profound dialectical connection in reality itself. *The general and particular exist in and are manifested through the individual. And vice versa, any individual object and process contains something particular and general.* This statement is applicable to nature, society, and thought. Every individual plant and animal is governed by general biological laws, and at the same time by particular ones characteristic only of its species. In the same way every individual person, however bright his/her individuality, exhibits a particularity in his/her behaviour, character, and social activity that is characteristic of his/her nation, profession and work collective, and also general traits inherent in people of his/her culture, historical age, and social class. At the same time the general and particular do not exist in themselves without the individual and separate from it. The general patterns of socialist society are manifested in the activity of separate work collectives and the individuals who comprise them.

Having explained the relationship of the general, particular, and individual, and shown that it operates both in nature and in society, we can now pass to the most general laws of social development. This problem is inseparable from the doctrine of socio-economic formations.

213 *What Is a Socio-Economic Formation?*

When we reflect on the fate of man in the past, present, and future, and on his position in society and his attitude to the world around, we come up against an immense variety of historical events and human deeds, the rise, development, and even death of whole peoples and states. Can certain general laws as objective as those of nature be seen behind all these? All attempts to find such laws, before the rise of the social philosophy of Marxism, ended unsuccessfully.

A truly revolutionary change in the understanding of society was needed in order to find, under the outward diversity and rapid change of historical events and people's deeds, something common, something that would unite and explain the very possibility of these events and forms of activity, and not others. This something common has come to be called a socio-economic formation.

A socio-economic formation is the aggregate of objective, stable social relations, processes, institutions, and social groups, and all the forms and types of social consciousness that arise and develop on the basis of the mode of production (204) prevailing in a certain historical epoch.

A socio-economic formation is consequently an extremely complex system. In each age there may be not just one, but several modes of production; in capitalist society, for example, along with the dominant capitalist production there can be petty commodity production, patriarchal, i. e., subsistence, production, and also survivals of feudal production. *These subsidiary or non-dominant modes of production are usually called sectors.* They are particularly varied in periods of transition from one formation to another. But the sectors themselves are subordinate to the dominant mode of production and depend on it. It is therefore this mode that determines

all the social relations, processes, institutions, and forms of consciousness that shape the basis and superstructure of a formation (205).

Society, as a single social system or social organism, comprises several interconnected subsystems. These subsystems are linked with one another; they include, for example, classes, political parties, the state, church and religious organisations, the family, etc., but they all ultimately depend on the mode of production (204-209). The link of the various subsystems forming a system with the mode of production is rather complex, and realised through various relations and dependencies.

"Socio-economic formation' is a category that reflects the most common and general, objective and necessary features and properties that are determined by the dominant mode of production, but are manifested in a special way in various specific countries. These features depend on national and historical conditions, and on when and in what circumstances the formation originated.

The theory of socio-economic formations dealt a crushing blow to all varieties of historical idealism. Capitalist ideologists, especially the followers of the German sociologist Max Weber (1864-1920), in trying to refute it, therefore, call them an "ideal type", i. e., an imaginary model of society that does not exist in objective historical reality. Retorting to the idealists, Lenin wrote that the concept "socio-economic formation" made it possible

> to proceed from the description of social phenomena (and their evaluation from the standpoint of an ideal) to their strictly scientific analysis, which isolates, let us say by way of example, that which distinguishes one capitalist country from another and investigates that which is common to all of them.[1]

One and the same formation, for example the capitalist or the communist, may manifest itself differently and develop in different countries, but the existence of common features and of a stable, necessary connection makes it possible to formulate common laws of the formation's functioning for all countries and nations, and laws of the transition from one formation to another.

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[1] V. I. Lenin. *Collected Works*, Vol. 1, Progress Publishers, Moscow,1964, p. 140.

Formations not only function during social development but also succeed one another, and that, moreover, in a definite, objective, law-governed sequence. *The transition from one formation to another is called a social revolution.* What is the pattern that determines it, and what does it depend on?

The change from one socio-economic formation to another is determined by the replacement of one dominant mode of production by another. Five socio-economic formations are distinguished in accordance with the five main modes of production (204): *primitive communal, slave-owning, feudal, capitalist, and communist.*

In different countries, and in different historical periods, the transition from one formation to another may take different roads. It sometimes lasts for decades and even centuries. It is important to understand that a social revolution is not determined by whether it takes place in a peaceful or an armed way, is protracted or short-termed, but by the fact that a change of mode of production takes place during it, and first and foremost of the economic basis. As Marx showed, this change of bases can be established with scientific accuracy. A complex, very difficult change of all the stages of the social superstructure takes place during a social revolution, and the class structure of society (206) is altered in a radical way. In class formations this change is therefore accompanied with a bitter class struggle. During the transition from one formation to another the content of the various forms of social consciousness also changes: art, religion, morals, and philosophy itself begin to reflect the new social being, the new relations between people, and the new system of state power and political parties. The changes in the mode of production and in all social relations take place tens and hundreds of times more quickly during revolutions and go deeper into society's life than in the period of quiet development within the preceding socio-economic formation. Traditional relations, modes of activity, and ways of thinking, are broken up, and the psychology and ideology of society altered; in short, there is a radical smashing of

all the former life in a bitter, fierce struggle of social forces which clears the road for the new formation. This break-up also constitutes a most important prerequisite and condition for the latter's development. Social revolutions are therefore an objective historical necessity. The *transition to the next, higher, historically more developed formation is impossible without a social revolution.*

215 The Structure of a Social Revolution

The social revolution from which a new socio-economic formation arises affects all aspects of society's life and has a complicated structure.

The destruction of the old mode of production and the rise of the new is called an *economic revolution.* Its main task is to replace the old relations of production by new ones consonant with the character and level of development of the productive forces.

The change in the juridical and political superstructure, which consists in the old legal and political organisations that formed part of the former formation being replaced by new ones corresponding to the basis of the new formation, is known as a *political revolution.* Lenin persistently stressed that its main problem was that of seizing power, breaking down the old state machine and creating a new one. And because state power (207) is a most important instrument for deciding economic and social problems, the struggle for it, and the building of a new state, is the essence of each social revolution. It is this aspect of the matter that the opponents of revolutionary changes in society endeavoured to gloss over. They tried to present things as if the most important problems of social revolution, especially a socialist revolution, could be tackled without breaking up the old state by reforming and perfecting it. They glossed over the class nature of the state. The capitalist state, which is an instrument of political suppression of the working people, cannot by its very nature eliminate antagonist contradictions, abolish private ownership of the means of production, and promote the building of a classless society. Replacement of the capitalist state machine by a state of the working people (with a leading role of the working class) is therefore a necessary historical condition of the socialist revolution, which is

the deepest in the series of all social revolutions (219, 220).

During the transition from one formation to another deep qualitative changes also take place in social consciousness and the whole of society's spiritual culture, including changes in ideology (005, 224). Morals, art, philosophy, etc., are, of course, filled with a new social and ideological content that reflects the new social being and actively furthers its development. The cultural image of society is altered. This process is known as a *cultural revolution.* Particularly deep changes take place in the intellectual, cultural image of society during the period of the transition from capitalism to socialism. It should not be thought, however, that the cultural revolution means a complete break with preceding cultural traditions, or rejection of them. A real cultural revolution should accumulate everything of value created by the preceding cultures and make the supreme achievements of world and national culture accessible to all social groups and the broadest strata of the public.

The economic, political, and cultural revolutions are most important aspects and elements of the social revolution, and are closely interconnected in their realisation. The times of this sometimes intersect, sometimes coincide; one of them may precede the others depending on the specific historical situation, and may last a more or less long time. But in all circumstances the social revolution proves to be completed only after the tasks posed by social development in the economy, social and political life, and culture have been solved. The tackling and solution of these tasks also means the creation of a new socio-economic formation.

The development of society through a consecutive change of socio-economic formations and far-reaching social revolutions is an objective law of history. Social revolutions are historically necessary in certain conditions. When the latter disappear the objective necessity of the revolution as a form of the transition from one formation to another also disappears. In order to understand how the objective laws of the functioning and succession of formations operate, we must examine the basic stages in the development of human society from its genesis to the present day.

The process during which a phenomenon arises, takes shape, and is formed, but has not yet matured and been finally completed, and has not acquired its true features is known as its formation or becoming. As regards a phenomenon that is in the course of becoming or development, i. e., formation, one cannot say with confidence that it does not exist, yet it is wrong to say that it exists in a full, developed form. The concept of becoming or formation is a philosophical category, applied to the study of all developing phenomena, especially in the initial stage of their origin. Let us now consider the course of the forming of human society.

What we know about the initial period of the origin of humankind comes from archaeological excavations. Remains of the most ancient precursors of man have been discovered in the past quarter of a century. In their biological characteristics they were close to the animal, but at the same time had begun to use very simple stone tools for the first time to get food and fashion various objects. Scientists call these creatures "prehuman". They led a way of life close to the herd form of the life of animals. The size and structure of their brains were hardly bigger or different from those of the higher anthropoid apes. In the "prehuman" stages there were still no relations of production in the strict sense of the term, and consequently there were also none of the other social relations and institutions characteristic of human society. The "prehumans" lived around 5.5 million years ago, and the subsequent period of roughly 3.5 million years, can be considered the period of the forming of human society. In the course of that time the perfecting of tools and development of production activity proceeded extremely slowly, spontaneously, by trial and error. But by its end the productive forces of society had developed so far all the same that their further growth called for a certain organisation of all labour and social processes. The preconditions for man's economic activity and for the rise of social relations, and primarily relations of production, were thus created through development of the productive forces. Man's being became social being, and on that basis social

consciousness began to be formed.

The process of the forming of human society was completed roughly a million to a million and a half years ago, when the oldest primitive men *(Pithecanthropus)* appeared. These are also called ancient men or palaeanthropes. In their physical constitution they differed even more from the "prehumans" and animals. The forming of the human race was completed by the origin of the first socio-economic formation, the primitive communal system.

217 *The Primitive Communal Formation*

The foundation of the primitive communal formation was social group ownership of the instruments of production. The simplest stone tools (hand-axes, knives, arrowheads, spears, etc.), bone implements, wooden arrows and javelins enabled man to differentiate himself from the animal kingdom. At the same time they provided a low productivity of labour. Their use was only effective through people's joint activity. This character of the productive forces also predetermined the type of relations of production. All tools and weapons were in the common possession of the members of the primitive group. The nucleus of this group was the clan, all the members of which were linked by consanguinous relations. Tribes and tribal unions were subsequently formed from clan communities.

Prehistoric man was extremely weak before the elements. People could only oppose them collectively. The food gained by joint labour was distributed among all the members of the clan or tribe. All the elements of the relations of production, i. e., ownership, direct exchange or barter activity, and distribution, corresponded to the level and character of the development of the productive forces (204). The superstructure of the primitive communal formation corresponded to these relations of production. Clans and tribes were headed by chiefs, who were distinguished by strength, experience, and wisdom. Authority was elective. Sometimes it descended by inheritance from father to son. All the members of the community took part to the best of their ability in work, the gathering of roots, the hunt, etc. All adult, physically healthy males were at the same

time warriors. There were therefore no internal social contradictions between the members of the primitive group. Their consciousness was moulded in struggle with harsh nature. The explanation of natural phenomena (thunder, lightning, intense heat, cold, floods, etc.) took a mythological form. The early primitive religion arose on these explanations of the world. At the same time the simplest standards and rules obligatory for all behaviour formed part of social consciousness. These were the rudiments of primitive morality and morals. Any breach of them was strictly punished. Primitive art also arose. Many examples of cliff and cave paintings and drawings have survived to our day that depicted episodes of the hunt, fighting, elements of religious cults, and so on.

The use of fire was a very great advance in the development of primitive technique and production as a whole. By means of it people learned not only to cook food but also to heat shelters, fashion clay vessels, and later to smelt metals and make iron and bronze tools and weapons. That led to a gigantic leap in the development of the productive forces. One of its consequences was the rapid spread of people from the areas of their original habitat in the warm tropical belt over the whole surface of the world, including harsh areas and inaccessible regions.

The development of the productive forces went hand in hand with a division of labour. Tribes appeared that went in primarily for hunting or gathering plant food. A division between herding and landworking came about. Crafts became differentiated: armourers, potters, bootmakers, etc. As a result, exchange of the products of labour arose between the various primitive communities.

Around 6,000 years ago the development of the productive forces had reached such a level that people began for the first time to produce more products than were needed to meet their immediate needs for food, clothing, and shelter. It became possible to store and accumulate these surpluses. They were concentrated in the hands of the clan and tribal chiefs. As a result the preconditions arose for the accumulation of wealth and the rise of property inequality. The surplus means of production were employed to exploit the labour of

others, and that meant that the rudiments of new relations of production arose, no longer based on group ownership but on private. A new mode of production began to take shape. The old primitive communal formation had exhausted its possibilities, and the objective course of history led humanity to a new frontier. A division into classes and class society arose.

218 *The Slave-Owning Formation*

The first socio-economic formation in which private-property relations of production predominated was slave-owning society. The oldest such developed in Ancient Egypt, Mesopotamia, India, and China, in the third to second millennia B. C., at the end of the second millennium B. C. in Ancient Greece, and in the first millennium B. C. in Ancient Rome. The source of slaves was wars and debt bondage. Whereas in primitive society prisoners were made members of the tribe, killed, or ransomed, it had become profitable in slave-owning society to make them slaves, for slave labour at that level of productive forces could create surplus products of labour.

The rise of the slave mode of production led to a split of society into irreconcilable classes, the slave-owners and the slaves. The struggle between them, in turn, led to the creation of a special social institution, the slave-owners' state (slave state). *This state was a weapon of political oppression of the exploited, above all of the slaves, in order to maintain the economic and political power of the dominant slave-owning class.*

In the early stages of slave-owning society the features common to this formation had already begun to display special forms in accordance with the concrete historical conditions. In Egypt, Babylon, Assyria, and other states in which huge irrigation and drainage canals needed for agriculture had to be built, state slavery predominated. Marx called the socio-economic system that was built up in the lands of the ancient Orient "the Asiatic mode of production". Its most characteristic feature was a capacity for reproduction of one and the same relations of production and maintenance almost unaltered of a low level of the productive forces. On the one hand, that ensured a certain stability and immutability of society,

which could only collapse under attack by external forces. On the other hand, the Asiatic mode of production promoted stagnation of the whole socio-economic system, which put a certain stamp on the society's whole spiritual life as well, reducing the initiative of the individual and his need for spiritual and social freedom, to the minimum, consolidating a pessimistic world outlook and escapism, and a striving to escape from objective social injustice to a world of inner experiences and subjective self-improvement, and a world of religious meditation and asceticism. The stagnant Asiatic mode of production outlived the slave-owning formation, and in many countries in Asia "lasted" throughout the Middle Ages, leading to a lagging of these lands, which had created a high spiritual culture, behind the more dynamic countries of Europe and North America in the economic and social sphere. The oriental king-despots ruled singly defending the interests of the whole dominant class. At the same time family, patriarchal slavery also existed. In Ancient Greece and Rome, on the contrary, individual slave-owning predominated. Slaves toiled in workshops *(ergasteria)*, quarries, and mines, on building roads, construction, etc. At certain stages in Greece and Rome democratic slave republics spread. But democracy and political equality existed in them only for free citizens and not for the slaves.

In spite of certain differences between the Asiatic and European states, the general features of the slave formation were characteristic of all states of the ancient world.

The toil of slaves liberated the slave-owners from heavy, everyday productive labour. That enabled members of the ruling, dominant class to pay much attention to the development of art, literature, philosophy, science, etc. The dominant ideology justified slavery. Slaves, Aristotle said, were only talking implements. That shows clearly how the consciousness of the epoch was determined by its social being.

In slave society intellectual activity and government were the privilege of the ruling class, and physical labour the lot of slaves and the poor. Physical work was therefore despised; only intellectual, mental activity was worthy of a free man. Contempt for physical work

is a historical product of the split of society into exploiters and exploited.

Slaves and the poorest strata of the population often rebelled against their oppressors. The rebellions were brutally suppressed. But even in the rare cases when they ended in victory of the slaves that did not mean the end of slavery. The victors themselves became lords and enslaved their opponents. There was simply no other possibility at the level of development and character of the productive forces existing then.

Only gradually, in the course of extremely slow improvement of the means of production, did the objective conditions take shape for the rise of a new, feudal socio-economic formation.

219 *The Feudal Formation*

Full private ownership of the most important means of production, mainly land, underlay feudal relations of production, and not full ownership of the producer, the peasant. This form of property or ownership had already begun to arise gradually in the Roman slave society and in some Eastern slave states. Slaves could work only with very rough tools and perform mainly primitive work of low productivity. They hated unfree, forced labour and had no interest in its results. As the means of production were improved it became profitable to apply the labour of dependent producers rather than that of slaves. New relations of production began to take shape in which the owner of the land and implements gave them out for the producers' use and so made the latter dependent on him. The interest in his work of such a legally dependent worker who was not, however, wholly the property of his master, and who could himself appropriate part of the produce, was greater than that of slaves. The development of new relations of production was furthered in Europe by the invasion of barbarian tribes coming from Asia in the third to the fifth centuries A. D. These peoples, having broken up the Roman slave empire, created several new states on its ruins, which were headed by war chiefs (kings, dukes, and barons). They were dependent on one another, the seniors in position dividing land-holdings or fiefs among their warriors and troops; the holders of

fiefs became vassals and were obliged to render military service. This system of dependence was very complicated, and hierarchical. At the top were emperors and kings; their vassals were dukes, who in turn had counts, barons, etc., as their vassals. At the lowest level were toilers, serfs. Agriculture was the basis of feudalism, but feudal relations were also consolidated in the towns and led to the creation of the mediaeval craft organisations (guilds). They, too, had complicated hierarchical relations.

The feudal lords of all ranks formed a new governing, dominant class, while the serf peasants and very poor artisans were the exploited classes. The serfs and artisans waged a fierce struggle against the feudal lords, and often rose in armed uprisings. These rebellions ended in the working people's defeat, because the requisite objective conditions for their victory did not exist.

Feudal society was characterised by an extreme splintering and disunity of the state. Each lord strove for political independence. The lords waged endless wars among themselves, all of which held back development of the productive forces and improvement of the relations of production. Feudal society was very conservative, stagnant, and slow in development. But there was never complete stagnation and hold-up of social development. This was primarily displayed in a slow but continuous perfecting of tools, implements, and crafts, a consequence of which was an extension of trade within states and between them. Feudal disunity, the absence of a single monetary system and of lines of communication, the diversity of legislation, etc., gradually became obstacles to the development of industry and trade. The further objective development of the productive forces and the formation of a new mode of production called for a radical reorganisation and reconstruction of the basis of society and its superstructure.

In the fifteenth to seventeenth centuries a new, capitalist mode of production began to take shape in Western Europe. Because of the invention of various mechanical devices and machines, the perfecting of tools and instruments, etc., the work of serfs and guild craftsmen became unprofitable. Feudal social relations became

a brake on the development of society. A new exploiter class, the bourgeosie, who had an interest in exploiting hired labour and wage workers and in consolidating the new capitalist mode of production, headed the struggle against feudalism. As a result of several bourgeois revolutions in the seventeenth and eighteenth centuries, in which the masses of the people took an active part, the feudal social system was broken in many countries of Europe and America, and the feudal state gave way to a bourgeois one. Relations of production based on the capitalist form of private property became predominant in the system of production.

220 *The Capitalist Formation*

The capitalist mode of production originally arose as a special structure or form within feudalism. When it became the basis of a new socio-economic formation it led to a radical restructuring and reorganisation of all social relations. The hired labourer class and the bourgeoisie became the main classes. As the productive forces developed they changed in character. Machine production required collective joint labour. The social character of the productive forces came into increasingly sharp contradiction with private capitalist ownership of the means of production, a contradiction which was manifested in a sharpening of class struggle. The development of capitalism led to rapid growth of the working class and to an increase in its relative weight in society's life. The class consciousness of the working class also grew. Industrial production demanded great solidarity, organisation, co-ordination of actions, and a high standard of trade training and knowledge from the proletariat. Capitalism abolished feudal splintering and disunity, the complex hierarchical organisation of society, and diversity in legislation, and created a single world market of labour and capital. All this made it easier for the working class to understand that its interests are radically opposed to those of the capitalists. The development of a theory of scientific socialism by Marx and Engels, i. e., a theory of revolutionary transformation of the existing system and of the building of a classless society, promoted growth of the proletariat's class consciousness. Scientific socialism was united with the

working-class movement through working-class parties. By bringing scientific socialism to the masses, they helped revolutionary consciousness to grow, and that led to a broadening and deepening of the class struggle.

At the end of the nineteenth century and the early twentieth capitalism ceased to be a progressive, rapidly developing formation. The deep contradiction between capitalist relations of production and the productive forces, social in character, led to the latter beginning to develop more slowly than they would have with abolition of private capitalist ownership. A new stage in the development of capitalism set in, that of imperialism.

Imperialism was characterised by the domination of monopolies, the coming to power of an industrial-financial oligarchy, a struggle for the redivision of colonies, a sharpening of the class struggle and intensification of exploitation of the working people, unevenness of economic and social development, and so on. As the First World War (1914-1918) showed, capitalism was unable, in the stage of imperialism, to ensure mankind's peaceful progressive development. Its social contradictions were sharpened to the extreme. In Russia, which proved to be the weakest link in the system of imperialism, a socialist revolution occurred in 1917, and the building of socialism was begun. This was the first stage in the general crisis of capitalism, in the collapse of the world capitalist system.

After the Second World War (1939-1945) incited by the most aggressive imperialist states (fascist Germany and Italy and militarist Japan), a second stage in the general crisis of capitalism set in. Socialism broke out of the confines of a single country; a socialist system took shape which includes several states in Europe, Asia, and Latin America. As a result of the collapse of the colonial system liberated countries came into being, some of which are taking a road of socialist orientation.

Modern capitalism differs essentially from what it was at the beginning and in the middle of the twentieth century. Under state-monopoly capitalism the conflict between the gigantically grown productive forces and the capitalist relations of production is becoming ever sharper. This does not mean, of course, that development

of the productive forces and especially of the latest technique and technology has stopped. On the contrary, industries like biotechnology, electronics, space and information technology are developing quite rapidly. What then does this contradiction consist in? How do its negative consequences manifest themselves? The point is that Big Business is primarily developing those industries that provide maximum profits, high competitivity, and dominance of the home and world market. And they include, mainly, everything that promotes militarisation of society and increases the military might of capitalist states. The big monopolies do not take into account the interests of the working people of their own countries any more than those of the people in developing countries. Computerisation and robotisation of production in capitalist conditions leads to an unprecedented growth of unemployment. The forecasts of major Western specialists point precisely to that.

There is another negative consequence. The rate of development of the productive forces in capitalist society is much slower than it could be if the relations of production were based on social ownership. This development involves increasing slumps, cyclic and structural crises, growing state debts, budget deficits and galloping inflation. At the same time capital is being concentrated and internationalised and transnational corporations, which exploit the working people worldwide and control the economy of not only developing, but also developed capitalist countries, are growing ever stronger. The immense riches and scientific and technological advances of modern society could be used to achieve social justice, eradicate poverty and render assistance to the peoples and countries lagging behind (due to various historical reasons) in their development. But this cannot be done under capitalism.

The leaders of contemporary capitalist society are endeavouring to weaken these contradictions and their adverse consequences by resorting to various economic and political manoeuvres. In order to deal with the deep antagonistic contradictions (406) of modern capitalism, however, radical social reforms of society are needed.

221 *The Communist Formation*

Each new socio-economic formation is the result of objective historical laws. In that sense the communist formation comes about as inevitably and necessarily as all the preceding ones. But its origin is characterised by an important distinguishing feature: it is a conscious process. That does not mean that social being (210) loses its determinant role in it. By virtue of the character of the new society and of its radical difference from the preceding ones, a very important condition of its creation is the uniting of scientific socialism, which discloses the objective laws of the development of society and the ways of transforming it, with the revolutionary movement of the working class and masses of the working people. Realisation of this condition forms the content of the work of the Communist and Workers' Parties.

How does the communist formation arise and develop? The founders of Marxism, when answering that, showed that it passes through two main phases.

The first phase is socialism. It arises and takes shape as a result of a socialist revolution. With victory of the socialist revolution a state of the working people (the dictatorship of the proletariat) arose for the first time in history (207). While suppressing the overthrown exploiters, the dictatorship of the proletariat concentrated its main efforts on planning and purposive building of the socialist basis and superstructure.

The first phase of the communist formation passes through several stages in its development, which are determined by the specific historical circumstances, the alignment of class forces within a country and outside it, and by national and cultural traditions.

Lenin pointed out in this connection that there are different roads and forms of building socialism in various regions and in separate countries. Besides these features and individual characteristics, there are some general patterns of this process (207, 212-215). They include: establishment of the power of the working people with a leading role for the working class; the leading role of Communist and Workers' Parties in the development of society; establishment of social ownership of the main means of production and development of

the economy in the interests of the people; realisation of the principle "from each according to his ability, to each according to his work"; the development of socialist democracy; equality and friendship of nations and nationalities; defence of the socialist homeland from class enemies.

The role of the subjective factor rises steeply during the building of socialism, i. e., socialist consciousness, Marxist ideology, and educational work. The guiding, leading, organising, mobilising role of the Communist and Workers' Parties (605) increases.

Socialism is a society where:

(i) the means of production belong to the people and an end is put to economic and social oppression and inequality;

(ii) scope for rapid development of the productive forces is opened up, and scientific and technical advance ensures continuous raising of the well-being of all the people;

(iii) an equal right to work and just remuneration for it are ensured;

(iv) a close alliance of the working class, working peasantry, and intelligentsia is established;

(v) equality of all nations and peoples, and of men and women, is ensured; the young generation is guaranteed a reliable, hopeful future, while the veterans of labour are guaranteed social security;

(vi) real democracy is developed; broad participation of citizens in the management and administration of industrial, social, and public affairs is ensured;

(vii) human rights are fully realised; each and everyone abides by one and the same laws and standards of morality and discipline;

(viii) a truly humanist Marxist ideology predominates; and an advanced, progressive culture and science are created and developed;

(ix) a socialist way of life based on social justice, collectivism, and comradely mutual help and assistance is formed.

The experience of the Soviet Union shows that a socialist-oriented society can overcome backwardness in a historically short time, create a powerful industrial and technical base, and modern science, and acquire

great international authority. At the same time it shows what a gigantic role the subjective factor plays in public affairs, a role that can be both positive and negative. Thus the subjective mistakes of Joseph Stalin and his supporters led to the command-administrative methods that took shape during the Civil War after the October Revolution, in spite of Lenin's warnings, being transferred to industry, agriculture, and the sphere of social development in the 1930s and 1940s. That led to mass repressions, breaches of socialist legality, and the substitution of authoritarian methods of leadership for socialist democracy, to rejection of publicity, and to a steep decline in the initiative and activity of the broad masses. In spite of victory in World War II and successful restoration of the economy, these mistakes made themselves felt in the following decades and caused stagnation in the economy, bringing the USSR to a pre-crisis condition. Awareness of the reasons for these negative phenomena enabled the Soviet leadership to put forward a platform of new thinking in the mid-1980s, and to propose an ideology of renewal. It involves revolutionary changes in all spheres of society's life, so as to bring social reality in accordance with the principles of socialism, the broadest openness in the discussion of socially important matters, and consolidation of socialist democracy and humanism.

The *second phase of the communist formation* will arise if and when the material and technical foundation of communism has been laid and forms of organisation of social life (and consciousness) appropriate to it have been created. Communism will be a classless social system with a single, national, people's ownership of the means of production, and full social equality of the members of society; it will be a highly organised society of free, conscious workers in which social self-government will be established, and work for the good of society will become a prime vital necessity for everyone. It presupposes the creation of productive forces that will provide opportunities for full satisfaction of the rational needs of both society and the individual. All production activity will be built on use of high-efficiency technique and technology, and will ensure a harmonious interaction of man and nature. The principle of activity,

and of the production and distribution of material wealth will then be "from each according to his ability, to each according to his needs". The transition to communism is a complex, lengthy process during which a much higher productivity of labour must be achieved than under capitalism, a socially uniform society created, deep changes effected in the social structure of society, and in the moral, and cultural image of each person, and of society as a whole.

222 *The Category "Socio-Economic Formation" and Historical Reality*

The theory of socio-economic formations and of the objective character of their origin, development, and succession and replacement through social revolutions is fiercely attacked by the opponents of historical materialism. There have been and are hundreds of social and state systems in the world, they claim, that cannot be fitted into the scheme of five formations successively succeeding one another. The Marxian theory, from their standpoint, simplifies the diverse, complex historical reality. Mediaeval Chinese society, language, culture, organisation of authority, and traditions differed markedly from the state of mediaeval Europe. The development of capitalism in France on the eve of the bourgeois revolution of 1789 differed essentially from the development of capitalism in Russia on the eve of the 1905 revolution or the socialist revolution of 1917. Therefore, they claim, the theory of socio-economic formations is incompatible with historical reality. In addition, capitalist ideologists insist, all societies, countries, and nations do not pass consecutively through each stage of formation development and that means, in their opinion, that the law of the consecutive change of historical formations does not reflect historical necessity and at best has limited significance for a few developed countries.

These objections are based on a complete misunderstanding of the dialectical connection between the general, particular, and individual (212, 213). By comparing the development of capitalism in France in the eighteenth century and in Russia at the beginning of the twentieth, we can bring out the common features, the existence of a common capitalist mode of production.

At the same time we can also explain the peculiarities. In the first case it was a matter of the establishment of the capitalist formation on the eve of the bourgeois revolution and of the transition from feudalism to capitalism; in the second case it was a matter of imperialism, the stage of the decay of the capitalist formation and the socialist revolution which marked the transition to the communist formation. These differences themselves thus get sense and meaning only as stages in the development of a certain formation. It the same way, in spite of all the differences, say, of Chinese and European mediaeval history manifested in state organisation and peculiarities of the economy and culture, we can more or less precisely date the development of essentially similar social and economic relations, and consequently their appertaining to one and the same feudal formation. The arguments of the opponents of historical materialism thus turn out to be flimsy.

Let us now discuss the development of formations in each separate country. Historical materialism by no means considers that all countries and nations have to pass consecutively through all the stages of the change and origin of formations. Such a statement is suitable only to dogmatics and is incompatible with Marxist dialectics. Historical materialism maintains that world history, i. e., the development of mankind, proceeds through a successive law-governed change or replacement of the primitive-communal, slave, feudal, capitalist, and communist formations. When the more developed countries and nations have already embodied a formation in their social activity and passed, say, to the next, higher stage of development, peoples that are behind in their development can "jump" across certain stages and with the help of more developed states pull themselves up to the latter's level. What is the mechanism of this process? The point is that various countries and nations, and their cultural and historical traditions, are not closed, isolated systems. They are linked with others, including more developed ones, by social, economic, political, technological, cultural and other ties. Because of that they are able to employ the historical experience of more developed countries, and their technical, economic, cultural, and political achievements, and with appropri-

ate help to make their own historical development at faster rates. The Mongolian People's Republic, for instance, which was in the stage of a mixed tribal and feudal organisation at the beginning of this century, has bypassed the stage of capitalism with the help of the Soviet Union, and has set about building a socialist society. Such a path of development is also possible for other underdeveloped countries not long liberated from colonial oppression and exploitation. The theory of socio-economic formations thus constitutes the theoretical basis for overcoming the backwardness and difficulties standing in the way of these countries.

Having examined the general patterns of the origin, development, functioning, and change of socio-economic formations, we can now study the main functions and forms of social consciousness more closely.

The Functions and Forms of Social Consciousness

223 *Social Consciousness and the Development of Society*

Social consciousness is not only determined by social being but itself also has an active influence on society's life (210, 211). The activity of social consciousness differs in different historical ages and grows as society develops. How does this come about? The point is that changes in social being and the conditions of life involve changes as well in social consciousness; the volume of knowledge increases, a world outlook is moulded, an immense volume of information and skills in applying knowledge to cope with various social problems are accumulated, and mankind's historical experience is deepened.

With the rise of socialist society the role of social consciousness grows even more. In order to carry through a planned transformation of society, and to establish full correspondence between the relations of production and the character of the productive forces, and to perfect the socialist superstructure, it is necessary constantly to raise the level of each person's consciousness and that of socialist society as a whole. The change in con-

sciousness is, however, an extremely complicated process. Individual and social consciousness are complex structures possessing a certain stability and conservatism. Changes in them sometimes take decades, and even centuries. At sharp turning points of history, when a radical revolutionary rethinking and re-evaluation of the existing situation is called for, the change of moral, social, and aesthetic values within consciousness, especially in the public mind, gives rise to acute contradictions, and a clash of conservative and revolutionary mechanisms. People are complicated, ambiguous beings. Their behaviour is not only governed by rational aims and standards, but also by various hidden passions, desires, precepts, prejudices, and complex mental states that cause contradictory emotions and moods, fear and joy, enthusiasm and pessimism, belief and disbelief, despair and serenity. In order to alter social consciousness purposefully, to form and foster a conscious, active attitude to acute social problems and a desire to tackle them in the interests of society, we need a deep philosophical analysis of the essence and structures and the functions of social consciousness, and of its links with individual consciousness.

Social consciousness develops and manifests itself differently in various historical periods. When we look at human history we discover an immense variety of religious doctrines, forms of political and artistic activity, and the most varied legal and moral standards and norms. When idealists refer to that they claim that people's social consciousness and intellectual activity are not governed by any general laws and regularities and are not amenable to objective study. They insist that there is no link and no objective dependence between the development of social being and the diversity of the manifestations of social consciousness. But their arguments about this do not stand up to criticism. The dialectic of the general, particular, and individual (212) also helps us in this case to refute idealism. It shows that, for all the variety of the concrete manifestations of social consciousness, its main forms can be singled out and that their role and functions in the development and life of society can be understood. The most general and important forms of social conscious-

ness are the following: political, moral, legal, artistic, religious, philosophical, and scientific. I shall examine all of them here, except philosophical consciousness (about which I spoke in the Introduction) and scientific consciousness (which I shall treat in Chapter V). For a proper understanding of the structure and function of the various forms of social consciousness, we must clarify their link with ideology and social psychology.

224 *Ideology in the System of Social Consciousness*

Ideology, which expresses the interests of certain classes of society, and is determined by their class aims, is a special level of social consciousness (005). Since the dominant ideology in class society is that of the ruling, dominant classes, it penetrates and determines the content of all forms of social consciousness. It is therefore very important to understand that the ideology of the dominant classes always gives a distorted reflection of social being in all formations preceding communism. That happens because the exploiter classes have an interest in perpetuating their position. They endeavour to represent it as inevitable, established by God, and corresponding to the very nature of man. And they subordinate religion, morality, art, and politics to that aim.

The exploited classes of society also develop their class consciousness in the course of class struggle, and their own ideology, system of values, and conception of social development. But, until the rise of the industrial proletariat, the working people were not able to develop their own scientific ideology and a correct, deep understanding of society. Their ideology was not consistently revolutionary. While trying to emancipate themselves from some form of exploitation, for example slavery or serfdom, they did not strive to abolish exploitation of man by man in general. Objective historical conditions were needed for that. Their ideology therefore gave rise to many untrue, distorted, fantastic ideas about life, and so consolidated the existing state of affairs, despite their will.

Only with the rise of the working class did things radically alter. Being the first class in all history objec-

tively capable of ending and liquidating all forms of exploitation, and of building a classless society, and one that did not strive to perpetuate the existing order of things, the proletariat was interested in a correct understanding of historical development. Its ideologues, therefore, for the first time in history, worked out and developed a scientific, i. e., true, ideology. With the victory of socialism this ideology begins to express the views, doctrines, and theories not just of some one class but of society as a whole. Since Marxist-Leninist ideology, which reflects the interests of the working class and majority of the human race, is incompatible fundamentally and in principle with bourgeois ideology, irreconcilable ideological struggle is an objective pattern manifesting itself in all forms of social consciousness.

The ideologues of the modern capitalist class put forward various theories by which they endeavour to gloss over the opposition of the scientific, Marxist-Leninist ideology and the unscientific bourgeois ideology. Advocates of de-ideologisation claim that there is no need for any ideology in general in modern society, and that there can be no ideology. They claim that ideology has given way to science and technical knowledge, by which all the problems facing mankind can be tackled and solved. Reality, however, refutes such claims. One and the same technical advance leads to different results in various social systems (312). The application of science itself, and its role in society are largely determined by various ideological precepts. The collapse of the theory of de-ideologisation forces bourgeois ideologues to put forward another theory, that of re-ideologisation. Its advocates stress the need in every way to work out a single ideology common for all mankind. In fact, however, they seek to create a single bourgeois ideology to take the place of the host of different, competing trends existing within that ideology. Re-ideologisation, like de-ideologisation, is aimed in the final analysis against Marxism-Leninism, i. e., against the most advanced, and only scientific ideology of modern times. One must, therefore, constantly remember when analysing any form of social consciousness, that it is an arena of fierce ideological struggle. The aim of Marxist-Leninist philosophy in this struggle is to unmask and

debunk bourgeois ideology whatever outward form it assumes.

225 *Social Psychology and Everyday Consciousness*

An ideology is not developed by all the members of a society, but rather by a special group of people, ideologues, who serve a certain class. But where do these ideologues dredge their raw material from, and their initial convictions and notions about society, man, etc.? They get their material from social psychology and everyday, ordinary consciousness. In modern society science, and above all those disciplines that are concerned with knowing society, make an important contribution to the shaping of ideology. The interconnection of science and ideology therefore presents special interest for Marxist-Leninist philosophy (005, 515).

Social psychology is an aggregate of the moods, experiences, emotions, and views arising in various social groups during their life activity, i. e., in work, political struggle, intercourse, etc. It is a direct form of spontaneous reflection of social being.

Each member of society belongs simultaneously to various social groups, for example, a family, production collective, trade union, party branch, sports club or team, and so on. In all forms of group activity people enter into various relations with one another. And as a result a complex "amalgam" arises, an interweaving of social moods and values. Some of them, for example, the mood of football fans are relatively unstable, others are more stable.

An example of stable moods in capitalist countries is the constant fear of new technique and technology, and of the computerisation and robotising of industry. This fear is bred by dread of losing one's job. The strain and stress caused by the capitalist mode of introducing and exploiting new information technology has been given a special psychological name "technostress".

There are also positive social moods and attitudes. Among them are, for example, the mood of revolutionary elan that arises among the participants in victorious revolutionary movements like the French Revolution, the October Revolution in Russia, or the national liberation and anticolonial struggle being waged now by

the peoples of several countries. Such social attitudes directly reflect changes in social being. Social psychology largely depends as well on the historical past of a nation. It is seen in national psychology, which is a relatively stable reflection of the specific road of development and moulding of a nation or people. The features of national psychology are seen most clearly in spiritual culture, language, the fine arts, the organisation of daily life, national traditions, habits, tastes, etc. But one must not exaggerate and isolate the national elements of social psychology.

The psychological portrait of a people, and the features of its national character and its whole spiritual and intellectual life, ultimately depend on the peculiarities of social development, and on the position of a country, and on the stable trends in the life activity of a people. The national psychology, language, and culture of the Russian people before the October Revolution of 1917, and immediately after it, did not undergo marked change, but such important features of a socio-psychological character as apathy, downtroddenness, backwardness, a low standard of culture and information, which were maintained in pre-revolutionary Russia by the power of landowners and capitalists, were replaced during the revolution by a rapid growth of consciousness and social activity, a rapid rise in cultural level, etc. Such examples confirm that when certain stable features exist, inherent in a certain national culture and psychology, they are ultimately determined by the objective content of the historical process, the conditions of society's life, and major events influencing the history of nations. From that it obviously follows that the content of social psychology changes with the development of social being.

What is called ordinary or everyday consciousness, or "common sense" constitutes the lowest level of social consciousness. It is formed during mastery of the phenomena a person comes up against in ordinary life. It seldom provides an explanation of these phenomena and is limited only to accumulating certain everyday experience. Rules of people's everyday behaviour and intercourse are worked out at the level of ordinary consciousness. But it cannot provide a deep scientific

explanation and understanding of social phenomena. It is relatively conservative and changes more slowly than the "higher" stages of social consciousness. This is one of the most marked differences between ordinary consciousness and the theoretical comprehension of social being that is developed at the ideological level.

The lag of social consciousness behind social being is most marked in socialist society at the level of ordinary consciousness. When coming up against temporary difficulties of an economic or everyday order, a lack or shortage of certain objects, shortcomings in the system of everyday services and amenities, bureaucratic practices, breaches of legality, etc., ordinary consciousness not only reflects the facts but is also inclined to exaggerate their significance since it is unable to explain their real causes and inner incompatibility with the laws of development of socialist society. Marxist-Leninist theory, on the contrary, is able to explain these phenomena and show the way to overcome them.

A complex interaction takes places between ideology and the different levels of social psychology and everyday consciousness during the course of historical development. On the one hand ideology draws its factual content from them. On the other it influences them by propaganda through the mass media. Changes in social psychology and ordinary consciousness largely depend on what ideology has a preponderant influence on them. Ideology and social psychology are expressed in various forms, and it is necessary to bear that constantly in mind when considering the peculiarities of social consciousness.

226 *Political Consciousness and Politics*

The most important and most common form of social consciousness in class society is political consciousness. Newspapers, radio, and television pour out a flood of political information onto modern man. He discusses political events at home and at work, and himself takes part in political affairs. What then are politics and political consciousness?

Politics is a most important form of human activity associated with the root economic interests of classes and social groups. The most important task of politics

is to create, maintain, and employ state power in the interests of a certain class. Political activity is most acute during social revolutions. The latter's most important structural element becomes a political revolution, and its main problem is that of state power (215, 207). The deepest contradictions of an epoch are resolved in political activity. And that is precisely why people get so worked up when discussing political problems and events.

It is usual to distinguish between home and foreign policy. Home policy and politics are the ensemble of measures undertaken in a country by the state and the political parties that are in office, in the interests of the dominant class. It embraces government, administration, finance, suppression of the resistance of exploited classes, maintenance of public order, etc. Because the domestic affairs of modern society are very complicated, home policy often acquires a "sectoral character". Agricultural, social, scientific, defence, and other policies are developed and carried out. Foreign policy embraces the aggregate of measures whose aim is to defend the interests of the state in relation to other countries. Home and foreign policies are closely linked and are always determined by the class nature of the society. Politics, as a special form of activity, and the social institutions by which it is realised, like the state and parties, forms part of the superstructure. Since politics is conscious, goal-directed activity, there is also a special form of social consciousness corresponding to it, known as political consciousness.

The main goals and content of politics are becoming the possession of the broadest masses and receive active support from all the people. The development of political consciousness and the spread and deepening of political knowledge are thus most important means of mobilising the masses to tackle economic, social, and cultural tasks.

With the building of communist society and disappearance of capitalist states the need for political activity and political consciousness will wither away. But during the development of socialism their role will constantly grow. The strategy and tactics of the Communist Party and state are developed within the context of political

consciousness. They embrace economic, cultural, scientific, and defence policy aimed at maintaining and consolidating peace, and a policy to consolidate the socialist community. By virtue of that, political consciousness has an all-round effect both on the various forms of Soviet people's social activity and on other forms of social consciousness.

227 *Legal Consciousness and Law*

Legal consciousness and law play an important role in society's life. People keep to certain rules and norms of behaviour in social affairs, rules that arise historically and change with the development of society. With the rise of classes a special system of norms and rules took shape (and also punishments for breaking them), which were useful to the dominant class and were adopted and sanctioned by the state. These norms and rules form law. Law, consequently, has not always existed. It arose only in class society and was (and is) closely linked with the activity of the state, politics, and political struggle. *Law is a system of statutes (laws) adopted by the state which express the will of the society's dominant class.* As statehood developed, special bodies or agencies appeared which drafted and issued laws (legislative bodies), watched over their observance (procurator's office), punished offences and breaches of the laws (courts, public order bodies), and maintained the public order sanctioned by laws. All these institutions and the legal activity connected with them, and law itself, are reflected and comprehended in a special form of social consciousness — *legal consciousness.* It develops such concepts as "justice", "legality", "public order", "crime", and "punishment", and various legal views and theories by which legal norms and laws are substantiated and developed in accordance with the notions of justice, legality, order, etc., prevailing in a given society.

Legal consciousness, law, and legal institutions are part of the superstructure of the corresponding socio-economic formations, and help strengthen their basis.

The ideologists of the dominant classes have also endeavoured to pass law off as something eternal and stable. Some of them have claimed that it expresses the immutable essence of man. Others based their arguments

on his divine origin, and the authority of holy scripture, while others still have seen in law an expression of popular will, immutable and constant in all time. Is that true?

First of all I must point out that these views do not correspond to objective reality or the historical facts. We know, for example, that many peoples that have been held back in their historical development avoided class division. They had no state authorities and consequently no law. In their everyday life they were guided by norms of morality, customs, and traditions. We also know that notions of justice, legality, etc., have altered from age to age. In slave society trade in slaves was considered a just, lawful act. In modern society trade in people would be regarded as a gross breach of law and justice. In feudal society law had a character relating to the estates of the realm. The redemption for the killing of a serf or a free peasant or townsman was less than that for the killing of a noble. Feudal law, for instance, defended the authority of the king and seigneurs. The legal consciousness and law of each historical age consequently grew on the soil of a certain social being, and reflected it, and because of that could exert an active feedback influence on it.

A typical feature of bourgeois law is its formality, which consists in the fact that while bourgeois law proclaims equality of all citizens before the law, freedom of assembly, demonstration, and movement, inviolability of the individual, and grants the franchise to the majority of the population, and so on, it in no way guarantees them and does not guarantee exercise of the "rights" and "freedoms" it proclaims. What real equality can there be talk of in a society divided into rich and poor, in a society in which there are millions of unemployed and homeless? That is why capitalist law is narrow and formal. But even this limited law can be employed in a capitalist democracy by the working people to fight for their interests and to create their own legal political and trade union organisations. Therefore, when the class struggle sharpens and a revolutionary situation matures, the capitalist class endeavours to establish a military-police dictatorship of a fascist type, thereby repudiating the standard of bourgeois-democratic law and legal con-

sciousness. In those conditions the fight for democratic rights becomes one of the most important tasks of the working class and all working people.

With the rise of socialist society there are essential changes in the character of law and legal consciousness. Legislative activity is primarily concerned with protection of socialist property, public order, the rights of the individual, and of his/her personal dignity, freedom, and independence. But it should not be thought that achievement of the aims proclaimed by the new legal order are, or will be, realised automatically. The building of socialist social relations is a long, complex, and dialectically contradictory process. An example is the serious infringements of human rights that took place during the authoritarian rule of Joseph Stalin and his immediate entourage. During the revolutionary restructuring and reorganisation that has been taking place in Soviet society since 1985, it is becoming understood that breaches of human rights and deviations from socialist legality present great social danger. Awareness of that, and understanding of the profound coherence and practical inseparability of moral and legal principles is a major achievement of the new thinking, and evidence of its philosophical depth and maturity.

228 *Morality as a Form of Social Consciousness*

Another form of social consciousness, morality, is closely linked with law and legal consciousness. What is morality?

Ask any person whether it is good to tell lies, steal, hurt the weak, cheat, or butter up to superiors. Ask him whether treachery and living off other people are good. And whether he approves of hypocrisy, arrogance, avarice, and covetousness. Most people consider these forms of behaviour, actions, and traits of character to be negative, harmful, and extremely undesirable. On the other hand, people consider industriousness and diligence, honesty, benevolence, politeness, generosity, friendliness, devotion to duty, patriotism, interest in the common cause, etc., to be positive actions and traits of character. Such evaluations are moral, and belong to the system of moral values and rules of behaviour that exist in any

society, in any collective of people, and that originally took shape during the forming of human society.

Morality, consequently, *is a system of rules, norms, values, and ideals of people's behaviour in their personal and public life* in regard to each other, to their work collective, class, state, and society as a whole. What distinguishes morality from law and recognition of legal rights? First of all in that law is formulated and enforced by the state, while morals are based on the authority of public opinion. Law arises in certain historical conditions, expresses the will of the dominant class, and will wither away with the building of full communist society, like the state itself. On the contrary, no society in the past, present, or future can exist and develop without morality, because people perform various acts in any conditions, conduct themselves in different ways, appraise the behaviour of other people, and have to appraise and approve of their own behaviour. But it does not follow that morality and its main propositions and principles are eternal and immutable. The principles, rules, and norms of morality are determined by people's social being and are altered along with it. Principles like "thou shalt not kill" and "thou shalt not steal" have a historical origin. In the conditions of collectivist primitive society, in which there was no private property, stealing was impossible, and a ban on it had no sense. For a long time not only did the killing of an enemy, but also the ritual murder of a fellow-tribesman or co-religionist, not contradict the norms of morality among some nations, but also, in some cases the killing of the chief of the tribe. But in spite of class and historical differences, which are clearly traceable in the moral systems of various epochs and nations (for example, the moral condemnation of trade by mediaeval gentry morality, or the justification of harsh treatment of believers in other religions) there were general human moral values, standards, and precepts, proper to various socio-economic formations, and to different nations and classes of society.

Such values in our times are a person's personal dignity, inviolability of the person, protection of the health, emotional world, and safety of children, maintenance of peace throughout the world, and prevention of extinction

of the human race through a nuclear catastrophe. It is the existence of common human interests and permanent moral values that constitutes the basis for people's co-operation to attain the most important human aims. Recognition of the class character of morality in no way rules out the existence of general human values and interests.

In a class society moral principles have a class, group character. Because of the complexity and inner contradictoriness of the positions, above all, of the exploiter class, morality proves to be internally contradictory in antagonistic formations. The principles "thou shalt not kill" and "an eye for an eye and a tooth for a tooth", for instance, not only contradict one another but are equally sanctified by the authority of the Bible. This contradictory nature of morality often permits the ruling classes to justify those acts and deeds that most correspond to their class interests in a given situation. The most characteristic feature of the moral consciousness of dominant, ruling classes is the contradictions and deep divergence between moral principles, norms, and doctrines on the one hand, and real, actual behaviour on the other. Bourgeois morality, for instance, while proclaiming diligence, hard work, and business honesty the supreme virtues in words, readily reconciles itself to the fact that the majority of the members of the capitalist class are steeped in corruption, dishonest stock exchange machinations, and live through exploitation of others' labour.

On the contrary, socialist morality is characterised by unity and inner agreement of moral principles and moral behaviour. This morality, having arisen originally as a system of the moral principles and norms of behaviour of the working people, is acquiring the form of universality in socialist society. Conscientious work, honesty, benevolence, mutual respect, a feeling of one's own worth, respect for human rights, internationalism, collectivism, respect for the individual's capabilities and talents, and rejection of hypocrisy and sanctimoniousness are its supreme virtues and principles. It is easy to proclaim such principles, but it is much more complicated to realise them in practice and in real, complex, contradictory affairs. A central task of socialist society is, therefore,

on the one hand, to provide the objective conditions and resolve the contradictions which are the real preconditions for realising such moral standards and, on the other hand, to educate every one systematically in a spirit of lofty self-discipline and intolerance of divergences between actual deeds and moral principles.

229 *Economic Consciousness*

Ever since the genesis of human society people have been constantly accumulating, developing, and perfecting their knowledge of material production and economic activity. This knowledge, which reflects the most essential sides of the process of producing and distributing material wealth and is employed to organise and manage production and economic activity, makes a special form of social consciousness, viz., economic consciousness. In class society this consciousness has a distinctly expressed class character, and is inextricably bound up with ideological struggle, and with legal, political, and moral consciousness.

Aristotle, the greatest thinker of antiquity, considered that slaves were simply talking tools. Work could not be the lot of a free man, it was the lot of slaves. Aristotle well understood the importance of economic activity, and reflected on the function of money, etc. Economic consciousness began to develop particularly rapidly in the epoch of capitalism. The founders of political economy—the science of economic activity, of production and management—Adam Smith, David Ricardo, and others, developed a labour theory of value that was highly esteemed by Marx and Engels. Lenin pointed out that the views of these economists, after critical reworking, were one of the sources of Marxism. But views on economics formed in antagonistic formations reflected economic activity, as a rule, from the standpoint of the dominant classes. They exaggerated the role of private property and considered it the eternal, necessary, sacred foundation of any society. In capitalist society, bourgeois economic consciousness is a powerful weapon for subordinating the working people to the exploiters and a means of disrupting their class consciousness. Bourgeois economic consciousness considers the acquisition of private property and personal enrichment the basis and goal of

all economic activity, even when they lead to destruction of nature and bring untold woes to the working people.

Economic consciousness has a quite different character in socialist society. Like other forms of social consciousness it reflects social being and changes it undergoes. Economic consciousness, moreover, is primarily a reflection and awareness of the patterns of development of the socialist economy and the forms of organising and managing it. Since human beings, working people, are the main productive force of society, all-round development of their economic consciousness is a powerful subjective factor in the development of the productive forces as a whole.

The structure of the economy of contemporary socialist society is very complex. In addition to state enterprises, which create the bulk of the product needed by society, there are co-operative enterprises, and individual self-employment. In the Soviet Union, there are, in addition, mixed enterprises set up by Soviet and foreign firms. One of the most important criteria of the economic expedience of an enterprise is its profitability, its capacity to reorganise itself rapidly, to introduce the latest advances of science and technology, and constantly raise the productivity of labour, and to introduce the latest resource-saving and science-intensive technology that makes it possible to make products and goods satisfying the most varied needs and demands.

Soviet workers draw up the economic and technical policy of their enterprises, together with the management and administration (which they themselves elect), in accordance with the latest legislation. They need to have good professional and economic knowledge.

All this is forcing us to look again at the role of economic consciousness in the life of modern Soviet society, in which economic tasks, the job of managing and developing separate enterprises, firms, associations, and whole industries, are being decided by all the working people rather than a handful of businessmen and managers. These tasks are being tackled on a basis of broad socialist democracy in which the weight and significance of each person is determined by his experience, knowledge, and personal contribution to labour activity, rather than by the size of his shareholding.

From the philosophical standpoint examination of economic consciousness and its role in society's life, especially under socialism, is important in this respect, that one can see in it the active effect of social consciousness on social being, the economic basis of society, and the productive forces, better than in anything else. This effect is the more marked and effective, the fuller, more exactly, and deeper economic consciousness reflects objective economic laws and the real contradictions and difficulties arising on the road of socialist socio-economic development, and helps find the means for dealing with them and ways for the most rapid, harmonious development of the economy.

230 *Religion as a Form of Social Consciousness*

Religion, which is one of the forms of social consciousness, has occupied an important place in the spiritual life of mankind. In some periods it was the universal form of such consciousness. But that does not mean that it has existed forever. Modern science dates it to the age of late primitive communal society. A need arose then to explain and understand phenomena of the surrounding world and of the activity of man. Not having the requisite knowledge, and being at a low level of economic and social development, people could not give a scientific explanation of the world around them and began to explain it, so to say, by analogy with themselves, endowing it with supernatural properties and ascribing mysterious spiritual forces to it. Being weak and helpless in the struggle against the forces of nature opposing him, ancient man deified natural phenomena, i. e., rain, lightning, thunder, rivers, streams, trees, stones, etc. He worshipped separate objects, trying to cajole them and win their patronage. Notions gradually arose that ascribed the existence of a soul and will to phenomena of nature, similar to the soul and will of man but more terrible, mysterious, and incomprehensible.

In class society man began to be opposed by even more alien, remorseless forces of class exploitation, as well as by the forces of nature. Religion, proclaiming and hallowing his weakness and helplessness, called for humility and submissiveness before these forces. It was thus converted into a form of consciousness promoting spread,

consolidation, and inculcation of the ideology of the dominant classes.

Such monotheistic religions as Buddhism, Christianity, and Islam became most widespread ones in the conditions of antagonistic class formations.

The organised form of religion, i. e., the social institution by which a religious cult is maintained, and religious faith is spread, and the devotees of a religion are united, is the Church. During the history of various societies at various stages of development in various concrete situations the social role of religion and the Church has changed. The dominant Church has, to a greater or lesser degree, served the interests of the classes who held state and economic power. But, because of the deep contradictory character and changeability of social life, it often happened that some religious currents (and the religious organisations corresponding to it) opposed the dominant Church and religion. Such currents sometimes proved to express the interests of the oppressed, or of groups and classes that were fighting for power and for a change in the existing social system, without having opportunities, for certain reasons, to be aware of their own interests and the objective state of public affairs in a scientific form. Some national-liberation movements, or fighters against exploitation have given their revolutionary and emancipatory aspirations a religious colouring. The class or liberation struggle, and the ideologies corresponding to it, appeared in the form of religious heresies in such cases, or as alternative church movements, and acquired the form of protest against the dominant Church and religion, and began to fight for the right to freedom of conscience. The appearance of political protest in a religious guise is a phenomenon peculiar to all peoples at a certain stage of their development. In the modern world, a world filled with acute social contradictions, religion and religious organisations may play a different role. Spokesmen of Marxian thought do not call for forcible extirpation of religion (as their opponents accuse them of) but for a dialogue with those socio-religious leaders and currents that are taking part in the fight for peace against the menace of thermonuclear war, in national liberation movements, and in the fight against totalitarianism and oppression,

for the achievement of social justice, national independence, and emancipation from neocolonialism. The Constitution of the USSR (Art. 52) proclaims freedom of conscience as one of the main rights. Every citizen can hold atheistic or religious convictions. Any hostility or persecution on religious grounds is banned by law, and the Church is separated from the state.

231 *Artistic Consciousness and Art*

Art is one of the oldest and most universal forms of human activity. The term "art" signifies not only the activity but also its result, namely works of art. What is art? And what is its role in the life of society and of individual people?

People strive in their everyday production activity not only to satisfy their material wants by making objects for that (food, dwellings, etc.), but make them as nearly perfect and purposeful as possible. The better and more suitable the objects are, the greater is the skill required for making them, the more creative is the character of the production process, and the more talent, inventiveness, and imagination are required of their creator, man. The reason and will of man, and his specifically human power and strength were perfected. The more man was singled out from nature, and raised himself above her, the more he perfected himself, and his skills, knowledge, and standards of behaviour, and consequently moulded himself as a social creature. All these peculiarities of man, and above all his social essence, the force of his knowledge, the power of imagination and culture, and also the perfection and mastery of activity were embodied in the objects he made, in structures, in tools, and in improved, transformed, humanised nature. The fuller this embodiment, the finer and more beautiful are the material products of his work and his creative activity. Through the historically conditioned division of labour a separation of the production of useful things came about from that of beautiful things. Art as a special form of activity, "production of the beautiful", was separated from material production. Special groups of people arose for whom art became a profession: artists, sculptors, architects, writers, poets, musicians, actors, and others.

In class society the dominant classes are special consumers of art. They finance the activity of artists, writers, and actors, buy their creative labour, and at the same time force them to serve definite class aims, and make them conscious or unconscious vehicles of a certain world outlook and ideology. It would be wrong, however, to think that art, i. e., artistic activity, is wholly separated from material production. Even in exploiter societies the work of artisans, craftsmen, and peasants contains a striving for perfection and manifests a creative human element. To the extent that work contains an element of freedom and creativity it also has artistic qualities. The freer and more creative work is, the closer it approximates to art.

Elements of artistic activity are inherent in all manifestations of human activity developing on the basis of labour. All man's social being, which is a product of this activity, is permeated to a greater or less extent by a creative, artistic element, which also finds reflection in a special form of social consciousness, viz., *artistic consciousness*, which *reflects the reality around us in a system of artistic images.* These images reflect the individual and general, typical features, properties, and peculiarities of nature, society, and man's inner world. They are then embodied in corresponding material objects and processes, in musical works, pictures, sculptures, architectural structures, and ensembles, theatrical productions, and films. Unlike scientific knowledge, which reflects the world in the form of logical concepts and complex theories, art is the material embodiment of artistic images that affect our sense organs and evoke a certain emotional reaction. Visual-sensory images have a subordinate place to some extent in the sytsem of scientific knowledge; they are employed to create visual models (513), drawings, blueprints, depictions of the objects studied, and so on. But the main means of knowledge are scientific concepts and judgments by which universal laws of science are formulated in abstract form (505). Individual phenomena are treated as the starting point of knowledge and material for supplementing the laws discovered and formulated by science. In artistic knowledge (cognition) visual-sensory images, on the contrary, have a central place, and make it possible

to reflect the deepest, most stable features of any individual phenomenon in a form directly accessible to sense perception. Concepts and judgments are employed here as means to describe and analyse artistic images. Scientific knowledge and artistic knowledge are consequently not opposed to one another and cannot replace each other. They supplement each other, creating a fuller picture and system of knowledge about the world around us and about man's inner world, experiences, moods, attitudes, and individual peculiarities in which the most essential traits of an age and society are manifested. Such is the general interconnection of art and science.

The artistic consciousness of a particular age affects man's inner, mental world through a system of works of art that embody it, disclosing through it features of reality that escape other forms of social consciousness. Man's spiritual education takes place through that, and definite attitudes to nature and society are formed in that way. The art of any age and any people brings out, in inimitable artistic images, in accordance with the aesthetic ideals, norms, and ideas dominant in artistic consciousness, features of life and the personality, and of interaction of man and nature that are not reflected and not communicated by other forms of consciousness and types of activity. Because of that folk art, and the works of the great masters of the past, and of our contemporaries, help make all world culture available to us, and help us to assimilate everything valuable accumulated by mankind in the course of history. In acquainting ourselves with the literature of other ages and nations, listening to music, and visiting art galleries, we not only become aware of the experience accumulated by other people but are also introduced to their experiences and inner world, and ourselves become spiritually richer and nobler, and broaden our outlook, and our understanding of the world. By introducing us to the life experience of mankind, art promotes the "accumulation "of cultural values, ennobles our feelings, and promotes people's deeper mutual understanding. Art and artistic consciousness thus exert an immense emotional effect on all aspects of public and individual life.

Art reflects reality at all levels of social consciousness, including social psychology and ordinary, everyday consciousness. Works of art embody the talent, fantasy, and imagination of the creative personality. The effect of society on art and art's reverse influence on society are determined by several factors, which include the social structure of society, and other forms of consciousness, the mental attitude dominant at a given historical moment, and national traditions, and public tastes, and finally the personality of the artist and his individual, inimitable traits. Only the interaction of these factors makes it possible to understand the special features of art properly, and the artistic consciousness of a particular age.

It is because of this that there is no simple, straightforward dependence between artistic consciousness and art, on the one hand, and social being, on the other. Art is not a mirror reflection of nature and society in painting, literature, drama, etc. The images created by artists also include both artistic invention, fantasy, and personal experiences, and the acute problems that agitate society and have not yet found solution in it. Art affects both the emotions and the consciousness of a person. It enriches his or her emotional world and at the same time faces him or her with moral problems. Greek art, in the poems of Homer, for example, in the tragedies of Aeschylus, Sophocles, and Euripides, in Aristophanes' comedies, and in lyric poetry, posed the question of the relation of good and evil, the noble and base, the tragic and comic, the eternal and the momentary in the life of people. Shakespeare's art, while reflecting a concrete historical reality, posed before people the eternal question of the sense of life *(Hamlet)*, the justifiability of crime *(Macbeth)*, of good and evil, and of personal responsibility and human ingratitude *(King Lear)*. The works of Cervantes raised many questions about the sense of life, the quest for truth, about nobility and madness, about romantic heroism and the shallowness of everyday life. The works of the Russian writers Leo Tolstoy and Dostoyevsky, who enabled us to look into the very depths of the human soul and understand the workings of human psychology, are of immense importance for modern culture.

Every nation makes its special contribution to world

art, because its historical destiny, culture, and the individual, personal characteristics of its artists, musicians, writers, and actors are inimitable. The art of big and small nations therefore has lasting historical value. It is important to note that artistic consciousness and art experience a particularly stormy, all-round flourishing in periods of abrupt turns in the history of a people. So it was in art, literature, and music during the 1917 Socialist Revolution in Russia. So it is in Soviet art and literature now that *perestroika* is in full swing. Authors, playwrights, film makers raise acute problems, show personality clashes and the struggle between innovators and conservatives. They foster courage, fortitude, resolution, high moral standards, initiative, and irreconcilability to all that stands in the way of justice, good and beauty.

In modern capitalist society and in some developing countries art and the understanding of reality are contradictory because they reflect different social, group interests. Modern art in capitalist society is a mixture of progressive as well as reactionary and conservative trends. It should not be viewed as something homogeneous. Indeed, the society that gives rise to such art is contradictory and heterogeneous. The task of Marxist philosophy is therefore to analyse thoroughly modern artistic consciousness and art as the whole, expose their social functions and comprehend deeply the values and moral and aesthetic attitudes they contain. The works of modern art that foster the high qualities of the human person, call for freedom and social changes to attain justice, and proclaim humanistic traditions and ideals are conducive to general historical progress and will make part of the treasury of world culture.

232 *Individual and Social Consciousness*

So far I have been examining different forms of social consciousness. What is their connection with individual consciousness, i. e., the consciousness of the individual person? (210).

Society consists of individuals. The creators of the greatest works of art were separate individuals (Shakespeare, Pushkin, Michaelangelo, Repin, Picasso, Shostakovich, Prokofiev, Bruckner). The greatest discoveries in science and the most profound theories reflecting the

world were made by individuals like Newton, Lobachevsky, Einstein, Bohr, and Wiener. We constantly come across manifestations of individual consciousness not only in the world of science and art, but also in everyday life; and they are all different. Every person has his or her aspirations and cares, views on life, understanding of various problems and duties, and so on. In short there are as many individual fates, and personal views on life, aims and modes of behaviour, as there are people. At first glance it would seem that there is little in common in all the individual displays of consciousness, and that they depend only on the will and life conditions of each person. The German philosopher Friedrich Nietzsche (1844-1900) even claimed that there was no social consciousness, but only the thinking and consciousness of the separate individual, because, he argued, consciousness developed in the head, and individuals had heads, but not society. That was an extreme, individualistic point of view. At the same time the old materialists were not right who deduced individual consciousness directly from the conditions of personal life and its unrepeatable circumstances. The French materialist-enlightener Helvétius (1715-1771) considered that a person was educated precisely by such circumstances; it was sufficient for two children from one family to take different routes during a walk for their views on life, and their individual characters and aims, to begin to diverge.

Undoubtedly, society has no head, and life conditions, peculiarities of education and upbringing, and personal biography influence a person's individual consciousness, character, and behaviour. But it is enough to ask whether Shostakovich's Seventh (Leningrad) Symphony, dedicated to the Soviet people's struggle against the German fascist invaders (and especially to the siege of Leningrad) could have appeared in the Middle Ages, or whether an artist of antiquity could have painted canvasses like Repin's or Picasso's in order to realise that the content of these works was determined by the features of the age, nation, and historical period. Similarly, in spite of all the individual differences, no one in the eighteenth century strove to buy an automobile. All these differences in people's behaviour, in spite of individual features, are determined on the one hand by

objective, social being, and on the other by social consciousness, arising on its basis and reflecting it.

Historical materialism does not deny individual consciousness, aims, will, and desires. It assumes that they need to be closely studied and explained correctly, in a materialist way. Social consciousness is the general that arises in the consciousness of the individuals of a society because they live in conditions of a certain social being and formulate their personal aims within its context and on its basis. The individual consciousness of each person is moulded under the influence of many factors, which include his or her personal temperament, individual peculiarities, sex, age, material position, family circumstances, situation, working conditions, etc. The decisive influence, however, is exerted by the social milieu built up in the context of a definite social being with the existence of a definite social consciousness and other elements of the superstructure. People are constantly exchanging views, and production, social, and political experience, in their practical, production, everyday, domestic, and social activity. During this exchange common views are developed, an understanding and evaluation of events, the same for a given group or class, and common aims. Individual aims, views, and needs are moulded and shaped under their influence. Social and individual consciousness are therefore in a constant, complex interaction, through which the creative achievements not only of great thinkers but also of every man and each individual personality, are included in the common treasury of spiritual culture. To separate social and individual consciousness, therefore, and even more to counterpose them, is a gross metaphysical mistake disrupting the real link and interaction of these phenomena.

233 *On the Relative Independence of Social Consciousness*

All the changes in social consciousness, and the process of its development itself, are determined in the last analysis by changes in social being. It would be wrong, however, to think that this consciousness always lags behind social being. Political consciousness, morality, artistic consciousness, religion, and philosophy do not

reflect people's material reality, the class struggle, various events, gradual and revolutionary changes in a passive way, as in a mirror, but create certain ideals, norms, standards, precepts, and rules of behaviour, and develop an image of a more desirable, preferable organisation of social life. The relative independence of social consciousness, and its capacity for „anticipatory" reflection, are manifested in that. In the literary works of the past, in the works of philosophers, economists, sociologists, and political thinkers, we find many arguments about what a rational, just society should be like, how state administration should be organised, and what the most just laws and most humane norms of morality should be like. All these arguments, of course, reflect not only universal, but also quite definite class ideals and notions of justice, humanity, etc. At the same time they are historically limited. However the thinkers of the past strove to see into the future, and whatever images of social life, ideals, and norms they created, the social being that they had to deal with in practice, and which was reflected in the social consciousness of the age, served as material for their arguments. Therefore, even anticipatory reflection is ultimately determined by social being. In ages of the spontaneous, elemental development of preceding socio-economic formations the relative independence of social consciousness was often manifested in the creation of various kinds of utopias. Ideas, images, and theoretical reflections relating to a future just, rational, and humane organisation of society that do not have an objectively scientific foundation are called utopian. The creators of utopias were often outstanding thinkers who expressed the interests and moods of the most oppressed and exploited classes, although they themselves sometimes belonged to the privileged classes or estates. Views like these got their name from the book of the English statesman of the early sixteenth century, Thomas More, entitled *Utopia,* which painted a picture of a fabulous socialist society in which universal equality, justice, and prosperity predominated.

During the eighteenth and nineteenth centuries, as exploitation of the working people increased, utopian socialism became very widespread. Marx and Engels highly appreciated the creators of the utopian social-

ism of the early nineteenth century, Fourier, Robert Owen, and Saint-Simon, for their endeavour to substantiate the necessity of a socialist reorganisation and restructuring of society, and chiefly for their sharp criticism of capitalism. At the same time Marx and Engels stressed the unscientific character of this form of socialism. It was imaginative, fantastic, wish-fulfilment socialism. Its creators suggested that the new society would arise through moral self-perfection, benevolent, philanthropic activity, and enlightenment, rather than through sharp class struggle. The unscientific and utopian character of such projects was proven by the collapse of the separate attempts to realise them undertaken, for example, by Robert Owen.

The relative independence of social consciousness was particularly clearly manifested in the creation of the theory of scientific socialism. This theory, developed by Marx and Engels, and later creatively worked up by Lenin, was not a simple reflection of the profound socio-economic contradictions of capitalism, but represented the first example of a truly scientific anticipatory reflection of social being. It not only scientifically substantiated the need for a revolutionary transformation of society, and the abolition of private property and exploitation of man by man, but also pointed out the real road and method for such a transformation. Where is the very possibility of anticipatory reflection, and the relative independence of social consciousness as a whole, drawn from?

The point is that social being is not just the aggregate of the socially significant events existing at a given moment. It is not something congealed and jellied, and invariant. It is in continuous development, and various trends and tendencies are constantly arising and growing in it. There are consequently objective patterns in it that govern these tendencies, processes, and changes. By reflecting those trends and patterns social consciousness acquires an ability to see into the future, as it were, and to run ahead. Its relative independence is manifested precisely in that. Since social being itself is contradictory and is reflected from various class positions within various struggling ideologies, its reflection also proves contradictory. Before the creation of the material-

ist conception of history, this anticipatory reflection was unscientific in the main, and despite separate true guesses had utopian features. With the creation of Marxist philosophy, which developed the materialist conception of history, there came about, for the first time, a possibility of a strictly scientific awareness of the objective tendencies and patterns of social development.

The relative independence and activity of social consciousness are continuously growing in socialist society. This well illustrates the awareness, based on philosophical analysis, of the underlying economic and political processes that are taking place in modern socialist society. While itself a reflection of reality, this awareness is rising at the same time to the level of critical re-evaluation of everything that is happening. It is disclosing the machinery and causes of the stagnation and bureaucratisation of Soviet society, and of the conditions that led to the gap between the principles of socialism and social justice, on the one hand, and their deformation and distortion in the affairs of society itself. This critical awareness is bringing out the contradictions in social being itself, and is endeavouring to promote victory of progressive tendencies over stagnant ones. But certain contradictions and struggle are arising in social consciousness itself that reflect the stance of various social groups, and of the proponents of democratic methods of management and of command-administrative ones. Social consciousness is not only acquiring relative independence in the course of resolving these contradictions, but is also becoming a powerful factor in the restructuring and reorganisation of all spheres of the society's affairs under socialism.

234 *Growth of the Role of the Subjective Factor under Socialism*

When discussing the relative independence of social consciousness and stressing the activeness of its various forms, I have established that they all not only reflect various aspects of social reality but also have an active reverse effect on it. It can further the development of progressive trends and tendencies (422), but can also prevent their realisation. The important role of the sub-

jective, human factor in the historical process is manifested in both cases.

What does this role consist in? Why is the human factor acquiring such importance today? The development of society, while a natural-historical process, is always connected with awareness of certain aims and tasks that individual people or separate social groups set themselves. Solution of these tasks, and achievement of these aims, depend on the choice of the mode of activity, and on what decisions are made. There are two possibilities here.

The first is that people set themselves unattainable aims, formulate their tasks incorrectly, take ill-considered decisions, and choose a mode of action that is unsuitable for the given conditions, time, place, and society, or is ineffective for attaining the ends intended. Decisions and actions of that kind can hold back social progress, worsen living conditions, and lead to undesirable and sometimes disastrous consequences. That also signifies that incorrectly understood patterns of social development, and objective circumstances, "revenge" themselves on people for their not being aware of them, for their not having studied them and reflected them in their activity. Sooner or later these patterns and the consequences of incorrect awareness of them make it necessary to alter incorrect decisions and find another, truer mode of action corresponding better to objective reality. Until that happens the people, social groups, social organisations, that have taken wrong decisions and are pursuing unattainable goals, are forced to pay a dear price for their mistakes.

The second possibility is that people are quite deeply and truly aware of the objective patterns, and understand the real conditions and trends of social being. Because of that they are in a position to pose real, scientifically substantiated aims, and solvable tasks. They are able to take true decisions and effective, reliable means of action. It does not follow, of course, that everything will become simple and easy in such cases, that the aims will be attainable without struggle, and that the appropriate activity will not encounter difficulties or obstacles. Because of the objective complexity and contradictory character of life, and because a great number of people, social and pro-

fessional groups are acting simultaneously in society, and also various organisations that are defending their interests, difficulties and obstacles to achieving the main and common aims arise all the same.

The root difference of this from the first possibility, however, is that movement toward the planned goal takes place faster and mistakes are fewer. In that case why do people far from always realise this second possibility? (420) The point is that in real society social consciousness lags behind social being. A correct, deep, and furthermore scientific awareness of reality is far from always achieved, since various social forces affect the subjective factor of social development, viz., social and class contradictions and struggle, various prejudices, ideological precepts, social moods and passions, lack of information, etc. The development of correct decisions and a true awareness of aims and of the real state of affairs are often prevented by the personal qualities of leaders, political thinkers, and ideologists. When the people on whom the development of social aims and ideology depends have personal traits that prevent the taking of correct decisions (for example, intolerance of other points of view, etc.), they often come to an incorrect understanding of the appropriate aims and tasks. That is why the subjective factor can play a marked, and sometimes decisive role in historical development in spite of the fact that the objective factor (developing social being) is determinant in the final analysis.

In socialist society, in which antagonistic contradictions have been overcome (206, 406), the objective preconditions are created, because of that, for a fuller, deeper awareness of social reality, and for a scientific determination of aims and of the means of attaining them. That does not mean, however, that all the decisions taken in socialist society, and any mode of social action are automatically correct, and that they are taken without a struggle of opinions, clash of interests, and serious political and spiritual efforts. The role of the subjective factor in socialist society, and the role of the conscious, active, creatively thinking person interested in a correct solution of social problems, rise steeply.

In the USSR a far-reaching, in essence revolutionary reorganisation and restructuring of economic, social, and cultural affairs is under way. It is linked with the fact that in the preceding stage of development there was a certain slowing down of social and economic progress, which was caused by the smugness and complacency of a number of leaders, a strengthening of conservative tendencies among certain people in charge of industry, agriculture, various social organisations, etc. A reason for this complacency was the great successes and rapid rates of development in the preceding stages of the development of Soviet society. It began to seem to some people that this state of affairs would maintain itself automatically, without a critical appreciation of what had been achieved, without taking new, bold, creative decisions, and without activating the human factor. Life has shown that this view was mistaken. Great critical work by the whole Communist Party, and all people concerned with the problems of society and development of technology, economic leaders and managers, and rank-and-file workers, has been required.

In order to give a new impulse to society's life and to achieve a decisive acceleration of social and economic development, it is necessary to be more deeply aware both of society's immediate aims and of its foreseeable prospects, and to understand what is holding back advance, and what forces can promote and further it. Awareness of all this by the leaders of the Party and state only is not, however, sufficient. It is important for understanding of the historical need for change to penetrate the consciousness, spirit, and heart of everyone, and to be accepted and adopted by all work collectives, social groups, and voluntary organisations.

All this shows that social and economic progress in building socialism depends to a significant extent on the subjective factor in a society without radical antagonistic contradictions. Therefore it should be stepped up.

The working out of problems of raising the role of the subjective factor in socialist society is thus an important contribution to the development of the social philosophy of Marxism.

Chapter III
NATURE AND SOCIETY

Above I have examined the relation between matter and consciousness in general form. Then the basic question of philosophy has been discussed in relation to society, which has helped us understand what social being and social consciousness are, and what is the interaction between the subjective and objective factors of social development. Now we must bring out the inter-relation of society and nature.

On the Relationship of Nature and Society

301 Nature and Society

Let us first ask what relation does discussion of the inter-relation of nature and society have for philosophy. In order to understand the essence of the matter we must first define what nature is, and what we have in view when we employ this concept. Nature is not the whole Universe, and not the whole world known to us, but only that part of it that man comes up against and reacts with in some way or another, and which influences the development of society in a more or less marked way. One can interpret nature more broadly, of course, but the question then loses its clarity. By nature, therefore, I shall mean primarily everything that exists and occurs on the surface of Earth, in its interior, and in circumterrestrial space, including that part of outer space with which man has begun to interact in recent decades, and which he is penetrating thanks to the advances of science and engineering. In that sense human society itself is a product of the development of nature.

There is a fundamental qualitative difference, however, between nature and society, a difference that consists in nature's developing and functioning according to its own objective laws, which operate outside individual and social consciousness. The laws of society's activity, however, although they are also objective, are linked with consciousness and with *Homo sapiens'* activity. This difference helps us to understand the philosophical significance of the question of the inter-relation of nature and society.

Man bases himself on nature in his activity, lives in nature, is exposed to her effects, and employs her wealth and the means and conditions of life provided by her. At the same time, in pursuing their aims, people create new things and tools, structures and circumstances that do not exist in nature without man, did not, and could not exist before his genesis.

It will readily be noted that the question of the relation of matter and consciousness, with which we are already acquainted, is again manifested in the inter-relation of man and nature. Only now we shall examine it from a special angle. What is this angle?

The point is that people disturb natural conditions when quite strongly altering nature, which often leads to its destruction. And that in turn has adverse, undesirable effects on the life conditions of people themselves.

Man's effect on his environment has become so destructive in recent decades through the great increase in the power of modern equipment, and the building of huge cities, roads, industrial enterprises, and transport systems, that people have begun to talk about the death of nature and the crisis of the environment. A special trend of thought — alarmism — has even arisen that claims that the development of society is leading to complete destruction of our natural environment, and as a consequence to death of the human race itself. A dead-end has arisen from which, in the opinion of alarmists, there is no way out. Some religious leaders even see in this a sign of the coming end of the world. Alarmism is a modern form of historical pessimism. But historical optimism also exists in our day, whose proponents believe that human reason

and good will can help preserve and restore nature, if directed along the correct path and given the requisite social conditions, and establish a more correct and harmonious relation between nature and society in the future.

The disputes around the interconnection and contradictions of nature and society are becoming increasingly heated, and touch on very profound problems connected with man's relation to the world around him and with the very existence of human society. Broader and broader strata of the population of all countries are being drawn into them (workers and engineers, peasants and politicians, scientists and artists). International conferences are being held to tackle these matters. Special laws have been passed in various countries to regulate society's relation to nature. All this demonstrates that philosophy as the intellectual quintessence of modern times, and the theory of the most general laws of the development of nature, society, and thought, must take an active part in working out a scientific, materialist solution of this vitally important problem. In order to bring out the various views on the relationship of nature and society and to show the correctness of the historical optimists, let us listen to a dialogue between two conventional characters — Pessimist (P) and Optimist (O).

302 *Dialogue about Nature and Society*

P. The whole history of humanity says that the development of society entails destruction of nature. Ultimately people will destroy the environment and wipe out the conditions of their own existence.

O. What happened in the past, however, need not necessarily happen in the future. People have gathered immense experience, dispose of powerful equipment and scientific knowledge, by which they can stop destruction of the environment.

P. Quite the contrary. The development of technology entails exhaustion of natural resources. Look for yourself: motor cars, tractors, power stations, huge ocean liners and aircraft are burning millions of barrels of oil products every day. Oil is being used by chemical works, too, to produce fertilisers, medicines,

artificial fibres, new materials, and so on. The same can be said about coal, which is burned in power stations, employed to make steel, pig iron, and various chemical products. But surely the reserves of oil and coal are limited? What will people do when they are finished?

O. But surely new sources of these fossil fuels are constantly being discovered?

P. True. But sooner or later they, too, will be exhausted. Furthermore, the installations that burn oil products at the same time use up atmospheric oxygen. One small car uses up as much oxygen in an hour as a big, centuries-old oak liberates into the atmosphere in 24 hours. And we are constantly destroying vast forests, and using the wood for heating, building, and making paper. Furthermore forests are being destroyed by forest fires which are occurring more and more often in our day. And think of all the factory chimneys pouring carbon dioxide and other harmful wastes into the atmosphere; add to this that the total mass of green vegetation of Earth's surface is being catastrophically reduced, and you will understand that we are threatened not only by exhaustion of power materials but also by oxygen hunger.

O. You are painting a very gloomy picture.

P. That is far from all. The rapidly growing population of Earth, especially the urban population, does not have enough fresh water. Furthermore, river and sea water is being polluted by urban effluents and the wastes of industry. They are destroying fish and aquatic vegetation, and killing the plankton on which marine animals feed. The destruction of fertile soils and of the natural landscape, etc., need to be added to that.

O. What is your forecast?

P. Around 20 years ago a voluntary public organisation "The Club of Rome" was founded in Rome. It unites many top scientists, economists, sociologists, and politicians. Their first conclusion was that it was necessary to stop the growth of production, slow down the development of society, reduce the rapid increase of population that was causing hunger in many countries, create waste-free production, and establish "zero

growth". Later the members of this Club and of other similar organisations changed their views, it is true, and began to consider that new modern technologies could correct matters if industries were created that saved and economised on natural resources.

O. Does it follow that if we listened to these recommendations we could save mankind from death and stop destruction of nature? Is that how it is? What is preventing us from doing it?

P. First, I did not claim that carrying out the recommendations of The Club of Rome and other nature-protection organisations could save mankind. It will hardly help nature. What has been destroyed, used up, and burnt can no longer be restored. Second, mankind has never listened to the voice of prudence. When pursuing today's ends it does not think about the morrow.

O. I think you are mistaken. Man's essence is not unchangeable. People act in one way or another in accordance with the social conditions, the social system and the mode of production in which they live. When these conditions are changed their way of acting will change, and their attitude to nature. Then, I think, it will be possible to correct much, and to make the position better than it was and than it is today.

P. But why has nothing like that been done over the last several thousand years?

O. Because private property has predominated all that time, and personal, group, and class interests, and above all the interests of private entrepreneurs and big monopolies have been put above the interests of society. People have been guided in that situation by views, precepts, values and ideologies that did not take the interests of all mankind into account and consequently the interests of a reasonable, careful, rational relation to nature.

P. But can this position be changed?

O. Undoubtedly.

P. How?

O. I think the best answer to that, which affects the most fundamental interests of mankind and its attitude to the environment, is given by the philosophy of dialectical materialism. What distinguishes it from non-

Marxian philosophical propositions? What is its positive programme and the prospects for realising it?

I shall discuss these questions in the pages that follow.

303 *Pre-Marxian Views on Nature and Society*

Man's attitude to nature has changed as society has developed, which has found reflection in various doctrines about the relations of society and nature.

Primitive men were consumers of natural wealth. Over hundreds of thousands of years they fed on animals and plants, slept in caves, dressed in skins, used tools and weapons of wood, stone, and bone. They only assimilated natural matter but did not create anything that did not exist in nature. That level of development of the productive forces found reflection in a system of religious notions, myths, and legends in which man's complex, contradictory attitude to the world around him was expressed. On the one hand nature provided life, nourished man, and was therefore an object of his worship and deifying. On the other, he was constantly struggling against the terrifying, incomprehensible forces of nature, striving to overcome them and subordinate them to himself, and often regarded many natural phenomena hostilely. In the period of the break-up of primitive society and the rise of early slave states, people began to cultivate fields, to cultivate crops, and to rear and breed domestic animals. Through the creation of metal tools, the potter's wheel, and ability to use fire, man began to fashion things, foodstuffs, clothing, dwellings, and means of transport that did not exist in nature. As a result of the development of the productive forces and technology a transformation of nature began.

Over the hundreds of thousands of years of prehistory people had already begun to alter nature strongly; they cut down forests, exterminated many species of animals, laid hundreds of roads and paths. The process of changing nature in the course of man's labour and social activity was accelerated many times over in class society. But the activity was spontaneous, elemental, as a rule, and its consequences proved quite unexpected and not what people had originally striven for. That has been a

characteristic feature of all previous formations and of the cultures corresponding to them.

The philosophy, and especially the materialism, of antiquity were aimed at understanding the world as a whole. While regarding this world (cosmos) as a developing whole and striving to comprehend its principles and origin, the old philosophers did not understand the active role of man in transforming the nature around him. They regarded it as an object of observation, and not as conscious, purposive, transforming activity.

For the Christian religion and theology, and for the other world religions, that were dominant in the Middle Ages, a negative attitude toward nature was characteristic. In the opinion of the mediaeval Schoolmen philosophers nature was created by God to serve man. Only man had a slight portion of the divine spiritual principle, while nature contained a base principle.

Only in the epoch of the Renaissance and the rapid development that followed it did scientific interest in nature grow rapidly. But that interest was clouded by a spirit of money-grubbing and striving for profit. Francis Bacon, one of the fathers of the philosophy and science of modern times, considered knowledge of nature necessary for the welfare of society. Any discontent in society, he suggested, was caused by poverty and bad government. Both of these deficiencies could only be eliminated by means of science. Scientific knowledge was a force, he said. The aim of science was to know nature and ensure control over her. Control over nature could lead to the happiness and stability of society. He had in mind a society based on private property and exploitation of man by man, of course, and the bourgeois conception of the attitude of society to nature found substantiation in these views. They wanted to take as much as possible from nature, but no one set society the task of doing anything to preserve nature. The idea of domination of nature became the keystone of pre-Marxian bourgeois philosophy. It justified a predatory attitude to nature and exhaustion of natural wealth. The need to get to the bottom of this attitude and to overcome it became particularly acute when the capitalist drive for prof-

it inherent in modern capitalism led to a crisis of the environment that menaces all mankind with catastrophe.

304 *Dialectical Materialism on the Relation of Nature and Society*

The philosophy of Marxism regards society as a result of the evolution of nature. At the same time there is a profound difference between nature and society. In nature only blind, unconscious forces act on one another, and in their interaction general laws are manifested. In the history of society, on the contrary, people endowed with consciousness operate, striving for certain ends. But however important this difference, it does not alter the fact that the course of history is governed by inner, general laws.

People not only create material values in the course of work but also mould themselves as conscious, thinking creatures. Nature functions as the *object* of material production activity, and as its primary object. Man, however, reflecting nature in his consciousness and setting himself certain personal and social aims, is the *subject* of this activity. His production activity helps him in a certain way to master and process natural matter. The founders of Marxism did not restrict themselves to pointing out that the labour process is the main mechanism of man's relationship with nature, and that he singles himself out from nature and opposes himself to nature through labour. They constantly stressed the dependence of man's interaction with nature on the predominant forms of property and the organisation of society governed by it.

Man's attitude to nature is contradictory. On the one hand he himself is a product of it. Nature is the most important material condition of his life activity. Natural wealth, energy resources, fertile soils, the existence of water, air, climate, etc., affect the development of society in a certain way. On the other hand, man changes nature in the course of labour. In setting themselves concrete aims and working to achieve them, people alter nature so that the final, end result of their activity often proves the opposite of their original aims and intentions.

Animals also affect their natural environment, of course, making more or less marked changes in it. But man's effect is hundreds, even thousands of times greater. In order to prevent disastrous, destructive consequences of this influence, it takes more than being simply aware of them. This awareness itself is determined by social being and depends on it, from which it necessarily follows that a proper, harmonious interaction of man and nature that will guarantee progressive development of society, and at the same time not lead to destruction of nature, is only possible given a transformation of society as a whole, and primarily a change in the mode of production, in other words only with a transition to socialism and later to communism. But why is it that communism will help eliminate and resolve the contradictions between nature and man that have arisen and deepened throughout all the preceding formations? It is because the abolition of private property makes it possible to realise scientifically substantiated, planned production and use of material resources in the interests of society as a whole, and of all mankind, and not in the interests of individual capitalists or separate monopolies. In opposition to all bourgeois theories, Marxism considers that the contradiction between nature and society should be resolved by eliminating any domination and not through man's domination over nature. By eliminating man's domination over man, communism will also eliminate man's domination over nature, if we understand by "domination" unrestrained exploitation of natural wealth for the sake of profit. Figuratively speaking, the "principle of co-operation" must be affirmed in place of the bourgeois "principle of domination", so creating favourable conditions for both the development of society and the conservation and development of nature. By providing conditions for the all-round development of each individual, and of society as a whole, communism will provide the conditions as well for harmonious development of nature. *The interaction of society and nature* in the new conditions *should be built on the principle of mutual enrichment and development*, relying on profound knowledge of the objective laws of the development of man and his environment. So, *the main conclusion to which dialecti-*

cal materialism leads is a conviction that the contradictions between nature and society can only be resolved given far-reaching, deep-going revolutionary social reforms.

This general philosophical conclusion becomes society's fundamental strategy throughout the building of socialism. A harmonious interaction of society and nature, of man and the environment, is acquiring increasing significance for improving the people's life.

The Environment. The Biological and Social in Social Development

305 *The Structure of the Environment*

When one looks at Moscow from the viewing platform of the TV tower in Ostankino, one of the highest structures in the world, one can see a whole sea of roofs, stretching to the horizon, a stream of motor cars on the avenues and squares, and the tiny figures of people walking along the pavements. The huge city and its multimillion population, complex technical systems and urban transport permanently surrounds each citizen. Nature is present here only in the form of parks, green grass, and separate greenery. Most of the population in the USSR and all developed countries live in cities and are surrounded by urban structures and technical installations made by man. The number of rural inhabitants living in direct proximity of nature and surrounded by woods, fields, clean rivers, and lakes, is constantly shrinking.

What is then the environment? It is a complex system (106). Its main subsystems are man's natural habitat and his artificial habitat.

The *natural environment* is the part of nature with which society interacts during its development and activity. When the human race first originated, its natural habitat embraced only a small part of the earth's surface. Now, however, it includes the earth's interior, as well as its surface, the World Ocean, near-earth air space, and part of the Solar system. As engineering and science develop, man's natural habitat will expand.

The *artificial environment* is the part of the environment created by man during the historical development of material production; it is the product of his life activity, and does not exist in itself as nature. The artificial environment consists of the aggregate of the housing built by man, human settlements, roads, means of transport, tools and implements, technical devices, artificial materials that do not exist in nature, factories and plants.

Society thus develops in complex material conditions that include both the natural and the artificial habitat. In early historical periods the role and relation of these two subsystems were different and affected man's life activity in different ways. Man himself also affected the environment in various ways, and altered it; at present a considerable part of his life is spent in an artificial medium that is itself the product of transformation and alteration of the natural environment.

Let us now examine in more detail how, in the course of history, the interaction of society and the different subsystems of the environment was effected and altered.

306 *Mankind and the Natural Environment*

The natural environment in which mankind lived and evolved is very complex. It includes: (1) the surface of the earth and its various soils, hills and mountains, rivers, seas, deserts, etc.; (2) different climatic zones; (3) various assemblages of animals and plants, etc. All these, taken together, are usually called the *geographical environment*. For tens and hundreds of thousands of years mankind lived and developed on the earth's surface without penetrating its interior and not rising in the atmosphere (let alone beyond it). Many thinkers of the past, while noting that different tribes, peoples, and nations lived in various geographical conditions, concluded that the main features of human life and the development of culture, and of the social system, depended on the geographical environment. Some of them considered a severe or mild climate the decisive factor in social development; others saw the main cause of development in the fertility of the soil, and abundance of plants and animals; others still made the development of society depend on the existence

of water routes (rivers, seas, lakes, etc.). There was a certain justification for these views. In the early stages of development people did in fact develop more successfully in countries with a milder climate, and a rich vegetation and animal kingdom, while regions with a severe climate and unfertile soils remained uninhabited. But the evolution of the human race cannot be explained by the influence of the geographical environment alone. There has been a succession of different social formations in one and the same geographical conditions for several thousand years, and even hundreds of years. Over the past 200 years the geographical environment in Russia has not undergone sharp changes, yet in that time two formations have disappeared, viz., the feudal and capitalist, and a third begun, the communist, which is now in the stage of socialism. If everything depended on the geographical environment, how are we to explain that in Latin America and in Central Africa, rich in vegetation and animals and with a warm climate, there are countries with a backward economy and a relatively low level of culture, while in the Soviet Union, in spite of its severe climatic, soil, and other conditions, an industrial economy and developed culture exist? These questions prompt the idea that the link with the geographical environment and dependence on it are not simple. Furthermore, as society developed, human beings penetrated further into the bowels of the earth, and went beyond its atmosphere, and the concept of the geographical environment has proved too narrow. It is only part of the natural habitat of the human race.

Two groups of phenomena can be distinguished in man's natural habitat: natural sources of the means of subsistence (wild plants, fruit, animals, etc.) and natural wealth that is the object of labour (coal, oil, waterpower, wind, etc.). In the early stages of the evolution of human society, when the productive forces were at a low level of development, people largely depended on natural sources of the means of subsistence. While they did not yet know how to grow crops, breed and rear domestic animals, build warm dwellings, etc., they could only inhabit countries with a warm climate, abundant vegetation, and large amounts of game. As tools were developed and perfected man's dependence on natural

wealth, i. e., on minerals, energy materials, etc., grew. Modern industry and engineering have enabled man to master previously inaccessible areas of the earth. By means of chemical fertilisers he can make infertile soils fertile. By employing new building materials and a heating system, he can master Arctic areas. By using various kinds of energy, he ceases to depend on firewood as the sole source of warmth, and so on. At the same time the dependence of industry and agriculture on such primary natural materials as oil, iron ore, uranium ore, etc., is growing. That process underlies the development of the productive forces, and is largely determined in turn by the type of relations of production (above all on the dominant form of property).

While historical materialism does not deny the influence of the natural habitat on man's life activity, it shows that this influence is exerted through the production of material wealth (204). The character of this influence, and changes in it, consequently depend on social factors rather than nature herself, and above all on material production, which is the basis of all social life. An influence of outer space on society, for instance, is becoming possible through the development of modern space vehicles, which will make it possible in the not distant future to employ the ores and energy resources of the planets of the Solar system to satisfy our earthly wants. The effect of this factor will depend both on engineering and on the social system within which it will operate and be developed. Peaceful use of space technology in the interests of all society presupposes the existence of a social system in which the natural wealth of outer space will be put at the service of mankind and begin to promote and further the development and conservation of terrestrial nature. The militarisation of outer space, on the contrary, could prevent rational use of its natural wealth. That is why the struggle to prevent militarisation of outer space is acquiring special historical significance.

One can thus draw the following conclusions about the influence of the natural environment on the development of the human race. (1) The natural habitat is one of the most important material conditions of human life activity. (2) Its influence is neither the main

one nor the decisive one. Its character depends on the level of the productive forces and the type of a society's relations of production. (3) Natural sources of the means of subsistence influence society mainly in the early stages of its history with a relatively low level of development of the productive forces, while the influence of natural wealth increases as the productive forces grow.

307 *The Biological and Social in Man*

The natural habitat includes the most varied forms of life. Man himself is a highly developed rational animal singled out from nature through labour. On the one hand he is a living creature and must be governed by the general laws of the development of animate nature or the biosphere. On the other, he is a social creature who makes certain tools and fashions objects he needs, foodstuffs, and a special habitat by means of them. The biosphere is governed by laws of biological development. Man lives according to the laws of social development. Consequently, two principles are united in man himself, viz., the *natural* (biological) and the *social.*

When bourgeois philosophers study the development of society and its interaction with nature, they often claim that man is governed predominantly by biological laws of life activity. They understand, of course, that people are thinking, conscious creatures that set themselves intelligent aims. Yet man acts, in their opinion, mainly as an animal. Adherents of the theory of psychoanalysis created by the Austrian psychiatrist Sigmund Freud (1856-1939) claim that morality and culture are only a restraining, controlling mechanism created by society as a defence against man's animal instincts. In most cases, these instincts, which Freud called 'subconscious', play a decisive role in the behaviour of individuals and of society as a whole. In the view of Freudians people's behaviour is ultimately determined by instincts inherited from man's ancestors, and the determinant one is the sex instinct. Such forms of people's behaviour as aggression, rivalry, or co-operation are a simple continuation of the activity of animals.

In recent years a theory of social biology has become

widespread in capitalist countries, especially in the USA. Its founder, the American geneticist E. O. Wilson, claims that culture itself is governed by the biological laws of inheritance, and that it is necessary to create a cultural genetics that would study the development of human culture from the angle of biology. But he and his supporters have been forced by the influence of scientific facts to acknowledge that a purely biological character is inherent in fact in only 15 per cent of the acts of human behaviour. The point, however, is not whether this percentage is correct or needs verification but to understand what is the sense of such views and what aims they serve. The spokesmen of psychoanalysis and cultural genetics lay the responsibility for aggressive wars and various social conflicts on man's animal instincts and heredity. In that way an attempt is made to provide a "scientific" substantiation of various forms of social evil, the inevitability of wars, etc. In the nineteenth century, after the appearance of Darwin's theory, Social-Darwinism became common in capitalist society; it transferred the laws of the biological struggle for existence discovered by Darwin to society. From that angle the intraspecific struggle discovered by Darwin, which promoted the perfecting and development of biological species was also manifested in class struggle. And so class struggle would exist as long as mankind existed. One can readily recognise an attempt here to perpetuate capitalism and class struggle by citing its allegedly biological origin.

A real scientific understanding of the relation of the social and biological can only be provided by a materialist conception of nature and society. Man is an animate creature, but in the course of historical development his biological nature has been radically altered by labour and more advanced forms of social life. Although such natural processes as the circulation of the blood, breathing, digestion, etc., are governed by general biological laws, or rather physiological ones, even they depend to some extent on the conditions of social life. The higher and more complex the forms of man's behaviour and activity, the greater becomes the role of social laws. The interacting of people, the development of their thinking, and their social life

are determined in the last analysis by their material, production, and social activity. The division into social classes and groups, wars and peaceful co-operation, family upbringing, and the development of culture are not due to biological laws but to social ones. The social mechanisms in man's behaviour predominate over the biological ones, though they do not abolish them.

For these mechanisms not to have a destructive character, but rather a creative, constructive one, a radical transformation of society itself is first and foremost necessary, and not a restructuring of man's biological nature.

The moulding of man's character, capacities, and forms of behaviour, and of his inclinations and interests, is determined by the social medium in which he lives. Rudyard Kipling's story *Mowgli* tells of a boy raised among wolves and returned to a normal human life. Edgar Rice Burroughs told something similar in his novel *Tarzan of the Apes* about a man raised among apes who subsequently achieved great success in the world of capitalist business. In fact, as has been rigorously proved, such things are quite impossible. In the cases when children have really fallen among wild animals and survived, they have never subsequently been able to return to normal human life. Man is brought up and grows into a truly human being only in a social environment. Only through it does he master language, consciousness, culture, habits of social behaviour, and a capacity to work and transform the world. Certain biological instincts and inborn qualities, and inherited biological traits are inherent in man, of course, as in any living creature, but they are not just the result of biological evolution but are also the consequence of millions of years of social development, which is why the philosophy of Marxism, while not denying the biological basis of man's life activity, seeks the key to the answers to all the problems of modern society in his social rather than biological nature.

308 *Races and Nations*

A correct understanding of the relation of the biological and social helps us define the role people's racial and national features play in the development of society.

Everybody knows from personal experience that people differ in the most varied traits, features of character, level of education, attitude to public interests, colour of skin, height, facial features, language, etc. Some of these traits are psychological, others social, and others still biological. The biological ones include the following: colour, height, certain peculiarities of the organism, etc. Anthropology, which studies the origin, evolution, and development of man's biological constitution, distinguishes several races on the basis of these traits. *Races are aggregates of different human communities (tribes, nationalities and nations) that are united by the existence of several common biological traits.* It is usual to distinguish three main races: Europeoids (people with a white skin); Mongoloids (people with a yellowish skin and slant eyes); and Negroids (people with a black skin).

All these traits are very conditional and arbitrary, of course, and relative, and furthermore are not always pronounced. Intermediate, non-basic, minor races are also sometimes still spoken of. People's racial features have a biological character.

In contrast to racial features, ethnic and national ones are manifested in social traits and characterise historically formed communities of people. These communities include *tribes, nationalities, and nations.* The most complex communities are *nations*, which arise through long historical development in a certain epoch, that of the transition to capitalism. The members of a tribe or nationality are united by certain family relations and blood-ties and a certain common origin. Nations, however, arise through the uniting, "merging", "fusing" of the members of various tribes and nationalities (sometimes close in origin). The people who belong to a nation speak one *language.* They are linked by *common economic activity*, occupation of *a single territory*, a community of *culture* and social *psychology*, and features of *national character.* It is very important to understand that all these features arise and are moulded in the course of social development and are not biological traits. The modern Russian language took shape on the basis of old Slavonic languages and dialects, and includes in its vocabulary separate words and turns of phrase of

several other peoples with whom the ancestors of the Russian people interacted in the course of historical development. A single Russian nation could only arise through the overcoming of feudal disunity and the creation of a single all-Russia economic market for labour, raw materials, and industrial products. The national character and social psychology of the Russian nation were moulded and tempered in struggle against numerous enemies and conquerors, and in class struggle, and its culture developed and was enriched by such. Other modern nations were formed in a similar way. The forming of a nation is linked with a quite definite stage in social, historical, and economic development.

Let us now consider what the link is between races and nations, and what relation this has to the interaction of nature and society and the relationship of the biological and social in man.

In the latter half of the nineteenth century, and in the early twentieth, when the world colonial system and the struggle of imperialist powers to redivide the world flourished, various racist and nationalistic theories and views began to arise and be widely diffused. In the view of racists, people's main features are determined by their biological nature. The biological properties of races are eternal and invariant, determining people's mental capacities, their capacity to create culture, invent, rule, subordinate other races and peoples to themselves, and so on. Racists think that there are higher and lower races, and that everything valuable in mankind's history and culture has been created by higher races, while lower ones are incapable even of assimilating what the higher races have created, and should be governed by the latter. The ideologists of German fascism considered Aryans the highest race, and the Germans the nation most fully embodying the Aryan spirit. American and South African racists still preach the superiority of the white race (Europeoids) over blacks (Negroids). From the standpoint of racism lower races are parasitic and disrupt nature and civilisation, so that their activity should therefore be controlled by higher races.

Nationalism is closely associated with racism. Nationalists preach the superiority of one nationality over

another. In essence, by dividing nations and opposing them to one another, they promote exploitation of enslaved peoples and nations by dominant classes. Racism and nationalism consequently play a reactionary role. To the Marxian theory of class struggle to emancipate mankind from poverty, lack of rights, and exploitation of man by man, they oppose a doctrine of the biological foundations of the superiority of some people over others, and of the right of some nations to enslave others, a doctrine of the eternal character and insurmountability of national contradictions and national strife. The aim of these views is to divide the forces of the working people, and weaken their struggle against the common enemy and for socialism and communism. It is not accidental that the first and main slogan of the proletarian movement and socialist revolution is "Workers of All Countries, Unite!" What arguments does Marxist philosophy oppose to racism and nationalism?

Modern science has shown that all races originated from the common ancestors of man. During the forming of the human race (216) natural sources of the means of subsistence played a decisive role in the system of external natural conditions. As a result of the splitting up of the ancient, primitive tribes, and as a consequence of separate biological mutations, i. e., chance changes of heredity, certain secondary biological traits of man (skin colour, skull shape, shape of the eyes, etc.) arose, were later consolidated, and began to be passed down from generation to generation. In certain historical conditions some of them furthered man's better adaptation to a concrete natural habitat in which members of a clan-tribal community found themselves for a very long time. With acceleration of social development, and as natural wealth and inner natural resources began to play an ever greater role, racial and biological traits finally lost their adaptive significance. In our day members of all races live and act successfully on all the continents, and in any natural and social conditions.

It has also been shown that the members of various races have equal mental capabilities, psychological characteristics, etc. Mixed marriages between members of different races and peoples yield quite viable

offspring. Over the millions of years of the evolution of the human race nationalities and individuals belonging to different races have changed their habitat hundreds of times and established various blood-ties and family and marriage connections. It is therefore not right to speak of "pure" races of any kind. "Pure" races are an ideological myth of racist, fascist, and nationalistic propaganda.

The development of the modern national liberation movement and the rise of a large number of new developing countries in Asia, Africa, South America and the Caribbean indicate that peoples and nations belonging to the Negroid and Mongoloid races can successfully take the road of scientific and technological advance and develop their own science, culture, and economies just as well as members of the Europeoid race. They are able to manage without white colonial authorities and to decide their destiny themselves. We know as well that the members of all races have created their own states and their own complex cultures many times throughout history, and have played a definite role in the history of human progress. One can find members of all races and peoples among outstanding scientists, politicians, writers, and philosophers. Two indisputable conclusions follow from these facts: (1) all races are equal and able to make their contribution to the development of society and its culture, and the myth of racial superiority is groundless; (2) the biological traits of the races are not determinant for the historical fate of various nations and people, but have themselves arisen and altered in the course of history, and have been largely governed by social factors. And it follows obviously from that that people's attitude to and interaction with nature are not determined by race, but by social and historical conditions and causes.

As to the relationship of races and nations, the latter arise in quite definite historical conditions and are determined on the whole by social and not biological traits.

During the transition to socialist society, and during its all-round development, the social character of nations is also altered. Class contradictions disappear within them, a high degree of social uniformity is

established, and socialist nations arise and begin to develop rapidly, which means that the social aims of a nation, while preserving the language, certain features of national character and culture, and territory, become the same for all its members; a single culture, socialist in content and national in form, arises, and new principles of its relations with other nations are affirmed. The members of socialist society may belong to various races, nations, and peoples, but that does not prevent them from being equal members of Soviet society and enjoying all the benefits of socialism.

309 *The Role of Population in the Development of Society*

Western scholars, when endeavouring to prove that biological laws rather than social ones are the decisive factor in social development, as a rule cite the special role played by population growth. The state of society depends on increase of population, they claim, and this growth in turn is determined by biological laws of reproduction so that the life activity and development of society are governed by biological laws. Is that true? The point requires concrete, historical analysis.

In order to understand what role population and population growth play in the affairs of society, let us consider certain facts. The population of the world is now over five billion, and continues to grow rapidly. To get an idea of how fast, let us recall that ten thousand years ago the numbers of mankind were around five million, 2000 years ago around 200 million, in 1650 at least 500 million, in 1950 nearly two and a half billion, and in the summer of 1987 five billion. It is estimated that if this rate of growth is maintained the population of the world will be more than six billion at the beginning of the next century. The impetuous growth of population observed in recent years is often called the "population explosion". In order to feed so many people, and provide the necessaries, housing, clothing, drinking water, and air for them, all the natural resources will not be enough, in the opinion of Western scholars. Mankind will finally destroy nature

and as a consequence will itself die. These arguments are not new.

The English economist Thomas Malthus (1766-1834) put forward a theory at the end of the eighteenth century that the population of the world was growing very rapidly, in geometric progression, while production of food and other material necessaries developed more slowly, in arithmetic progression. His supporters (Malthusians) considered that wars, epidemics, and other calamities leading to a reduction of population, were a necessary means of regulating population growth. Today's neo-Malthusians also suggest various means, in more or less disguised form, for controlling population growth, and continue to insist that there has always been an absolute overpopulation in the world, a surplus of "unnecessary" people, who allegedly retard social development and swallow up natural resources that are scarce in any case. Is that so?

Archaeological data indicate that the growth in numbers of man's ancestors and of the first men was very slow in the period when society took shape. It was held back by harsh natural conditions and the low level of development of the productive forces. Each time, during passage to more developed production there was an acceleration of population growth. The transition from stone tools to metal ones, for instance, and from hunting and food-gathering to herding and agriculture was accompanied by a leap in the growth of the earth's population. Although no relation has been exactly established once and for all between the level of development of the productive forces and the rate of population growth in the different socio-economic formations, the data of history make it possible to demonstrate convincingly that population growth depended in the last analysis on the development of the means of production (204). In the relatively slow development characteristic of the feudal mode of production, for instance, the growth of population was also as a rule slow. The rapid development of the capitalist mode of production, on the contrary, based on machine production, stimulated an accelerated growth of population. In that connection, we must bear in mind that the mode of production, which is the determinant factor in the

growth of population, is not its sole cause. The growth and structure of population, and its professional and age composition, are influenced not only by the productive forces and relations of production but also by many national traditions, and the people's culture, various historical events, wars, revolutions, etc. At the same time the rates of growth of population, and its structure, have a feedback effect on the whole system of material production. In some cases they may promote development of production, in others retard it. Why, precisely, do the mode of production and the patterns governing it have a determinant influence on the pattern of growth and structure of population? Historical materialism answers this question too. The point is that man is the main productive force and in all historical epochs the overwhelming majority of the population has been occupied in productive work. All forms of social activity have therefore been built in accordance with the production activity during which the material conditions of mankind's existence have themselves been created and developed. Because of that the patterns of production activity ultimately prove determinant in respect of all other forms of human activity. One can also clearly trace that the mode of production and the social relations determined by it play a decisive role in the development of population and its structure in modern society.

It is believed that enough food could be produced on the existing farmlands, given the present state of farming equipment and agronomy, to feed ten billion people. The fact that the population of the world is only half that, and that hundreds of millions of people are starving or living on the verge of starvation in a number of capitalist and developing countries, is a result of the highly developed productive forces not being fully employed in capitalist society. The reason for that lies in the predominance of private property and the social system corresponding to it. The "surplus" population, furthermore, is not a result of too rapid growth of population but is a consequence of a certain form of the organisation of society. In the leading capitalist countries, for example, the USA, West Germany, Great Britain, Japan, France, etc., there is constantly

a vast army of unemployed. Marx and Engels showed that unemployment is not due to the biological laws of human reproduction but to the special features of the capitalist system of business. In the conditions of developing socialism, perfecting of the technological base of industry, the introduction of a new, science-intensive technology, and the change in the social structure caused by that, will raise quite a number of new problems. They will primarily include supply of labour for rapidly developing and thinly populated areas of the USSR, provision of a system of vocational and professional retraining of the personnel released in the course of radical economic reform, the creation of a system of employment agencies, and so on. Population growth is stimulated and controlled in socialist conditions on the basis of the democratic principles of social justice and humanism.

One must clearly understand, at the same time, that a too great surplus of population can slow down growth of production and create great social difficulties. A slow increment of population and shortage of hands can also affect development of the productive forces in a negative way. An objective need is therefore arising in present-day conditions for scientific management of this process. The growth of population has so far proceeded unconsciously. And although it does not depend in the final analysis on biological laws but on the laws of social production and of social development as a whole, these laws make themselves felt in an elemental, spontaneous way. The conditions and objective need for conscious control over population growth are now taking shape. This is a matter not of forced, compulsory Malthusian limitation of the birth rate, but of a number of considered measures by which population would grow in some regions and countries, while it would slow down in others. Such control would be based primarily on a high level of culture and consciousness of the overwhelming majority of mankind. That is only possible under socialism, with the existence of planned use of all labour resources in the interests of all society. The answer to how the present-day population explosion is influencing the relationship of nature and society and to how its dangerous consequences can be

avoided, must consequently be sought in the social laws of the development and functioning of society, and not in the laws of biology.

310 *The Artificial Habitat*

We thus see that the natural habitat, laws of nature (biological ones included) do not influence society directly, but indirectly through the mode of production and the social relations that arise on its foundation. As material production develops man remakes and alters the nature around him and creates an artificial habitat that is the product of his life activity. The artificial habitat includes not only inanimate objects made by man and not existing in nature, but also living organisms (plants and animals bred or created by man through artificial selection or by gene engineering). But the artificial habitat is not reducible just to this material basis. Man can only live and act in a system of certain social relations that come about in certain material conditions (including ones artificially created by himself), and that form his artificial habitat along with them.

As society develops the role of the artificial habitat continually grows, and its weight in the life of mankind is constantly increasing. To convince ourselves of that, let us consider the following fact. The mass of all the inanimate objects and living organisms created by man is known as the technomass, while that of all the living organisms existing in natural conditions, and not yet humanised, is called the biomass. It is estimated that the technomass produced by humanity today in one year is roughly 10^{13}-10^{14} tons, and the biomass produced on land 10^{12} tons. It follows from this that humanity has already created an artificial habitat today that is ten or a hundred times more productive than the natural environment. That does not mean, of course, that people can manage without nature and without the natural habitat. Nature will always be the precondition and foundation of human society. The artificial habitat itself can only exist and develop given the natural environment. But a considerable part of humanity's material and spiritual needs is being met today from the artificial habitat.

It is very important to understand that the development and perfecting of the artificial habitat are closely linked with the development and perfecting of social relations and the organisation of society. When society is based on private property and has no single aim, is torn by antagonistic contradictions, and therefore cannot develop in a planned way, creation of an artificial habitat inevitably leads to disruption of the environment, because the artificial habitat is built in those conditions through ruthless destruction and exploitation of surrounding nature. Under socialism the ultimate aim of which is provision of favourable conditions for the development of each person and of society as a whole, the artificial habitat should be built, developed, and transformed in accordance with that aim. Such development presupposes maintenance, preservation, and improvement of the natural habitat, since all-round, harmonious development of the human being is impossible without that. The contradiction between society and nature, between human beings' natural and artificial habitats can consequently not only be overcome and resolved, but must be. And that is linked with a radical, revolutionary transformation of society itself.

All-round development of the artificial habitat, converting it into a system of conditions most favourable for the development of the human individual and of humanity, presupposes and calls for powerful scientific and technological progress.

How economic, technical, social, and other problems should be tackled is the business of the special natural, technical, and social sciences. Its philosophical aspect consists in understanding that it is only possible to overcome the contradictions between nature and society, and between the natural and artificial habitats, and establish harmony between them, given three objective conditions: (1) conscious, planned leadership and management of the development of society in the interests of all; (2) a radical change in the social system, so that the private interests of capitalists, and of national and international monopolies, will not oppose and counteract the interests of the overwhelming majority of mankind; and (3) every possible encouragement of extension and deepening of scientific and technological

progress, since the difficulties created in the preceding stages of the spontaneous course of history can only be overcome on that basis.

Nature and Society in the Age of Scientific and Technological Progress

311 *What Is Scientific and Technological Progress or the Scientific and Technical Revolution?*

Today the production of material wealth and the services sector are developing so fast that the types of things produced and the technology for making them, and people's production skills change sharply in the life of a single generation. It was quite different during many of the preceding ages. One and the same technology was used for many generations to produce one and the same product, and one and the same organisation of work was employed from generation to generation. The present form of the development of production, with rapid change of technology, and of the things produced, can be characterised, in contrast to the traditional form, as a constant scientific and technical revolution. It is also often called scientific and technical progress. What are its specific features?

First it should be made clear that science is the decisive force and determining factor of production. The knowledge and experience of the people who made up the productive forces (204) used to be one of the most important stimuli for perfecting tools and production activity, but the latter themselves were a generalisation of accepted and established forms and methods of production. New production discoveries and inventions were rare phenomena. Even when modern science began to emerge, material production (industry and agriculture) had a decisive role. Science mainly endeavoured to answer the demands and requirements of practice, but could not always meet them because knowledge was accumulated and perfected extremely slowly in the early stages of the development of science. In the middle of the twentieth century the position changed radically. The volume of knowledge has increased enormously

and continues to grow at a tempestuous rate. At the end of the 1960s and beginning of the 1970s the volume of scientific knowledge was doubling every five to seven years. Now it is doubling every 20 months, and in the next decade, it is estimated, it will double annually. Because of that science itself has become a very important motive force of production. That is the first distinguishing feature of scientific and technical progress.

A second distinguishing feature is that the role of fundamental research based on penetration of the deepest secrets of nature is constantly growing. New types of product and technology call for careful scientific substantiation and are based on the most complex fundamental laws of science. Take the use of atomic energy, gene engineering, artificial earth satellites, fundamentally new materials, etc. None of these could have been created solely on the basis of preceding experience, and required fundamental scientific knowledge.

A third difference is that the time between a scientific discovery or invention and its introduction and industrial realisation is becoming shorter and shorter. Whereas the spread and introduction of new scientific and technical ideas used to take decades, and even centuries, this period is now measured in a few years, and even in a few months.

Finally, a fourth distinguishing feature is connected with the transition in the last few years to a new stage of scientific and technical progress, which can be called scientific and technological.

What is technology in traditional production? It is necessary, in any process of production, not only to have tools, machines, and various devices, and to master the appropriate skills and knowledge, but also to organise the work process correctly. For that it is important to be able to define when and what operation precisely must be performed, and in what order, and at what pace the various operations must be performed, what requirements must be met by the various instruments, mechanisms, and intermediate stages in the manufacture of such and such a product. All that, taken together, including the appropriate knowledge, is known as technology.

But in the modern sense of the term technology is something different. What is its peculiarity? It is that in recent decades we have become aware of the limited nature of practically all the resources that man has used up to now. Natural, technical, energy, food, soil, human, and financial resources can be exhausted or be wrecked by excessive, immoderate use of them. Furthermore, powerful new systems of production employing immense amounts of energy, raw materials, and powerful machines, have begun to be developed. Almost all of these new forms of production, it turns out, can lead, together with the making of useful products that man needs, to very considerable, undesirable, harmful consequences. The building of atomic power stations, for instance, makes it possible to get huge amounts of cheap electricity, and to save on oil and coal, but at the same time it leads to the formation of radioactive wastes and an increase in radiation dangerous for both man and nature. Big chemical works create valuable materials and preparations that ease human life, but the wastes arising with that are dumped over huge areas or into rivers, polluting land and water which creates a great threat to people and animals. In order to avoid all these undesirable consequences, and others, we must make industry waste-free, and convert the industrial wastes themselves into re-usable materials and employ them in new production cycles, and change the technology. So, now people speak of new technologies, rather than simply of new machines and equipment. The most important types of these technologies are power, energy, and space technologies, the technology of new materials, biotechnology, gene engineering, and pharmacological technology. In them it is not a matter of putting together science and engineering, but a question of merging them, because technology itself is becoming fully scientific (106).

The development of new technologies is an important link in the establishing of harmonious relations between society and production through maximum economic use of all types of natural and social resources. The most important of these technologies, which is having a determinant influence on all the others, is information technology. It includes the designing and building of modern

computers capable of performing billions of operations a second and possessing huge memories, the writing of all kinds of programmes and special programming languages that facilitate solution of the most complex problems connected with the storing, processing, retrieval, and disposal of information. Because of that this technology is becoming the core and catalyst of a new technological stage of scientific and technical progress, and information (especially scientific information) is being converted into a powerful, revolutionising factor for accelerating technical, social and economic development. Its significance is constantly rising, since it is the sole type of resource that humanity has not expended during its historical movement but has, on the contrary, augmented and increased. Furthermore, the increase in the amount of scientific information (including all types of natural science, technical, and humanitarian knowledge) is laying the basis for eliminating those very dangers that were mentioned in the dialogue of our Pessimist and Optimist (302). A possibility is even arising not simply of preserving but of restoring and augmenting certain types of resource that mankind has so imprudently wasted up to now. But that possibility needs certain conditions and a certain type of social development in order to be realised in practice (420).

Scientific and technical progress, like all socially significant processes, is complex and contradictory. Simple, unambiguous solutions do not come of themselves. This progress is a new stage in the relations between nature and society. In the setting of the scientific and technical revolution the labour process involves ever new natural wealth, energy sources, and undeveloped areas of the land surface, the World Ocean, and even outer space. Two diametrically opposite prospects are therefore opening up (420, 422). One may lead to ever greater contradictions between nature and society; the other to establishment of a fundamentally new interaction between them, to more harmonious relations between them, and to elimination of the most acute contradictions. The question of which of these possibilities will come out on top and become reality depends on radical social transformations of society being made on a global scale.

312 *Scientific and Technical Progress and Its Consequences under Capitalism and Socialism*

Now, knowing the general features and characteristics of scientific and technical progress, we can ask whether the interaction of nature and society depends on contemporary scientific and technical progress, and if so how precisely, and whether its consequences and results are the same in different socio-economic systems.

The tempestuous development of the productive forces caused by scientific and technical progress is leading to an increase in man's power. But how is this power being used? And for whom? Who is profiting from man's continuously growing power? In order to make our discussion more concrete we must look at the main directions that this progress is taking.

1. In section 311, I have said that a special technology, that of information, has the determinant role of catalyst of production and managerial activity at the contemporary stage of scientific and technical progress. It began to be developed intensively in the 1940s, and within half a century attained a scale and technical results such as could not have been dreamed of a few decades ago. The first giant computers performed only several thousand operations a second. The latest supercomputers already perform billions. The power used by them has been reduced a hundred times over. The first computers occupied several big rooms; and hundreds of kilometres of wire were used in them. Contemporary microcomputers are housed on a desk. The latest discoveries in the field of high-temperature superconductivity lead one to expect that in the mid-1990s computers performing tens of billions of operations a second and possessing memories capable of storing the information contained in millions of books, will not be bigger than the dimensions of the human skull. Work is now going on to build an artificial brain. Computers with an artificial brain will be able to perform quite complicated logical arguments, and it may be possible to get solutions with them to very complex problems connected with scientific research, and the designing of machines and even enterprises. They will be able to control

flexible technologies. And it will be possible, perhaps, to create modern home production units by means of personal computers, to raise the productivity of labour steeply, and alter the character of education. Children and adults will get the opportunity to master new information ten times faster, while scientific knowledge that is now accessible only to specialists will become available to hundreds of millions of people. People's way of life, and intercourse will be changed, and language barriers broken down. Computers will translate scientific literature and documents from one language to another almost without the aid of man. By the end of the century millions of robots of a new generation, capable of reacting to human speech and possessing colour and three-dimentional vision, will be in operation. What will all that lead to?

In capitalist society there is a vast army of people, even in developed countries, who are excluded from production activity through scientific and technological progress. In spite of the fact that the latter's development is leading to the creation of a certain number of new jobs, the army of unemployed caused by the robotisation and computerisation of industry is mounting continuously. That is because capitalist enterprises see information technology mainly as a means to make profit. The adverse, negative consequences of the spread of this technology are consequently not the result of the application of computers and robots in themselves but are a consequence of their capitalistic utilisation.

In socialist society, on the contrary, the development and application of information technology pursues different aims. The introduction of computers and robots is not subordinated in it to the making of profit but to the interests of man. Systematic retraining of workers is going on in socialist countries, and the development of new technologies is being planned so that the whole able-bodied population will be doing socially useful work.

2. One of the most important global problems of mankind is that of creating and using new sources of energy. To date the main achievement of energy technology has been the harnessing of atomic energy. But it contains many dangers and contradictions. On the one

hand atomic energy makes it possible to obtain cheap electricity and economise natural fuel. On the other, it is constantly creating a danger of radioactive contamination. But the greatest danger undoubtedly lies in the nuclear weapons and the arms race which should be stopped.

The latest scientific discoveries give hopes that by the end of the century a controlled thermonuclear reaction will be achieved, which will offer practically unlimited resources of energy. That will make it possible to conserve many minerals, and to limit the use of oil, coal, and natural gas except for the chemical industry.

3. Modern chemical technology is making it possible to obtain new artificial materials that do not exist in nature, to replace natural leather, wood, rubber, wool, and certain metals, etc. The application of chemistry is providing highly effective fertilisers, medicines, and pesticides. All that is promoting better use of natural wealth, raising the productivity of agriculture, and improving people's health and lengthening their life. At the same time chemical wastes pollute the atmosphere, water, soil, and sea bed. Immense means are being spent in socialist countries to combat environment pollution.

4. Scientific and technical progress is making it possible to create a waste-free technology. Modern industry and agriculture can, by utilising the advances of science, so organise the technological process that the wastes of production will not pollute the environment, but will enter the production cycle as secondary raw materials. In this, too, modern restorative chemistry and computers are being used, by which the production process can be so organised that there will be almost no wastes and the products will be used more economically. Under socialism the application of chemistry and waste-free technology is promoting the introduction of a number of nature-protecting measures and at the same time is helping to improve man's artificial habitat markedly.

5. The development of biology, especially of biotechnology, genetics, and gene engineering, are now making it possible to control the heredity of living

organisms. The application of gene engineering will enable people in the nearest future to get a steep increase in the productivity of farm crops and animals. The advances in this field are providing the conditions for eliminating or preventing many diseases, making a general improvement in health, and lengthening life. In capitalist countries, however, this is not saving millions of people from chronic hunger and malnutrition, because the main aim of food production is gain and not the good of man. The advances of gene engineering, moreover, and of other biological sciences, are being employed by imperialists to prepare for biological and bacteriological war. The further successful development of biology therefore is making it necessary to pose the question of controlling and managing it by society in the interests of the majority.

6. Scientific agrotechnology is playing a particularly important role in modern society. The point is that people have gathered immense experience in land cultivation and animal husbandry over the course of several millennia, which has provided them with the food needed. But now, with the so-called population explosion, the food reserves created in the traditional way are not enough, for many countries and peoples, especially those not long liberated from colonialism. Modern science has developed many effective ways of intensifying agriculture, among them the application of efficient fertilisers, the latest farm machinery and electronics, the carrying out of complex drainage and irrigation works, and finally selection and introduction of high-productivity breeds of cattle and poultry, and new varieties of crops. But the consequences of all this are different in the different social systems. Some countries in Europe and America, for instance, are producing enough food not only to provide for their own population but also for that of other countries. But they often use food as a political weapon, selling and supplying it on favourable terms to countries that follow their political line, and refusing food aid to others. They are not giving the necessary aid to developing countries and peoples that maintain a socialist orientation. In socialist countries a set of nature-protecting measures is being carried out in order to main-

tain the fertility of the soil, forests, grasslands, and pastures.

I have not examined all the consequences of scientific and technical progress and the various modern technologies in the different social systems, but only the main ones. The conclusions that follow are these: the character of the consequences of present-day scientific and technological progress does not depend either on machines and technology themselves or on isolated scientific results. It depends on the conditions in which they are applied and the ends they pursue. The philosophical sense of my analysis is that man's attitude to the environment or society's to nature are mediated and governed by definite social conditions. And if we want to make this relation harmonious and constructive, and not leading to disturbance of nature, yet at the same time ensuring favourable conditions for humanity's development, it is necessary first and foremost to create the appropriate social conditions.

313 *Ecological Consciousness and Ideological Struggle*

The laws of the development of nature operate objectively, but are realised through the activity of conscious people. The interaction of nature and society has to be effected allowing both for the laws of the development of nature and those of social development, i. e., in a special form of social consciousness, viz., ecological consciousness. Awareness of the importance of nature for man and society comes about gradually over the course of centuries. But ecological consciousness has been moulded and shaped relatively recently, in the course of a few decades. Its special feature is that it is a form of mass social consciousness that reflects the real, actual, complex, contradictory, and extremely dangerous situation that has come about in the modern world as a result of disturbance of the ecological balance, environmental pollution, the danger of exhaustion of natural resources, and the prospect of social degradation of mankind as a result of the destructive consequences of scientific and technical advance. Having arisen initially as a protest against these consequences by individual groups of scientists, en-

gineers, doctors, writers, and artists, and of various ethnic groups, etc., ecological consciousness now grips the minds of hundreds of millions of people in all countries. A most important result of its development is the conclusion that restoration of the ecological balance, and the protection and "rehabilitation" of nature are of universal interest and of a universal value. But that does not rule out the fact that, within the framework of ecological consciousness, a sharp ideological struggle is being waged, and will continue to be waged. Ardent supporters of scientific and technical progress in developed capitalist countries, while recognising the danger of an ecological catastrophe, are trying to foist the blame for it onto the peoples of developing countries, and onto the broad working masses, who are alleged not to be showing any interest in protecting the natural environment. In contrast to them, the ideologists of the Greens blame large-scale industry, modern technology, and the industrial revolution as a whole, and at the same time monopoly capital, selfishly interested in speeding up scientific and technical progress at any price (even to the destruction of nature) for all the ecological calamities. The special socio-philosophical trend that has taken shape and is being developed on that basis is called anti-scientism and anti-technicism. Its leaders are inclined to see the source of all the calamities of modern society in the development of science and engineering. Exaggeration of the role of those factors automatically leads to dehumanisation of industry and destruction of nature. They see the way out from that in rejection of the scientific and technological revolution, in a return to pre-industrial production, to "alternative technologies" (by which they mean craft work, agriculture based on use of the wooden or primitive plough, and so on). But in fact these romantic calls reflect a certain ideological position hidden behind them. By seeing the source of all mankind's misfortunes in science and engineering, the spokesmen of this trend in fact, willy-nilly, push the main thing into the shade, which is that the destructive consequences of the scientific and industrial revolution do not depend on science and engineering in themselves, but depend on the way they are used and ap-

plied, on the social system in which they function.

Let us speak frankly. Even in socialist society, because of a number of subjective mistakes, lack of understanding of the importance of ecological balance, etc., scientific and technical progress has led to undesirable results in a number of cases as well as to valuable achievements. But Soviet society, aware of these results, has subjected the shortcomings to sharp, open criticism, begun a radical, economic reform in conditions of growing democratisation and worked out a set of measures to correct the mistakes and miscalculations. By blocking the unsubstantiated scheme to "reverse" Siberian rivers, and abandoning a number of ecologically harmful programmes, the USSR has taken first steps to restore the disturbed ecological balance, and toward achieving full harmony between nature and society.

A very important factor in ecological consciousness is an understanding that nature is not only a system of economic resources and not only a condition of humanity's survival, but is also a powerful factor of aesthetic and moral education, a factor in the humanising of society.

The development of effective, rational, well-grounded measures to protect the environment does not require rejection of scientific and technical advance, does not stop scientific and technological progress. Under developing socialism there is every opportunity as well to consolidate the prospective shaping of scientific and technical progress so as to combine it organically with ecological balance, and to maintain the integrity and wholeness of the environment. The negative consequences of the application of science and introduction of new technologies can only be overcome by science and technology themselves. To do that, however, it is necessary for their realisation and functioning in society to be oriented primarily on achieving greater social justice.

Analysis of contemporary ecological consciousness indicates that it itself is not an alternative, or opposite of ideology, since an ideological struggle is also going on within ecological consciousness. This ecological consciousness alone can lead to a distinct understand-

ing of the relationship of social problems, and to the restructuring of society in the spirit of social justice and effective nature-protecting measures; it alone can ultimately lead to attainment of one of mankind's most important goals, a harmonious interaction of nature and society.

Chapter IV
THE MAIN LAWS OF DIALECTICS

In the preceding chapters I have spoken more than once about various forms and types of development. Society is a product of the development of nature. Consciousness is a result of social development, above all of the development of labour activity. Communism can arise only as a result of law-governed historical development. Development is the most important form of motion and therefore presents the greatest interest for modern science and philosophy. In this chapter I shall examine materialist *dialectics as the theory of the most general laws of motion and development in nature, society, and thought.*

The Sources of Development

401 *The Idea of Development*

We know that motion is an inseparable property of matter, the form and mode of its existence (109, 112). Dialectics, in contrast to metaphysics, which reduces motion to simple displacement in space, understands any change as motion. A social revolution, the rotation of the planets around the sun, a chemical reaction, the change of a person's moods and experiences, are all various forms of motion. In everyday life, in production, and in political struggle, we constantly come across changes of the most different kinds. Some of them escape our attention and seem insignificant; others may have serious consequences for individual people, states, all mankind, and nature, and therefore arouse great interest in us. People have long noted, when studying the types and forms of the motion of matter, that some changes are repeated and are reversible, while

others are irreversible and are not repeated. Something new that did not exist before may arise during separate changes. It is these changes that present the greatest interest.

Processes in which irreversible changes occur and something new arises are usually called *development.* The various forms of development in nature, society, and thought are studied by special sciences (physics, astronomy, biology, history, psychology, linguistics, etc.). Study of what are the most general characteristics properties, and features of development, and what are the forms of its manifestations, is the task of Marxist philosophy, i. e., of materialist dialectics.

In science and philosophy the idea that everything in the world develops, and furthermore understanding of what this development is, and what are its sources, did not take shape all at once. Admittedly Greek philosophers like Heraclitus of Ephesus, for example, supposed that nature and society developed but their understanding of development was naive since it was not based on rigorous scientific data. Even while recognising development in the external world the Greek thinkers (015) considered the infinitely repeated world circulation the main form of development. The natural science of the seventeenth and eighteenth centuries mainly studied the mechanical forms of displacement in space and was very far from an understanding of the fact that the whole Universe (including the earth and human society) was developing. Admittedly the German philosopher Kant surmised the development of the Solar system even in the eighteenth century. Another German philosopher, Hegel, developed his dialectics in the early nineteenth century as a doctrine of the development of thought and society, but since he did not recognise development in nature and held an idealist outlook on the world his views could not be accepted by the majority of natural scientists.

Only in the middle of the nineteenth century, and especially in the twentieth, did the idea that development was the most important form of motion in nature, society, and thought, and that the world around us could not be understood without an understanding of development, begin to grip the minds of scientists and progres-

sive public figures more and more widely. That happened through the impact of a vast number of accumulated scientific facts. They broke down religious notions that God had created the world once and for all in a ready-made and invariant form. Darwin demonstrated the existence of development in living nature, and showed that man himself was a product of the development (evolution) of the higher mammals. The laws of the development of separate organisms and living cells were studied. The physics and astronomy of the twentieth century has developed a theory of the origin and evolution of our Universe that accords well with the latest observations and experimental data. History has passed, under the influence of historical materialism, to systematic study of the development of society. Geology and geography have indisputable data confirming that the earth itself (both its interior and surface) is undergoing constant development. Laws of the evolution of various languages, and laws of the development of the human psyche have been discovered. So *the idea of universal development, or the idea of development, has become firmly established in modern science and philosophy, and in social consciousness as a whole.*

Materialist dialectics helped generalise and substantiate the theories of the various natural and social sciences on development in the various forms of the motion of matter (112). By comparing and analysing development in nature, society, and thought, materialist dialectics brings out the most general features of development that distinguish it from other forms of motion. These features are the following: (1) development has a direction in time, from the past through the present to the future; (2) development is an irreversible process; (3) something new that did not exist before always emerges during any development; (4) development has a law-governed character and there are objective laws both of any individual form of development (studied by special sciences) and of development in general (studied by materialist dialectics). These attributes determine the sense of one of the most important philosophical categories, viz., "development", which relates to all phenomena of nature, society, and thought.

402 *What Is the Source of Development?*

Now we can pose and discuss the question of why development occurs, and what are its sources.

Dialectics and metaphysics (012) give different answers to this. In order to understand their views and arguments better, I offer a dialogue between imaginary characters expressing the dialectical and metaphysical conceptions of development.

Dialectician. I claim that any developing phenomenon arises from a special cause or source of development.

Metaphysician. In my opinion the cause of any process of development is a shock or impulse, or some external circumstance or condition, for example, a change in the environment, the action of external forces, and so on.

D. What do you base your idea on?

M. On observations. A wheelbarrow must be pushed in order to move. If one stops pushing it, it will stop. The development of a living organism needs external conditions (sunlight, food, moisture, a certain temperature, etc.) Internationally, such and such a state develops as a result of its interaction with other states.

D. In short, your position is that "every change, and every fact of development in nature and society is caused by external forces". Is that it?

M. Precisely.

D. But how, then, do you explain the development of the Universe as a whole? That fact has been indisputably established by modern astronomy. Do we get it that someone had to give a shove to the whole world, and that this someone had to exist outside the Universe?

M. Possibly.

D. In that case you inevitably come to the idea of God as the source of universal development.

M. I didn't speak about the Universe, but about particular cases.

D. Let's take your examples. The case of the wheelbarrow is an example of simple mechanical displacement and not of development. Its movement is reversible; nothing fundamentally new emerges in it; and it does not correspond to the attributes of development (401).

So we cannot apply a conclusion based on that example to the facts of real development.

M. And how do you explain their cause?

D. External conditions are necessary, for example, for the development of a plant, (such as light, air, nutrition). But the main source of development is within the plant. When metabolism occurs properly within it, i. e., nutrients are assimilated and products of life activity excreted, development proceeds normally. If metabolism is disturbed or deranged, development may be slowed down or stop altogether. The main source of development is consequently within the organism. It is the same with the development of a state. The functions, i. e., the tasks decided by the state (207), are realised through various institutions (ministries, local government authorities, etc.) They are usually called the government machinery. In certain conditions, and in socialist society as well, situations may arise when the state machinery begins to develop interests and goals of its own that do not correspond to those of society as a whole.

M. But what relation does that have with development?

D. A very direct one. The state machinery begins to grow and expand, becomes bureaucratic and clumsy, proves to be incapable of tackling the tasks facing society, real people. Instead of helping accelerate social development, it begins to hold it back and slow it down, and that can lead to phenomena of stagnation in public affairs and the economy.

M. So what?

D. In order to overcome the stagnation that happened in the USSR over several decades, we have to pull down the obstacles associated with the bureaucratising of the state machinery, and to carry out a number of measures to broaden and deepen democracy and the glare of publicity, to make the Soviets of People's Deputies work more actively, and to co-ordinate the interests of society, ministries, etc. No external or outside impulses and shocks are needed for that. All the sources for furthering socio-economic development are there within socialist society. Consequently the true sources must be sought within the developing system, and not outside it.

The metaphysical and dialectical understandings of the sources of development are set out in that dialogue. In order to examine the advantages of the dialectical conception of development better, we need to look at the most important categories of materialist dialectics, viz., "opposition" and "contradiction", which enable us to formulate the most general dialectical law that gives us knowledge of the sources of any development.

403 *The Categories "Opposition" and "Contradiction"*

Any complex phenomenon whatever in nature, society, and thought can be regarded as a system (106). For such a system to "work", i. e., to function and develop, a certain interaction must take place between its parts, i. e., its subsystems and elements. An atom, living organism, or society is a complex system. The total charge of an atomic nucleus must be balanced by the total charge of the electrons of its envelope; in the same way a certain correspondence is necessary between assimilation and dissimilation in an organism. A society becomes stable when its relations of production correspond to the productive forces, the superstructure to the basis, and so on. That seems to suggest the conclusion that the greater the correspondence and agreement between the subsystems and elements within a system, the better it will function and the more rapidly it will develop. But things are much more complicated, and this conclusion is only true at first glance, with a superficial approach.

In fact, there is never, in any real object, phenomenon, or process a constant, absolutely stable, full correspondence of all the subsystems and elements. Furthermore, there is necessarily a greater or less disparity or discrepancy between them, and that (as modern science has shown) is one of the most important conditions for the functioning and development of every phenomenon or process. The electrons and nucleus of an atom, for instance, differ in their charge, mass, and other physical characteristics. Assimilation performs quite a different function in the living organism from that of dissimilation; a plant, for instance, takes up carbon dioxide from the atmosphere, and gives off oxygen into it. Animals, however, take up oxygen and excrete carbon dioxide. During the development of production, the

productive forces develop more quickly than the relations of production (204) so that a certain discrepancy is constantly arising between them and growing. A similar discrepancy arises as well between the elements of the productive forces themselves. In the age of scientific and technical progress, one of the main productive forces is science itself, which outpaces technology and the production skills of people in its development (311); consequently, a greater or less discrepancy arises between these elements. The origin and existence of such discrepancies is not accidental, but an objective, necessary, law-governed process of any motion and development.

When the disparity between the interconnected aspects or subsystems of a phenomenon (process) is not essential, and is insignificant, one speaks of their *difference*, but when it is essential and significant, and reaches the extreme, these aspects or subsystems are *opposite*. The philosophical category "opposite" reflects the existence in objective phenomena of a certain disparity or discrepancy, and non-coincidence of interconnected parts, properties, etc.

The relation between opposites, between opposing parts, properties, subsystems, etc. is called contradiction. In this connection it is very important to understand the following. Not all the phenomena in the world figure as opposites in respect of each other, but only those that are linked in some way and interact with one another during their functioning and development. Negatively charged electrons, for instance, are particles opposite in charge in respect to positively charged positrons or to positively charged atomic nuclei. The interaction of these opposite particles is governed by certain physical laws, and gives rise to new physical phenomena. At the same time there is no correspondence in general, and cannot be, between, say, a physical particle and the world chess championship. There is no sense in considering these phenomena opposites, since they are not governed by common laws, do not interact, do not influence one another in any way, and are not involved in any single process of functioning and development. There is no contradiction between them, and cannot be. From that it will be clear that the categories "opposite" and

"contradiction" not only reflect the non-correspondence of certain aspects of a phenomenon and the relation between these non-conforming aspects, but at the same time fix a certain link, interaction, mutual conditioning, and mutual dependence of these opposites.

Recognition that there is at the same time a unity, interconnection, and contradiction between the opposites within any phenomenon or process is a very important proposition of materialist dialectics, and the key to understanding the essence of any process of development. In a class society, for instance, the interests of the exploiters and the exploited are opposed, and the roles they play in the organisation of production are opposite, and their relation to ownership of the main means of production is opposite. But at the same time these classes are connected. They depend on each other within the given mode of production, and in the system of the given socio-economic formation. With the elimination of one of them, for example the capitalists, the opposing class, wage workers, also disappears. A new society arises, a socialist one, the working class of which differs radically from the class of wage workers under capitalism. Reformists and revisionists do not notice this radical difference. Misrepresenting the dialectical theory of the interconnection and unity of opposites, they deny the radical differences of the position and class nature of the working class in capitalist and in socialist society. It will be understandable from this example that Marxian materialist dialectics' idea of the unity of opposites not only has a general scientific, philosophical significance and meaning, but also a practical political one, because dialectics is the basis for understanding the complex and contradictory processes and changes taking place in society, and for correct appreciation of them.

Having established what materialist dialectics understands by the opposite, contradiction, and unity, we can take the next step in studying the sources of development.

404 *The Unity and Mutual Conversion of Opposites*

The opposite sides of various objects do not simply coexist but are in a special dialectical interaction which

is a process of the mutual transformation or conversion of opposites. This is a complex process that must not be understood in a simplified way. Let us examine some examples to begin with.

The elementary physical particles electrons and positrons have an identical rest mass and an opposite electrical charge, and a limited spatial size. Electromagnetic fields, on the contrary, do not have a geometrical shape, or exact dimensions, borders, or rest mass. In that sense particles and fields are opposite in their physical properties, yet modern physics has established that they are converted into one another in certain conditions. For example, when an electron and a positron collide with a certain energy, a process called annihilation takes place through which the particles are converted into a field, into photons or a certain portion or quantum of light.

When industrial capitalism was flourishing capitalist relations of production promoted rapid development of the productive forces, but as capitalism developed the productive forces acquired a social character and came into contradiction with private capitalist property. The relations of poduction based on that form of ownership began to slow down development of the productive forces and so were converted into their opposite (204, 220).

A similar process can be observed in the development of science. When scientists do not know something they formulate new tasks and problems. These tasks indicate what we do not know and what we need to know. New scientific facts are discovered through protracted, complex research, hypotheses are put forward, and new theories are formulated. This means that knowledge arises that will help resolve the given task. The "unknown", formulated in the form of a task, is converted in this way into new knowledge, i. e., into its opposite. But it does not stop at that. The new knowledge shows that by no means everything is known to us. New tasks and problems arise, in other words, something opposite to the level of knowledge already attained, and the process of research begins, again leading to an ever higher level of knowledge of the phenomena of interest.

From a comparison of these examples relating to dif-

ferent fields of nature, society, and knowledge, we can draw quite definite conclusions.

The first is that the opposite sides of phenomena and processes are not simply connected, i. e., are in a certain unity, but cross over and are converted into one another. Dialectics differs from metaphysics not in the former's recognising the existence of opposite aspects and properties in certain phenomena or processes, and the latter's denying this, but in metaphysics' regarding opposites as frozen or jellied, petrified, given once and for all, while dialectics, in recognising opposites, sees them as mutual transformations, transitions, and changes of the roles they play in the functioning and development of a given phenomenon.

The second conclusion is that the mutual conversions of opposites are of two kinds. The first type includes mutually reversible transformations of opposites. The top of a cartwheel becomes the bottom during the cart's movement, then again the top, and so on. This is a form of mechanical motion, but there is no real development in it since the position of the point is reversible and is constantly being repeated. The conversion of capitalist relations of production from a form and stimulus of the development of the productive forces into a brake on them is an example of an irreversible transformation. Capitalist relations of production are no longer capable of becoming a form of development of production, and it becomes necessary to break them and create new, socialist relations. And this is an incomparably more complex and profound social process, in which there is also a process of the conversion of opposites. But it is no longer a matter of the capitalist relations of production changing their function and role, but of their having to give way to their opposite, socialist relations of production.

During the mutual conversion of opposites various contradictions arise and are resolved characteristic of the phenomena or processes. Study of the course of the rise, growth, and resolution of contradictions will bring us to an understanding of the real sources of development.

405 *The Struggle of Opposites and Resolution of Contradictions: the Source of Development*

World War II (1939-1945) was one of the most tragic and significant events in world history. In it there fought against each other forces of imperialism and reaction, on the one hand, led by German fascism and Japanese militarism, and on the other hand forces of socialism and democracy, represented above all by the Soviet Union. In that war the forces of progress were victorious over the forces of reaction, at the cost of immense losses and efforts. After the war a new situation took shape throughout the world; a world system of socialist countries arose, a rapid breakup of the world colonial system began, and the sphere of influence of capitalism contracted.

When reflecting on the history of society as a whole, and pondering on its motive forces, we can notice that in the varied interweaving of wars and revolutions, cultural and economic ties, industrial slumps and booms, a clash of various social and political groups, classes, and states is constantly manifested, and a constant struggle, now waning, now flaring up, goes on. New social and political relations take shape through this struggle, old states break up and new ones are formed, and new socio-economic formations are born, develop, and flourish. That is why Marx, Engels, and Lenin constantly stressed that the struggle of various social forces, and especially of classes, was the most important motive force of history and the real source of its development.

But a clash and struggle of opposing forces and sides is not an exclusive feature of social development. Struggle and clash, the struggle and an overcoming of opposites are inherent in development generally. The concept "struggle of opposites" can therefore be regarded as a universal philosophical category applicable to all forms of the motion of matter. But the word "struggle" should not be taken too literally.

It would be wrong to think that the operations of addition and substraction, raising to a power, or extracting of a root in the solving of mathematical problems "struggle" with one another, or that assimilation and

dissimilation "struggle" in metabolism, or that a "struggle" of the positively charged nucleus and negatively charged electrons goes on in an atom. While we use the category "struggle of opposites" in dialectics to designate the interaction of opposite sides, there are special grounds for doing so, and a special dialectical sense is ascribed to this category. What are these grounds, and what is this sense?

The point is that various forms of the clash of opposing phenomena are possible. When two motor cars speeding along the highway in opposite directions collide, the result of the crash is not development but destruction, a catastrophe. When people hold different views in one and the same group, for example, opinions, say, on how to raise the productivity of labour, improve product quality, etc., they can lead, during discussion of the various points of view and in the clash and struggle of opinions, to a new, common, more correct view that will help raise production as a whole to a new level, and consequently lead to resolution of the contradiction between the opinions. That will signify development in the group's understanding of its production tasks. In the example of the two motor cars we are dealing with opposite phenomena (the direction of movement) that are not linked by inner, law-governed ties. The clash of such opposites cannot serve as a source of development. In the example of the struggle of opinions we are dealing with mutually connected points of view. Various opinions on the solution of a problem naturally arise among the members of a work collective, since they have different life and industrial experience, skills and qualifications, and various approaches to tackling the problems facing them. From the clash and struggle of opinions, opposed in something but connected by an inner, necessary unity, a deeper understanding of the problem, common to all the members of the group will naturally arise. *The dialectical category "struggle of opposites" does not reflect and bring out the interaction, clash, overcoming, and interpenetration of any phenomena differing from one another, and opposed to one another, only in appearance, but only of such as are connected by necessary, inner, law-governed ties.* There is always a more or less sharp contradiction

between these latter opposites. And it is these contradictions that we must regard as the source of development.

It is particularly important to understand that contradictions do not themselves stand still. Jellied, invariant contradictions that embrace, say, "jellied" invariant opposite aspects cannot be the source of development. The north and south poles of a magnet are often cited as an example of mutually connected opposites. But the relation between the poles is invariant, so that no new property, no development, irreversible and directional in time, is created by the poles of a magnet in themselves. It is another matter with variable, mobile contradictions. Contradictions are constantly arising, growing, and being resolved between assimilation and dissimilation in the living organism. An organism, whether it is a plant or an animal, requires and assimilates now one, now another substance at different periods of its life. Correspondingly it excretes various products of its life activity into the environment. When the two processes are balanced, life activity proceeds normally. But this equilibrium is being constantly disturbed and as a result very different processes take place in the organism, viz., growth, physiological changes, changes in functional activity, shape, size, etc. All these changes have a directional, irreversible character. The formation of fundamentally new properties and functions of the organism is linked with them, and development takes place as a consequence.

We also observe a similar process in the development of thought.

Any object has an infinite number of properties, aspects, etc. It is impossible to know them all fully and at the same time exactly. When we reflect on an object, we study and cognise first one aspect, then another. The concepts and judgments that reflect these aspects do not always correspond to one another. Certain contradictions arise between them. The more the contradictions that accumulate in our knowledge, the more urgent becomes the need to unite it, to tie it up in a single, more exact, deeper knowledge of the phenomenon or process studied. That can only be done by eliminating and resolving the existing contradictions. This resolution is consequently fundamentally new knowledge of the object as a whole

and of the natural, regular links between its separate aspects and properties. The development of thought is also manifested in that. So the "clash" of various concepts and judgments and the resolution of discrepancies and contradictions between them proves to be the true source of the development of our knowledge.

We can now draw certain conclusions. Between the interconnected but opposing aspects and subsystems (403) of phenomena or processes there are relations not only of interpenetration and intertransformation but also of a struggle of opposites. These relations lead to the rise and growth of contradictions as a result of which the existence or functioning of the object in its old form becomes impossible at a certain stage. An objective necessity develops to resolve these contradictions, and from that a *new* phenomenon, a *new* object, a *new* property, etc., arises. That also means that *the struggle of opposites, and the genesis, growth, and especially the resolution of the contradictions existing between them, are the real source of any development, wherever and in whatever form it takes place.*

406 *Forms of Contradictions*

There is a vast number of the most varied contradictions in the world, which have a varying effect on the process of development, and which call for various forms and means of tackling them. I shall examine only the most important of them, understanding of which is of great practical, scientific, and socio-political significance.

1. INTERNAL AND EXTERNAL CONTRADICTIONS

In life we constantly come across both internal and external contradictions, both of which have a certain influence on the development of various phenomena.

Between the community of socialist countries and the system of industrially developed capitalist countries there are economic, social, and ideological contradictions. These contradictions are external as regards the socialist community. Yet they affect its development in a certain way. The military quarters in some Western countries are

still trying to whip up the nuclear arms race despite the socialist states' declaration that the attempts to overcome contradictions between the two social systems by way of building up arms and preparing for war are unrealistic and extremely dangerous. Each system should prove to be able to adapt itself to the new realities and processes, whereas differences should prompt them to interaction and should be viewed as a source of benefits for both parties. This is ensured by the defensive nature of the Soviet military doctrine and the reduction of Soviet armed forces. Such measures have a definite effect on the economic, social and political development, and rates of industrial development in the USSR. But can these external contradictions stop development and hold back the process of the building of socialist society? Without doubt, they cannot.

In socialist society there are internal cotradictions as well, for example between the productive forces and the relations of production. This contradiction (204, 213) is inherent in all socio-economic formations, so that a simple reminder of its existence does not promote understanding of the motive forces and internal contradictions of the development of each specific formation. Things are altered at bottom when we pass from statement of the general pattern and general contradiction to the specific, special forms of the manifestation of this contradiction in a given formation or in a certain phase of its development and functioning. At each stage of the development of socialism these contradictions have been resolved in a special way which has led to the development of production and of society as a whole. In the early years of the Soviet state, for instance, when socialist relations of production were established in industry the level of the productive forces, devastated in the years of World War I and of civil war, was relatively low. A contradiction arose between the relations of production and the productive forces, which was tackled through industrialisation. The building of socialist industry steeply raised the technical equipping of production, and the defence capacity and prosperity of society, and an opportunity developed to mechanise the productive forces in agriculture. But that was blocked by relations of production based on petty private property. This

contradiction was resolved through collectivisation. Socialist relations of production arose in agriculture based on co-operative ownership. The socialist mode of production was thus established in the main areas of the economy.

Let me cite another example of the relationship of internal and external contradictions. The contradictions between nature and society are external as regards society. The sharper they are, the more adversely and negatively they affect society's development. Yet society itself must first tackle its internal socio-economic contradictions by passing from capitalism to socialism, in order to solve the contradiction between man and nature.

Consequently, although both external and internal contradictions have a definite effect on the process of development, *the main source of development is the resolving of inner contradictions.* This proposition of Marxian dialectics has immense practical significance; when we come up against some problem, we must first bring out the internal contradictions and find the most correct way of dealing with them. At the same time we must remember that internal and external contradictions are themselves governed by the dialectic of the interpenetration and mutual transformation of opposites. *Contradictions that are external in one situation may prove to be internal in another.* The contradiction between socialism and capitalism, for instance, which is external as regards socialist society, is a very important internal contradiction of all humanity at the present stage of world history. Mankind's further development therefore calls, with objective necessity, for resolution of this contradiction by way of establishing a just social system, free of antagonistic contradictions. In exactly the same way, internal contradictions may be converted in certain circumstances into external ones and influence their solution. The internal contradictions of capitalism, for example, exacerbated by its general crisis, lead to ruthless exploitation of natural resources, and so to an increase in the contradiction betwen society and nature.

2. *BASIC AND NON-BASIC CONTRADICTIONS*

In addition to internal and external contradictions we must distinguish basic and non-basic ones. *Contradictions that have a decisive influence on development, and whose solution leads to the rise of fundamentally new phenomena and processes, are called basic.* All other contradictions are secondary and non-basic. Between the main socio-economic systems of the contemporary world there are many different contradictions. One of the main, basic ones is that connected with the maintenance of peace and avoidance of a world thermonuclear war. The very existence of the human race hangs on its solution, and consequently the further development of mankind. That is why Marxist parties give peace programmes a decisive place in their political activity. And this explains why all the peace forces of mankind rally around their peace programmes.

The basic contradiction of any mode of production that determines the character of its development is that between the productive forces and the relations of production. They are two aspects of a single process of production, and there is a deep-seated inner connection between them, which realises the unity of the opposite aspects of production and is governed by the law of the correspondence of the relations of production to the level of development of the productive forces (204). We have already seen how this law operates in historical development, determining the functioning and succession of socio-economic formations (217-221). Other contradictions can arise during production, of course, for example, between the different elements of the productive forces or relations of production. But they are all ultimately determined by the basic contradiction of the mode of production, and their overcoming depends on solution of the basic contradiction.

The practical significance of what I have said is the following. When we are coping with any socio-political, production, ideological, or scientific cognitive tasks, we must first of all determine the basic contradictions of the process studied. Having determined them we can choose means, forms, and ways of overcoming and coping with them.

3. ANTAGONISTIC AND NON-ANTAGONISTIC CONTRADICTIONS

It is customary to divide social contradictions according to their sharpness and the mode of tackling them into antagonistic and non-antagonistic. In the earlier chapters I have mentioned such contradictions many times (see Ch. II and III). The distinguishing feature of antagonistic contradictions is their extreme sharpness and the impossibility of reconciling the opposing interests, aims, and positions of such-and-such social groups and classes within a given society. Antagonistic contradictions are therefore resolved in fierce, stubborn struggle, and as a rule end up with the elimination of one of the contending sides. The antagonistic contradiction betweeen the working class and the capitalist class is resolved in a socialist revolution by elimination of the capitalists as a class. "Elimination" must not, of course, be understood in an oversimplified way. It is not a matter of the physical destruction or extermination of the members of a given class, but of abolition of the economic and political foundations of the dominance of the capitalist class in society, of the smashing of its resistance on the whole as a class, and in liquidation of private capitalist ownership of the means of production. The forms of the resolution of this antagonist contradiction may themselves be very different depening on the concrete historical conditions in each specific country at a certain stage of its development. Another example of antagonistic contradictions is those between the bourgeois and communist ideologies. They can only be resolved through consistent exposure and overcoming of bourgeois ideology.

This ideology is not overcome by way of a simple rejection, striking out, or indiscriminate denial, but through serious, principled theoretical analysis that provides the grounds for scientific arguments and reasons against it. Without such arguments no one can be convinced of the truth of the scientific, progressive ideology, nor can its superiority, and capacity to comprehend the main processes and tendencies of modern times, and to give a proper evaluation of them, be demonstrated.

Non-antagonistic contradictions are not only distin-

guished by being less acute, but are also capable of being resolved. Such contradictions are characteristic of socialist society. Contradictions cannot be eliminated from it once and for all. Its inherent non-antagonistic contradictions are the source of its development and perfection.

The resolution of non-antagonistic contradictions, unlike that of antagonistic ones, does not call for the elimination of one of the opposites. They are solved, as a rule, in a peaceful way through a gradual, consistent, conscious bringing of the positions and interests of the different social groups and classes closer to one another. But this "coming together" cannot happen without a struggle of opposites. The law of the unity and struggle of opposites does not lose its force with the abolition of antagonistic socio-economic formations and the contradictions peculiar to them. In a non-antagonistic society there are its own specific contradictions engendered by its development and affecting it. Furthermore, if such contradictions are not tackled and resolved in time, they can become very acute and begin to hold back the development of society. The administrative, bureaucratic methods of leadership of the Soviet economy and state, built up in the 1930s and 1940s, have come into acute contradiction in recent decades with the needs of social development. And although they do not represent antagonistic class interests, their solution is linked with clashes of conservative and progressive views, methods of leadership, and the aims of various social groups. Non-antagonistic contradictions cannot, therefore, be tackled by routine, stereotyped, made-to-order recipes, but call for a creative, dialectical approach to the new phenomena.

407 *The Resolution of Contradictions in Socialist Society*

The contradictions that arise and are tackled under socialism differ from those characteristic of the preceding antagonistic formations.

In socialist society there are no social grounds for antagonistic contradictions between social groups and classes. But that does not exclude the existence of

contradictions between personal and social interests, between individuals and work collectives, between the leader and the work collective, between the different participants in the united production process. A contradiction is also possible between the mechanisms of moral and material stimulation, between separate enterprises and whole industries, between the suppliers and consumers of industrial products, and so on. There are also separate breaches of legality, attempts to live at others' expense, acts of misappropriation and embezzlement of socialist property, bureaucracy, red tape, etc. All these phenomena contradict the principles of socialism, but they must not be dramatised, just as their negative significance should not be underestimated. These contradictions can be overcome and resolved if they are noted and studied in good time.

An example of the tackling of the contradictions of socialist society at the present time is the deep, in essence revolutionary reorganisation and reconstruction *(perestroika)* of all aspects of society's life that has been going on in the USSR since 1985. It is connected with the fact that roughly from the mid-1970s, because of a number of objective causes and subjective mistakes, stagnant phenomena, and a slow-down of economic development began to be noted in Soviet society, and separate industries and agriculture began to fall behind, the material and intellectual needs of the population were not fully met. At the same time the advantages and achievements of socialism were not being fully employed; bureaucratic tendencies became stronger, the mechanism of Soviet democracy and publicity *(glasnost)* was not made the most of in the discussion of acute social problems. All this contradicted the main aims and patterns of socialist society. When the contradictions reached a certain level, they were realised and laid bare by the Communist Party which called on all the working people to set about renewing society, and reorganising and shaking-up the whole economic and social mechanism, and to strengthening democracy and openness. But these contradictions are not antagonistic, since they have not been caused by an opposition of irreconcilable class forces but by causes whose removal does not call for the elimination of certain social groups or classes. So-

cialist society has a set of political and educational measures and administrative, legal, organisational, and economic means at its disposal by which these contradictions and others can and should be tackled.

New engineering, managerial, and technological tasks constantly arise during the development of society. In some cases their solution calls for rapid development of the productive forces, and in others for an improvement of the relations of production and system of management. Some elements of the mode of production lag behind and become "obsolete", while others develop rapidly and forge ahead. That kind of contradiction between the new and the old cannot be decided once and for all and in all areas of our life. They constantly exist, are resolved, and then arise again, which is the natural result of the advance and constant improvement of all aspects of society's affairs.

Socialist society moves ahead along the road of social progress (422), so that contradictions peculiar to social development constantly arise, including ones between social consciousness and socialist being, between the basis and the superstructure. Such contradictions are tackled by raising the standard of political leadership of society in every way by the Communist Party and the socialist state. The transition from capitalism to socialism is not spontaneous, but a conscious process. As socialism develops and is perfected, the role of consciousness continuously grows. At the same time the role of the Communist Party and socialist state which direct all aspects of society's life also grows.

In the course of perfecting socialism there must be a planned combination and balanced development of all spheres of society's life. Therefore, apart from the specific means of dealing with each concrete type of contradiction, there are also forms and methods of tackling the non-antagonistic contradictions common to the socialist system. These include the following: (1) political leadership of society by the Communist Party, which works out strategy and tactics for coping with social tasks; (2) scientifically substantiated management of the economy by the socialist state and its agencies, and systematic elimination and overcoming of all forms of bureaucracy, departmentalism, and localistic and pa-

rochial tendencies; (3) criticism and self-criticism as a method of exposing and overcoming shortcomings; (4) socialist emulation and competition as a form of tackling the practical tasks facing every work collective, and society as a whole; improvement of the activity and initiative of work collectives; (5) development of socialist self-government and self-management, and improvement of socialist democracy; (6) improvement of the relations of distribution, which have a great influence on growth of collective and individual interest in the development of social production and the standard and way of life; (7) strengthening of control over the quantity and quality of work, and just employment of material and moral incentives; (8) consolidation of legality and socialist law and order, and strict observance of the standards of socialist social intercourse; (9) political, educational, and ideological work as a means of developing a communist world outlook and the basis for achieving maximum correspondence of the subjective and objective factors of development in the conditions of socialism; (10) full publicity and openness in the discussion of essential problems and contradictions.

408 *The Law of the Unity and Struggle of Opposites: the Essence and Core of Dialectics*

To sum up what has been said, we can formulate one of the most important laws of dialectics, that of the unity and struggle of opposites. Lenin called it the "essence and kernel of dialectics" since it answers a most important and complex question, that of the source of development. This law states the following.

(1) Any phenomenon in nature, society, and thought contains opposing aspects, properties, characteristics, subsystems, or elements that are necessarily connected with one another or interacting, i. e., are a unity.

(2) A relation of dialectical contradiction exists between the opposites that form a unity.

(3) The genesis, growth, and solution of the main inner contradictions are the source of all movement, and especially of development. The solution of contradictions is the decisive moment, and the main cause of development.

(4) A dialectical transition from some opposites to

others takes place during development, and a clash, interaction, and interpenetration of opposites occurs.

(5) New irreversible phenomena, processes, properties, or characteristics, etc., arise that did not exist previously, and they arise through struggle, through their interconversion and interpenetration and transition into one another, and solution of the contradictions.

The law of the unity and struggle of opposites has a universal character; and understanding of it has immense world-outlook, methodological, and ideological significance.

When a person, who thinks metaphysically comes up against contradictions in personal and social life, in political struggle, and in industry or science, he/she tries to brush them aside, or get around them, smooth them over, and so on. For every new phenomenon, and especially unexpected ones, he/she looks only for external causes, all of which not only prevents understanding of the real causes of changes in the external world but also blocks active involvement in its conscious, purposive transformation for the good of mankind. A person who thinks dialectically, on the contrary, knows that the source of any development is the struggle of opposites and the solution of inner contradictions. He/she therefore not only recognises the existence of objective contradictions in nature, society, and thought, but also tries to know and study them, to separate the internal from the external, the basic from the secondary, the antagonistic from the non-antagonistic, to find the link and dependence between them, and to bring out the means, forms, and ways of overcoming and dealing with these contradictions. One cannot, of course, always and everywhere influence the objective processes of development. But where phenomena of nature and society's life can be drawn into man's material activity, ability to apply the law of the unity and struggle of opposites provide immense opportunities for man's rational action on natural processes and on the course of history.

Forms of Development

409 *On the Form of Development*

In his famous book *Ten Days that Shook the World* the American journalist John Reed passionately and enthrallingly described how the October Revolution happened in Russia. The events that he described really shook the world. Many of them proved to be an unexpected, grandiose leap in historical development. This leap, which broke the course of history into two quite different epochs, was prepared by a long, preceding development: the class struggle of the Russian proletariat and the revolutionary activity of the Party of Bolsheviks led by Lenin.

When we think about the processes of development in nature, society, and thought, we can note that periods of gradual, smooth changes are followed in all of them by periods of change of a leap-like character or "breaks" of gradualness. Is that by chance? Or is there a pattern, an objective link between them? The dialectical theory of the form of development provides an answer.

Every phenomenon and process has its own form and content (111). In the preceding section (408) I showed that the content of development, and its source, is formed by a struggle of basic, inner opposites and solution of the contradictions existing between them. The changes caused by that are either gradual and continuous, or interrupted and sudden. The link between these two types of change also determines the form of any process of development. Therefore, when we speak of a process of development, we must study its form closely, i. e., the interconnection of the continuous and the intermittent, of the gradual and the sudden in all its manifestations in nature, society and thought. The aim of this study is to find and formulate the objective law that governs the form of any development.

410 *A Dialogue about the Continuous and Intermittent, the Gradual and Sudden in the Process of Development*

Two approaches, two mutually exclusive views on the form of development, have built up in the history of

philosophy. In order to get a better understanding of them, let us turn once again to the dialogue of the Dialectician *(D)* and Metaphysician *(M)*.

D. I hope you will not deny that we meet both gradual and sudden changes in the world around us.

M. In any case observations and our life experience, if one can rely on them, tell us so.

D. What makes you doubt it?

M. The question of what type of changes exist in reality, and which are dominant and basic. For continuous and intermittent, gradual and sudden changes surely cannot, in fact, exist simultaneously, in any developing phenomenon.

D. Why won't you admit such a possibility? Are the intermittent and continuous always incompatible?

M. Because nature and matter themselves would have to be both intermittent and continuous in that case, and the one excludes the other. The thinkers of the past had already drawn attention to that difficulty. Heraclitus of Ephesus, for instance, recognised the continuous character of changes, saying that everything flowed and changed. He therefore said that it was impossible to enter the same river twice; when a person was entering it the second time, the water had flowed on and the river had changed. His pupil Cratilus went further, claiming that it was impossible to enter the same river even once, for its current was changing every second and it was consequently not one and the same river. He and his supporters considered that all things and phenomena continuously became something else, so that it was impossible to speak of any of them as exact and definite; while we are talking things are changing.

D. But weren't there other views as well?

M. True, the Greek philosopher Zeno of Elea (c. 490 — c. 430 B. C.) argued as follows: an arrow is at a given point at any moment in flight, and in the next moment is already at another point, so that movement is intermittent and jerky. But at the same time the arrow is passing from point to point gradually, and is simultaneously covering a host of points in each segment of its flight: consequently movement is conti-

nuous and gradual. The one statement wholly excludes the other.

D. What follows from that?

M. Zeno and his followers drew far-reaching conclusions. Since these statements contradicted one another, it was senseless to speak of motion and development. Motion was only appearance. All real things were unchanging, constant, equal to themselves. Motion consequently did not in general exist. There was therefore no need to say whether such-and-such a manifestation of motion was gradual or sudden and intermittent.

D. It is also worth adding that the dispute about the intermittent and continuous, gradual and sudden has continued in philosophy and science in modern times. Descartes, for example, considered matter to consist of separate particles or corpuscles in continuous motion. But Spinoza suggested that a single indivisible basis of all things, substance, underlay the world. Right down to the twentieth century physicists recognised the existence of a solid world medium or ether, and isolated particles, molecules, quite unconnected with it.

M. What point of view do you yourself hold? Do you think motion and development are reducible to continuous and gradual changes, or to sudden, intermittent ones? Is the material world itself "solid" and continuous, or is it intermittent and discrete?

D. I hold that both these points of view are erroneous. They break the real, objective connection between various types of change and contradict each other. That is the main weakness and fault of the metaphysical method of thinking. Dialectics, however, tries to find the real unity of the intermittent and continuous, of the gradual and the sudden. Basing itself on the law of the unity and struggle of opposites, it turns to reality itself and examines how these types of change are connected with one another.

It is not very simple to understand the dialectical interconnection of the gradual and sudden, intermittent and continuous. In order to master the dialectical approach to this question it is necessary to examine a number of new philosophical categories, to master the deep relation between them, and to explain what their link is with modern science and social practice.

Only then does the advantage of the dialectical view become indisputable.

411 *Quantity, Quality, Measure, and Leap*

When people come across various things and processes in everyday life, industry, and public affairs, they learn to distinguish them from one another, to identify them, and to counterpose them. That proves possible because the different phenomena in objective reality itself have a certain constancy and stability. The features that distinguish them from other phenomena and processes remain unchanged for long or short intervals of time. This feature is usually designated by the concept "quality". These same phenomena and processes, while to some extent constant and invariable, can nevertheless be altered without being converted into something else, and remain as before themselves. This feature is designated by the concept "quantity". A person's appearance undergoes various changes, for instance, during his/her life; skin colour alters, hair goes grey or falls out, weight changes, the number and distribution of wrinkles on the face change, and so on. These changes can be called quantitative. Yet, looking at this person, and at photographs made at various times, one can say of him/her that this is the same face and the same person, and consequently that his/her qualitative characteristics have been preserved in the main.

The concepts "quality" and "quantity" play a decisive role in study of all forms of motion and development and are therefore two of the most important philosophical categories. But philosophy would not be a scientific discipline, if it simply borrowed its categories from everyday life without deepening them and making them more precise. What is their philosophical meaning?

Every phenomenon we have to deal with can be regarded as a system (106). The human organism, which consists of dozens of organs and their parts, and of the various connections and relations between them, is a system for a doctor; a works or factory, including all its shops, work teams, flow lines, machine tools, and the technological links and relations uniting them, is a system for the plants' workers and engineers. The main subsystems, elements, and connections ensuring

the activity and existence of every such system remain more or less constant over a certain stretch of time, retain their main attributes and characteristics, and so ensure its wholeness and equality with itself. *The aggregate of the main elements, connections, and relations ensuring within a certain period of time the stability and existence of the given system and its identity with itself, and at the same time its difference from other systems, is reflected by the category "quality" or "qualitative definiteness".*

The separate manifestations of quality are called *properties*; we therefore often say that quality is a stable aggregate of certain properties. The organic substance "sugar", for instance, is a quite definite quality, and the white colour inherent in sugar, or its capacity to evoke a sweet taste, or its capacity to dissolve in water, etc., are separate properties of it.

It is well known that any phenomenon or process undergoes more or less marked changes with time. The composition of a person's blood changes with age; various physiological functions appear and disappear; the size of various organs changes, and so on. New machines, flow lines, whole shops, and work teams appear in factories, and old ones disappear from it. But the person and the factory retain their qualitative definiteness. *The connections and relations whose changes alter the separate properties and characteristics of a system within certain limits, but do not disrupt its qualitative definiteness, are called quantitative, and the category that reflects them is called quantity or quantitative definiteness.*

A quantitative definiteness is objective, just like a qualitative one. Gradual quantitative changes can take place in separate attributes or characteristics within a quality. They can be compared in degree or intensity of growth or waning. The results of the measurements can always be expressed by means of figures, so that mathematics can be applied to the study and description of quantitative changes. Study of quantitative changes is the basis for the application of mathematics to the most varied processes in nature, society, and thought (514).

In my definition of quantity there is an important expression, viz., "certain limits". It merits special atten-

tion. The point is that quantitative changes, i. e., changes in connections, elements and subsystems that do not disturb the qualitative definiteness of a phenomenon can only occur up to certain limits, beyond which quantitative changes lead to a break or rupture of the qualitative connections and relations, and to disturbance of the main elements and subsystems. These limits are known as *measure*. Every phenomenon that has a special quality and differs from other phenomena has its special measure. Disruption of the limit leads to the quality being disrupted. The old connections and relations are broken and wholly or partially disappear, and the former elements and subsystems are disrupted and changed. At the same time new main connections, relations, subsystems, and elements are established, and a new quality consequently arises. *This break in the old qualitative relations and connections, and the disruption or replacement of these elements and subsystems by new ones, is called a leap.* The concept "leap" is also borrowed from everyday life, but has acquired a special meaning in philosophy. Its main philosophical sense is that some sort of rapid shift, readjustment, or jump is made in space, and that a break and transformation of a phenomenon's main stable qualitative connections, elements, and subsystems take place. This break usually occurs relatively quickly, of course, in comparison with the preceding period of quantitative changes. We therefore also perceive the quantitative changes as even, gradual, "smooth", or slow, and leaps or qualitative changes as instantaneous or "explosive" ones. In fact, however, in a concrete case, a leap may be more or less protracted and complex. Its "short-term" character is conditional, and one can only speak of it in comparison with the preceding quantitative changes. The qualitative changes in the transition from one geological age to another, for instance, took millions of years. They can only seem short-term or instantaneous in comparison to the preceding stages of relatively slow quantitative geological changes lasting hundreds of millions of years. Great physical discoveries like Max Planck's discovery of quanta of physical action, for example, sometimes seem a flash of genius, a certain instantaneous leap in scientific knowledge. In reality the for-

mulating of the idea of a quantum itself took several days, and this period seems short only in comparison with the years of preceding persistent work during which Planck came to the working out of this fundamentally and qualitatively new idea of modern physics. An atomic explosion in which there is a qualitative transformation of the energy of the internal bonds of the atomic nucleus into radiant and heat energy seems ever more short-term. But from the philosophical point of view it is very important to understand that the main characteristic of processes reflected in the categories "quantitative changes" and "qualitative changes" ("leaps") is not the length or duration of the process but its content, its essence, because in the first case there is only a change of definite connections of elements or subsystems within a quality, but in the second they are disrupted, shattered, and form a new quality. That conclusion is particularly important for understanding quantitative and qualitative changes in society.

412 *Evolution and Revolution*

A scientific discovery, a change of geological ages, and a social revolution have nothing in common at first glance, but only at first glance. When we examine these processes more closely, we can understand that they are all qualitative leaps, certain breaks in the gradual course of events, an interruption in a continuous process. The question arises whether there is some kind of objective pattern of connections between quantitative and qualitative changes, between the even, gradual, continuous course of events and their sudden, jump-like change. Various answers have been given to that.

According to religious views God created the world once and for all, finished and completed, so that no really profound changes take place in it. The qualitative changes and leaps of various kinds in nature and society are regarded as chance, accidental phenomena, the sense of which is incomprehensible to man. These leaps and catastrophes can also be perceived as the work of the Devil. But to the religious mind, in fact, there are no qualitative transformations and qualitatively new phenomena are impossible.

As science developed, irrefutable facts were accumu-

lated which demonstrated that the surface of the earth had itself altered qualitatively throughout its history. New continents had appeared, islands and mountains, and sometimes the course of rivers and the outlines of sea coasts had changed before men's eyes. People not only discovered that types of animals and plants had existed in antiquity that do not exist now, but also learned themselves to make new breeds and varieties of animals and plants. The idea of the world's qualitative invariance was thus undermined and refuted. Two opposing views of the process of development took its place.

The first came to be called "catastrophism". It was expressed most clearly of all in the views of the French zoologist Georges Cuvier (1769-1832). In trying to explain the disappearance of some biological species and the appearance of others, he suggested that periods of a quiet unchanging state had alternated in the history of the earth with terrible catastrophes or cataclysms. In the interval between cataclysms animals and plants did not alter, but during the next cataclysm almost everything living perished and new species of animals and plants arose in the new conditions that had no links with the preceding ones. Cuvier's hypothesis could not answer why there was so much in common in the structure of the living organisms that existed before and after a cataclysm. Study of the earth's history, moreover, showed that "geological revolutions" themselves often took thousands, hundreds of thousands, and millions of years, and that life on earth was not interrupted in that time. Although Cuvier's views were thus refuted, the point of view that development consisted in unconnected stages of rest and catastrophe became widely held in the understanding of social processes. It was embodied in the theories and political activity of anarchists and political extremists. They all prided themselves on their extreme revolutionism and suggested that a revolutionary upheaval could occur at any moment in any stage of social development, state authority overthrown, private property abolished in the twinkling of an eye, and a new social order established. Lenin demonstrated the complete bankruptcy of such "revolutionism". Anarchism, extremism, and

terrorism are in fact an expression of the instability of the petty bourgeoisie, its lack of organisation and of confidence in its own forces. The practice of the world revolutionary movement has shown that real, serious, far-reaching social revolutions are only possible when they are prepared by the whole preceding objective course of historical events. The gaining of state power, elimination of antagonistic classes, and building of socialism are a natural, regular stage in the development of society.

The second point of view was called "evolutionism". In the middle of the nineteenth century Darwin's evolutionary theory was created from a generalisation of a vast amount of factual material. Social-Darwinists tried to transfer the theory of biological evolution to society (307), which led to the rise of evolutionism. The latter must not be confused with the theory of evolution. Evolution is the course of a process in which gradual quantitative changes predominate. Evolutionism wholly reduces development to evolution and equates the role of qualitative revolutionary changes to zero. In the realm of understanding social processes evolutionism leads to reformism and revisionism. Political reformists and revisionists are essentially conduits of bourgeois ideology in the labour movement. From their point of view the transition from capitalism to socialism is a smooth evolutionary process without sharp jumps and sudden leaps, and revolutionary upheavals, and comes about through peaceful reforms leading to purely quantitative changes in the field of wages and the length of the working day. The workers are offered a certain number of the shares of the enterprises where they work and that, reformists and revisionists suggest, will gradually wipe out the boundary between workers and capitalists, and capitalism itself will "grow into socialism" without class struggle and revolution. But when allowance is made for the fact that the growth of wages does not cover the rise in the cost of living, while the reduction of working time is accompanied with intensification of work, and that capitalism, while handing over shares to tens and hundreds of workers, makes millions unemployed, the true sense of reformism and

revisionism becomes obvious. By opposing bourgeois evolutionism to revolutionary Marxism-Leninism, modern reformists in fact perpetuate exploitation of man by man, try to stifle the flame of class struggle, and to prevent a real transformation of society.

Underlying the various non-Marxian views of the process of development there is a one-sided metaphysical understanding of quantitative and qualitative changes in the process of development. The cataclysmic, catastrophic point of view does not see that radical qualitative changes are prepared for and caused by gradual quantitative ones. The other point of view (evolutionism) reduces all development just to quantitative changes, denies the significance of qualitative transformations, and is therefore unable to explain where new phenomena in society's life come from. A correct inderstanding of development, consequently, is to discover and study the real relationship between these two types of change. *Materialist dialectics, basing itself on the experience of historical development affirms, in full correspondence with the data of modern science, that the gradual quantitative changes in a phenomenon or process regularly and necessarily, when passing through a certain measure, lead to radical qualitative changes as a result of which a new quality, and new phenomenon or process, arises.* In other words any evolution sooner or later creates the conditions for a revolution. The revolutionary process in turn, during its completion creates the preconditions for evolutionary development on a new qualitative basis. The true dialectical unity of quantity and quality as opposing but mutually connected aspects, moments, or characteristics of the process of development is manifested in that.

413 *The Dialectic Connection between Quantitative and Qualitative Changes*

In order to satisfy ourselves of the universal and law-governed character of the dialectical connection between quantitative and qualitative changes formulated above, and between the evolutionary and revolutionary stages of development, let us consider some examples.

1. The relations between the molecules and atoms of

chemical substances change their state of aggregation in accordance with changes of energy. At normal atmospheric pressure and a temperature below O° C, water for instance, has a crystal structure and is a solid, ice. With changes of temperature separate properties of ice alter, but the qualitative characteristics connected with crystal structure and the capacity of a solid to retain its geometrical shape, remain as before. When heated above O° C ice begins to melt. The energy absorbed during heating breaks the connections that unite the molecules of water in the crystals. From the standpoint of physics this process is known as a phase transition. It may take a longer or shorter time according to the rate of heating. From the standpoint of dialectics it is a qualitative leap: some qualitative connections are disrupted and others arise. Through the melting of ice water passes into a new state, that of a liquid. In crystals the molecules of H_2O oscillate in a limited space around one and the same points, or vibration nodes. In the liquid state they move chaotically, governed by the laws of Brownian movement. New quantitative characteristics are also associated with the new qualitative state. Liquid water is not only governed by other physical laws, but its chemical and physical properties are different. One, for example, is to be a good solvent of many chemical substances. Furthermore, its capacity to dissolve substances gradually increases as it is heated, without a leap. In the temperature range between $+1°$ C and $+99°$ C it has various properties. At the lower level it feels cold to the hand; at $+99°$ C it can give a bad burn. Nevertheless this is a quantitative difference, since water is not altered qualitatively, and its physical and chemical properties and state of aggregation are not changed. Heating proceeds smoothly, without a break in the qualitative physical properties, and the consequences caused by this process depend on change in the energy and velocity of the motion of the molecules. But when the boundary of the measure of the unity of the quantity and quality definiteness of the liquid state of aggregation is crossed at 100° C, a new phase transition begins, that of boiling. From the standpoint of dialectics this is a new qualitative

leap. Its result is again a break of old physical connections and properties, and the rise of new ones. In the gaseous state of aggregation water is no longer governed by the laws of hydrodynamics, but by those of gas dynamics. Water is almost uncompressible, for instance, while the gas is readily amenable to strong pressure, and the work of steam engines is based on that. The new qualitative state is characterised, consequently, by new quantitative characteristics not inherent in either the solid or liquid states of water.

2. The succession of socio-economic formations (217-221) is not a physical process but a historical one, yet the dialectical link of quantitative and qualitative changes can be found in it, too. The primitive communal system gradually changed under the impact of an extremely slow development of the productive forces (stone and later metal tools and the corresponding human habits). The productivity of labour and the quantity of the things made slowly rose. At a certain moment, when the possibilities of collective relations of production were already exhausted, the quantitative changes had reached a certain boundary or limit, and a disharmony had arisen between the relations of production and the productive forces. Further development of production proved impossible. A process of qualitative change in the mode of production began, and this led to disruption of all the social connections and relations of the communal-clan system. The old basis was broken up, and the superstructure that had arisen on it, and profound qualitative changes took place in society. Historically, this is the first social revolution (214). The newly rising slave formation differed qualitatively from the preceding one in that private property relations of production were formed, antagonistic classes took shape, the state, law, etc. arose. New quantitative characteristics, and new parameters corresponded to the new qualitative state of society. The primitive communal system had in fact developed over tens of thousands of years. The history of slave society covered roughly four thousand years. The quantity of material products produced in it, including buildings, roads, irrigation works, tools, weapons, etc., exceeded everything created on the same territories during

the whole preceding formation. The size of the population grew steeply, the development of culture accelerated, and culture took on a quantitatively and qualitatively different character; characteristics appeared that simply did not exist in the former society, for example the intensity and sharpness of class conflicts.

Having reached a certain limit, the productive forces of slave society again came into conflict with the relations of production. A new social revolution began, and a new qualitative leap. Yet that revolution, too, did not occur at once but took dozens or even hundreds of years. As a result, feudal society emerged with its own specifics. In Europe the feudal formation exhausted itself due to the growing class struggle and also, at a later stage, due to the speedy growth of economy that gave rise to capitalist productive forces. The gradual exacerbation and growth of contradictions within the system of the relations of production and the productive forces affected the whole of feudal society and the process of the conversion of quantitative into profound qualitative changes occurred again. The latter were expressed in the form of bourgeois revolutions leading to the emergence of the capitalist formation. Specific quantitative characteristics were also inherent in capitalist society. The historical process accelerated rapidly. Less than four centuries had elapsed between the first bourgeois revolutions and the first socialist revolution in October 1917. The productive forces developed at an ever increasing rate. The amount of product put out by man, for example, over one year gradually became comparable to the productivity of all of "wild" nature and then outpassed it. The intensity of the capitalist exploitation of the working class became the main quantitative indicator. The quantitative growth of contradictions inherent in capitalist society gave rise to a revolutionary, i. e., qualitative, transition to a new, communist formation.

I will deal below (416) with the manifestation of dialectical interconnection between quantitative and qualitative changes under socialism. The above example, however, shows clearly that quantitative changes, when passing through a certain measure, lead to a qualitative leap. Moreover, the emergence of a new quality is in

turn characterised by new quantitative parameters, by a new type of qualitative changes.

3. In the first example I dealt with quantitative and qualitative changes in a natural phenomenon. Let us now examine how quantity and quality are linked in the development of thought and consciousness.

A newborn child does not possess a capacity and capability to speak, think, and express thought in articulated speech. During its first year of life there is a gradual quantitative accumulation of appropriate habits. The first qualitative leap occurs at the end of this period and is manifested in articulated speech; the child begins to pronounce separate words. Further extension of the stock of initial concepts, and of words that express them, leads to a new qualitative leap; the child begins to utter separate phrases. Later its thinking changes so much that it proves able to utter more or less complex logical arguments or inferences, to express its desires, feelings, and knowledge about the external world in a connected, consecutive form, and so enters on a fundamentally new stage in the formation of thought. We thus also see here the dialectic of the interconnection and interpenetration of quantitative and qualitative changes. Summing up these examples and bringing out their common features we can clarify and formulate the law of dialectics that determines the form of development.

414 *The Law of the Transition of Quantitative Changes into Qualitative, and Vice Versa*

We call the law that determines the universal form of development the law of the transition of quantitative changes into qualitative ones, and vice versa. It can be formulated in the shape of the following propositions.

1. Every phenomenon or process is a unity of quantity and quality; in other words it has its own specific quality and quantity definiteness.

2. Quantitative changes occur gradually, smoothly, and continuously to a certain limit (measure). Within the limits of a measure they do not cause changes of the quality. Quantitative changes are reversible as a rule, and are characterised by magnitude, degree, and

intensity; they can be measured and expressed by a certain number by means of the appropriate units of measurement.

3. With a transition of the measure inherent in the given object (system), quantitative changes cause radical qualitative changes that lead to the formation of a new quality.

4. Qualitative changes take place in the form of a leap or a break in continuity, but the leap need not occur in the form of an instantaneous explosion. It can take a more or less significant interval of time.

5. The new quality arising through the leap is characterised by new quantitative properties or parameters, and by a new measure of the unity of quantity and quality.

6. The sources of the transition of quantitative changes into qualitative and vice versa are the unity and struggle of opposites, and the growth and resolution of contradictions.

The law of dialectics formulated above operates in nature, society, and thought. In each concrete case it is manifested in a special way. Its application to the decision of practical tasks that are distinguished by great originality therefore calls for ability to employ the general propositions of dialectics with allowance for the individual characteristics of each concrete case, and of each concrete task. Let me illustrate this by an example of the analysis of the structure of the socialist revolution and the contemporary state of development of socialism.

415 *Quantitative and Qualitative Changes in the Structure of the Socialist Revolution*

The socialist revolution in Russia was a very great qualitative leap in the history of mankind. It marked not only a transition from one formation to another but also a general transition from the "formation" stage of development to social development proceeding without a change of formations. This revolution had to carry out qualitative transformations in all the affairs of society (in politics, the economy, and culture). Certain interconnected revolutionary processes can therefore be distinguished within it; viz., the seizure

of state power and the establishment of the dictatorship of the proletariat as an instrument for building a socialist society; the forming of socialist relations of production and of a socialist basis of society; a cultural revolution that consisted in the creation of a new, socialist culture through making the scientific ideology of the working class the ideological basis of socialist society determining the development of all social consciousness. On the scale of world history the socialist revolution in Russia was a brief period of radical smashing of the old social relations and of the creation of a qualitatively new society. It was completed roughly two decades after the October Revolution of 1917 by the victory of socialism, i. e., the formation of the first phase of communist society. When we compare this with the several centuries of the preceding development of capitalism, the revolution was an extremely concentrated and brief affair. But it included more or less protracted, complex processes of social transformations.

The armed uprising of October 1917 that marked the seizure of state power was only the first step. Much time was required (including years of civil war) for Soviet power to be established over the whole of the country. Over a certain space of time the old state machine was broken up (207) and replaced by organs and agencies of the dictatorship of the proletariat. A whole system of mass organisations of the workers and labouring peasantry had to be created for that, the alliance between them consolidated and deepened; youth, women's, trade union, and other organisations had to be set up, which took part in the building of socialism under the leadership of the Communist Party. As a result of the smashing of the old state machinery and suppression of the resistance of the overthrown exploiter classes a political superstructure of socialist society was formed (205). A qualitatively new political system and qualitatively new class structure of society were formed which included the working class and the collective farm peasantry (the two main non-antagonistic classes) and the people's intelligentsia (as a social stratum).

The winning of state power and its employment to

resolve antagonistic contradictions is a most important condition for carrying through revolutionary changes in the economy. The aim of these changes was to create and introduce socialist relations of production in accordance with the character and level of development of the productive forces arising on the basis of large-scale machine industry. Such relations of production could not take shape within capitalism. And their forming in industry and agriculture was, moreover, a quite long drawn out process. Big industrial enterprises began to be turned into state property at the end of 1917 and nationalisation of medium-sized and small enterprises was completed in the course of 1918. Socialist reforms were carried out in the economy during industrialisation and the collectivisation of agriculture. That road to building a socialist society was by no means universal or the only one possible. It was determined by the specific conditions in which the socialist revolution occurred in Russia, with its underdeveloped industrial base and backward agriculture. In other, more developed countries that take the road of socialist reforms, other models of building socialism may be followed, and other forms and rates of economic and social reform realised. The mode of building a socialist economy that was realised in the USSR, was associated with definite deviations from the principles developed by Lenin. In spite of his points about broad development of co-operation, individual and co-operative work was limited, self-management of enterprises was reduced to the minimum, collectivisation was frequently compulsory, industrialisation was carried through by command and administrative methods, while its rates disrupted the balanced economy. Although collectivisation and industrialisation made it possible to lay the technical foundation in the pre-war years for raising the USSR's defence capacity, all these shortcomings, and especially the authoritarian command methods of leadership, led subsequently to a slowing down and stagnation. From that it follows that there are no standards or ready-made models for building socialism, and cannot be.

The sequence and interconnection of the revolutionary changes in the structure of the socialist revolution that I have examined here reflect first and foremost the

historical experience of the USSR. In other countries, taking the road of socialist reforms in other historical conditions, and employing in relation to their special conditions the historical experience of the Soviet Union, the concrete forms and stages of these reforms are distinguished by their own more or less special features, which is understandable. Some of these countries had a highly developed industry and agriculture at the beginning of the socialist revolution. Others were at a lower level of social and economic development. Many of them had only recently been emancipated from colonial dependence and had to pass through a stage of national liberation revolution and democratic reforms. The concrete forms in which the social reforms took place in various countries therefore have great differences. But there are common features and patterns (212) that characterise the single content inherent in all socialist revolutions, whatever the concrete forms in which they are manifested.

This is what makes the thesis of the relation of quantitative and qualitative changes in the course of the socialist revolution one of general significance.

When reflecting on the structure of the socialist revolution we notice that it itself, while being a qualitative leap from the standpoint of development and the succession of formations, consists of a number of gradually developing processes each of which is completed in a radical qualitative transformation in the most important areas of human activity (political, economic, and cultural). There is thus no hard and fast boundary between gradual quantitative and radical qualitative changes, and they are closely interconnected.

416 *The Dialectic of Quantity and Quality in the Present Stage of the Development of Socialism*

Let us now look at how matters stand with quantitative and qualitative changes in the present-day stage of development of socialist society. When speaking of changes in the life of any social formation, state, or socio-economic system, we must remember that gradual quantitative changes not only relate to positive phenomena, and to what consolidates society and promotes its development; they can also affect negative phenomena,

since contradictory trends are observable in all areas of social life, and the law of the unity and struggle of opposites operates in them (405, 408). From that it follows that gradual quantitative changes simultaneously embrace both positive and negative phenomena and processes. The point is which processes, tendencies, and social mechanisms are the leading ones and determine the general social tendency. In a socialist society developing in very complicated historical conditions, the main socio-economic tasks have to be tackled first, i. e., the creation of a new mode of production, the establishing of an appropriate socialist basis and superstructure, consolidation of socialist statehood, defence of the socialist homeland against foreign enemies, and overcoming of the resistance of the overthrown exploiters. All these tasks were tackled, but a powerful state apparatus had to be built for that, and a special socialist legal order. In the mid-1970s, however, subjective mistakes began to be manifested more and more along with leading positive tendencies, mistakes connected with the exaggeration of centralised planning, refusal to develop commodity-money relations, the emphasis on "volitional", arbitrary, non-economic methods of directing the activity of socialist enterprises and institutions. Why could all that happen? Were these negative phenomena compatible with the principle and spirit of socialism?

At the beginning of the revolution Lenin had warned that bureaucracy, and refusal to draw the masses into the leadership of society presented a great danger for socialism. On the background of the significant advances achieved over several post-war decades, however, a euphoric mood, smugness and complacency became strengthened among some of the state and Party leadership, and a belief arose that further improvement of the administration of society's life and search for more modern forms of organisation and leadership were superfluous. It took some time for the negative consequences of smugness and subjective mistakes to be recognised and realised. The fundamental, in essence revolutionary reorganisation that is being carried out in the USSR and other socialist countries is the result of this awareness.

From the philosophical point of view it is important

to get clear about and understand what this special kind of social leap is that ensures transition to a new qualitative state of society. It includes the following: (1) modernisation and rapid development of the productive forces on the basis of the advances of scientific and technological progress; (2) provision on that basis of a just and fuller satisfaction of the material and intellectual needs of all members of society; (3) bringing of the relations of production and the productive forces into harmony by perfecting both; (4) full overcoming of bureaucracy and improvement of the democratic forms of decision-making and management at all levels, from the separate enterprise to the state as a whole; (5) activation of the human factor as the decisive force for accelerating social and economic progress; (6) perfecting of all cultural and social institutions, legislation, justice and the law enforcement system.

Thus, at the present stage, radical qualitative changes are also being carried out as well as significant quantitative ones. In contrast to the social revolution during the transition from capitalism to socialism they are not breaking up the existing social order but, on the contrary, are consolidating the socialist social system.

Philosophical analysis is also making it possible to understand an important circumstance specific to socialism, which is that the absence of antagonistic contradictions enables society to become actively aware of its own mistakes, shortcomings, and miscalculations (without which major historical transformations being carried through for the first time cannot be made), and to correct them effectively.

Capitalist society also has its own mistakes and miscalculations, and it is sometimes capable of rising to awareness of them, at least in the person of individual progressive spokesmen. But radical changes are impossible under capitalism without class struggle, and without fierce, bitter resistance by the forces whose domination is menaced by qualitative changes of capitalist society.

We can therefore consider that a capacity for self-perfection, and qualitative transformation is a distinguishing feature of a society free of antagonistic contradictions (406).

The Direction of Development

417 *A Dialogue on the Direction of Development*

Development, as a special form of motion, is not only characterised by internal sources and form, but is also marked by direction. In order to understand in what sense one can speak of the direction of development, I resort again to a dialogue between Dialectician (*D*) and Metaphysician (*M*).

M. Materialist dialectics speaks of the direction of development. But it is not clear in what sense it employs this term.

D. What isn't clear about it?

M. Direction characterises the displacement of bodies in space. It is relative and depends on the position of the observer. If we were to stand back to back a car passing us would be moving ahead from your point of view, and back from mine. The concept "direction" is therefore inapplicable to development, and I claim that one cannot speak of the direction of development.

D. Your example only illustrates one meaning of the concept "direction". It is not applicable to more complicated forms of the motion of matter. One speaks, for example, of the direction of chemical reactions during which new chemical substances arise. One also speaks of the trend of biological evolution, during which new species arise. There is also the trend or direction of history which is manifested in the origin of new productive forces and relations of production, and of new classes and socio-economic formations.

M. What should be understood by the direction of development then?

D. By it I have in mind not spatial displacement but the formation of qualitative new phenomena. The direction of development is movement from the old to the new, which is an irreversible process. The new consequently cannot be reconverted again into the preceding old phenomenon.

M. My view differs from yours. Can we say that plants develop if, for example, every dandelion repeats one and the same stages in the main during growth? Everything is also repeated in the history of different

states. States arise, develop, and perish. The new states that arise on the ruins of old ones pass through the same stages except for certain details. It is a complex cycle. If one abandons the idea of cycle or circulation, one must not speak of new and old, but of different phenomena or stages of motion not linked with one another. It cannot be a matter of some trend of development. One can only speak of separate changes, but they are not directed anywhere and lead nowhere.

D. You understand the link of the old and the new in a too simplified way. It seems to you either that the new is a simple repetition of the old, or that there is a complete break between them. Dialectics, however, starts from the unity of opposites, from the simultaneous identity and difference of the new and the old, and affirms that the transition from the old to the new is governed by a special law. It is this law that determines the direction of any process of development in nature, society, and thought. And in order to understand it, we have to become familiar with several new categories and study their inner interdependence.

418 *The Spiral-Like Character of Development*

In order to comprehend the root opposition of the dialectical and metaphysical understanding of the character and direction of development, let us consider an example.

Take a point on the circumference of a circle and begin moving clockwise from it. When we have retraced the circle, all the points of the circumference will have been passed through more than once. In that sense everything is completely repeated in circular movement, and there is no point through which we have not passed before. On the other hand, if we take an arbitrary point on a straight line, and begin to move from it in either direction, we will never return to it. The connection with the old, i. e., with the starting point of the movement, will be completely lost. Both of these geometrical modes of motion can serve as graphic examples of the metaphysical conception of motion. From the metaphysical standpoint development is either like circular motion in which all stages are repeated, or movement in

a straight line in which repetition is completely absent, but there is also no mutual dependence of these stages. The link of the old and the new is broken and the past and present are not connected with the future.

The dialectical conception of development is best illustrated by motion along a vertical spiral. Take an initial position on one of the loops of the spiral, and make point A move upward from it along the spiral. In passing from loop to loop point A will, on the one hand, get further and further away from the starting position as if it were along a straight line, and will never return to it. On the other hand, with each loop it will pass through a position that in a projection of the initial one, a repetition of it as it were, but only a partial repetition and not a complete one. Development has a spiral character; there is always something new in it and at the same time there is ostensibly a return to the old. That is precisely how development proceeds in nature, society, and thought.

We call the most important concepts characterising the unity of two opposites, the appearance of the new and preservation of certain properties and characteristics of the old, dialectical negation and continuity.

419 *Dialectical Negation and Continuity*

The question of the role of negation in the process of development was most deeply developed in pre-Marxian philosophy by Hegel. Being an idealist, he examined the process of development of ideas. According to him the absolute world idea began its development, from a certain initial proposition that he called a thesis. The thesis, having undergone gradual quantitative changes, was ultimately converted into its opposite or antithesis. That was a qualitative leap and at the same time a dialectical negation of the initial proposition. The antithesis did not simply wipe out and annihilate the initial proposition, i. e., the thesis, but absorbed everything valuable contained in it. Further change of the antithesis again led to a qualitative leap, and completed a new negation, or negation of the negation, as Hegel called it. As a result of this second negation a third stage in the development of the absolute idea appeared. The idea

returned, as it were, to the initial proposition, but it was not a simple return. Hegel called what was obtained through the second negation the synthesis. The absolute idea was enriched as it were by everything valuable that had been in the preceding stages of development. The synthesis was a sort of return to the old, yet at the same time contained something new that had not been in the point of departure of development.

This abstract Hegelian argument contained three mistakes of principle. (1) It concerned only the development of ideas, and in general did not recognise development in nature. (2) All forms of development were fitted into three obligatory, necessary stages, viz., thesis, antithesis, and synthesis, although real development is much more complicated and may contain many successive negations and stages. (3) Development, having reached the final stage, ceased. And since development of the absolute idea was the standard for all other types of development, the Hegelian idealist dialectic forcibly fitted the whole diversity of developing processes into an abstract idealist formula consisting of three stages (which came to be called the triad).

What was this Hegelian scheme of development drawn from? And did it contain anything of value? The scheme was itself, in fact, an abstract depicting of the real process of thinking. Each of us has dozens of times witnessed how people who are interested in getting at the truth, and true knowledge of some object or subject, argue. One of them advances an initial proposition, hypothesis, or argument. The other objects, disputes, and puts forward his own arguments and surmises. Ultimately, by raising objections to one another, and at the same time trying to bring out everything of value in the other person's views and arguments, the disputants may come to a common conclusion, through successive negations of the points of view advanced, a conclusion that contains everything valuable and correct that has been clarified and established during the discussion. That, in fact, is the mode of reflection and understanding; it got an idealist reflection in Hegel's triad.

Marx, Engels and Lenin rejected Hegel's idealism, and with it the idealist doctrine of the triad, but at the same time they were able to retain and develop materia-

listically what there was of value in the doctrine of dialectical negation.

What is *dialectical negation*?

It is a process by which *an old quality is not completely abolished, but what is most valuable and essential, and capable of ensuring further development of the phenomenon, is preserved, and affirmed, and becomes part of a new quality.* A dialectical negation thus takes place during a qualitative transition. It differs at bottom from mechanical annihilation. A seed, for instance, that is planted in suitable, favourable conditions, grows, and is converted into a stem and a growing plant. This is a negation, but the seed does not disappear as a result of it. All its elements capable of development, for example the molecules of desoxyribonucleic acid (DNA), which control inheritance and the mechanism of growth, have passed into the plant, and into its cells, and are included in the effective process of life activity. On the contrary, a seed that is dropped between millstones is converted into flour, is annihilated mechanically, and cannot take part in the further development of a plant. That is how matters stand with dialectical negation in society and thought. During the socialist revolution in Russia, for example, a cultural revolution was also carried through, as a result of which the culture of socialist society replaced that of capitalist society. Although this new culture differed in content from bourgeois culture, it did not arise through complete abolition of all the cultural achievements of the past, but through preservation of everything valuable, advanced, progressive and viable that had been created by culture throughout preceding formations. The highest achievements of literature, music, painting, and social thought of the past were taken into the new, socialist culture, and were developed further in it. But history also knows cases of the mechanical destruction of cultures. The Spanish conquistadores completely destroyed the ancient states of the Incas and Aztecs, and wiped out their culture; its development stopped completely. An example of dialectical negation in science is the transition from Euclidean geometry to non-Euclidean (115). Non-Euclidean geometry negates quite a number of the propositions of Euclidean geometry (for example

the theory of parallel lines, of "rectilinearity" of space, etc.), but at the same time does not reject it as a whole, does not abolish it or declare it false, but incorporates part of its basic propositions and axioms as very important basic principles.

In any process of development there is not just one dialectical negation but a host of successive ones. In fact *each new transition from one qualitative state to another is a dialectical negation of the preceding stage in which everything valuable and viable is preserved, retained, and incorporated in the new quality in a transformed form. This preservation or retention is usually called continuity.* Each new dialectical negation can be pictured as a new loop of a spiral (418). Continuity is consequently not a simple repetition of the old, and is not its mechanical abolition. It signifies the unity of two opposite properties, viz., preservation of the valuable and viable and rejection of what has outlived itself and is preventing development. The concept "continuity" is consequently an important philosophical category that reflects the link between the difference of the old and the new in any developing phenomenon. The fact that dialectical negation is a many times repeated process is clearly traceable in all quite long processes of development.

Consider, for example, Mendeleev's famous table of chemical elements. They are distributed at the intersections of several rows and columns. The atomic number of an element is determined by the positive charge of its nucleus. Starting at the second row we notice the following pattern: scanning from left to right, from lithium to fluorine, metallic properties diminish, and consequently the capacity to form alkalis, and haloid properties increase, and consequently the capacity to form acids, as the atomic number of the elements in that row increases. There is, as it were, a negation of some properties and a growth of others. The last element in the row, neon, is an inert gas that does not enter into chemical compounds in standard conditions, and is, as it were, a complete negation of chemical activity. The next row begins with a clearly expressed metal, sodium, that is to say with a negation of chemical inertness, and along the row there is a consistent negating of

metallic properties and growth of haloid ones. The row is again completed by an inert gas, argon. This process of change of chemical properties continues with certain variations.

Repeated negation is also met in history. Each socio-economic formation is a dialectical negation of the preceding one. During social revolutions old social relations, the economic system, and the superstructure are broken up, but at the same time separate elements of them are preserved, for example, technique, separate elements of law, culture, science, and art, and so on, which are incorporated in reworked form in the structure of the new formation.

Thus, on each new loop or twist of the spiral of any developing phenomenon or process, the new arises, the old is broken up, and at the same time dialectical reproduction occurs; there is continuity of everything valuable that was created by the preceding development, and further advance is ensured. The dialectical unity of negation and continuity in manifested, and the creative function of dialectical negation revealed in that.

420 *Possibility and Actuality*

The new phenomena or processes that arise through dialectical negation of the old are not created in a vacuum. Their preconditions, foundations, and conditions are built up and exist in the preceding phenomena and processes. The aggregate of these preconditions and conditions, which have not yet led to the creation of a new phenomenon, are usually signified by the concept "possibility". The process itself, which already exists, and is arising, functioning, and developing, is signified by the concept "actuality" or "reality". *Possibility and actuality are two closely linked concepts that mutually supplement each other, characterise the most important features of any process of development, and are therefore treated as a pair of categories of dialectical materialism.*

For any possibility to become a reality, this process must conform to certain objective laws of reality, and all the conditions necessary for it must be present. If these conditions are absent or lacking, the possibility is abstract and formal. As the necessary conditions are

created the abstract or formal possibility is converted into a concrete or real possibility.

Most plants produce a huge quantity of seeds. But there is only a formal possibility that all the seeds of a given plant (e. g. dandelion) will grow and in turn produce new seeds. This possibility fully conforms to the biological laws of reproduction, but the conditions necessary for it to be converted into reality do not exist. The seeds may not find favourable soil, they may be eaten by birds or insects, they may be killed by weed-killers, and so on. If all the necessary conditions existed the progeny of one dandelion would cover the whole world in a few years.

The transition of possibility into reality is a process of successive dialectical negations. Abstract, formal possibility is converted into concrete, real possibility, and the latter into reality. Reality in turn gives rise during its development to new possibilities, abstract to begin with, and then concrete, which may grow into a new reality, given the existence of certain causes and conditions, and so on. This can be readily seen from the example of biological development and the creation of gene engineering. The genes that form the molecules of DNA, and govern the heredity of living organisms, can be combined by various means. There is therefore always the possibility in nature itself for new hereditary traits to arise and become consolidated, and consequently for the genesis of new species. But for that possibility to be converted into reality a set of conditions is required that have been developed in the course of biological evolution, during natural selection and the struggle for existence. The full set of the conditions needed for the origin of new species does not always exist, so that new species do not often appear in nature. With the rise of gene engineering people have learned how to control inheritance and even to create new species. The possibility of "constructing" new species has been converted into reality in our day. New micro-organisms, plants, and new species and breeds of animals are being created. And this is opening up unheard of new possibilities. The old mode of species-formation, that has existed for millions of years, is being negated, as it were, but this negation is not full, and is not abolition. It is dialectical,

since it is based on a mechanism of the combination of the elements incorporated in DNA created during the development of nature.

The dialectic of the possible and the real is manifested particularly graphically in social development. The transition of the possible to the real in it, and the creation on its basis of new possibilities, are linked with people's conscious activity. Let us examine this from the example of Lenin's analysis of a revolutionary situation.

421 *The Dialectic of the Possible and the Real in a Revolutionary Situation*

The possibility of a socialist revolution is governed by the development and sharpening of the internal contradictions of capitalism, primarily the contradictions between capitalist private property and the social nature of the productive forces. When this contradiction reaches maximum sharpness the objective conditions build up for a socialist revolution. They are manifested in increased exploitation of the workers, in deterioration of the living conditions of the country's population, in a marked exacerbation of class contradictions, the rise of various economic difficulties, and an increase in crisis phenomena in the whole intellectual life of society. All that leads to growth of the masses' revolutionary spirit, which is accompanied with a steep rise in their political activity. The aggregate of all these objective conditions is evidence that the concrete, real possibility of a socialist revolution has developed. This possibility is known as a revolutionary situation. But objective conditions for converting the possibility of revolution into revolutionary reality are not enough. To convert a revolutionary situation, i. e., the possibility of revolution, into a real revolution there also has to be a developed revolutionary consciousness, and revolutionary activity corresponding to it. That not only means awareness of the reasons leading to the revolutionary situation and of the fact that development of society, and improvement of the life of the working people, are impossible without a revolution, but also, and even more important, it means development of a positive programme indicating what must be done, how it is necessary to build a new

life, and in what conditions to build a new society. The objective factor of a revolutionary situation must thus be supplemented by a subjective factor, viz., revolutionary awareness and revolutionary organising activity. Only a Marxist-Leninist party of a new type can develop this consciousness and realise this organising activity during the maturing of socialist revolution. The first party of this type was the Bolshevik party founded by Lenin and his associates.

The Bolshevik party, which led the revolutionary struggle of the Russian proletariat and working peasantry in October 1917, was able, making use of the concrete revolutionary situation, to convert the possibility of a revolution into a real socialist revolution that became the beginning of a new stage in the development of humanity. That revolutionary process is a graphic example of the dialectic of the possible and the real in social development.

422 *What Is Social Progress?*

Something new thus constantly arises in the course of social development, and the old dies away. What had previously only been possible is converted into reality and, on the contrary, what had been reality is modified or dies away, making way for new possibilities. The succession of all these states is usually called the development of society. But the question arises whether it entails any improvement of people's life or only brings suffering and misery. It is not quite simple to answer that seemingly simple question. In fact, when asking whether the development of society improves the life of man, we need to have clear criteria, and a clear definition and generally significant understanding of what we consider good and what bad, of what happiness and misery consist in, what we must strive for and what we must resist in our personal and social life.

The Greek poet Hesiod (c. 7th century B. C.) proclaimed with sorrow that the golden age of humanity lay in the past. The silver age, too, was gone. The harsh iron age came, and everything was going to the dogs. Force, evil, and injustice had increased. Worthy people were ruined, and the unworthy had become rich. The honest were oppressed, and the dishonest were at the helm. It

is not difficult to understand Hesiod's pessimism. He lived in the age of the break-up of the old clan relations, when the former clan nobility were ruined, many free and independent people had become dependent, and private property had opened the way to the pinnacles of power to the richest and power-hungry rather than the most worthy.

Each time when some social system has fallen into decay, its ideologues and defenders have denied progress and insisted that everything was going to the dogs. But it would be wrong to think that the spokesmen of classes and social forces interested in establishing a new social order have always been prophets of social progress. The eminent French enlightener Jean-Jacques Rousseau was an ideologist and spokesman of the French petty bourgeoisie and because of that one of the most resolute theorists and prophets of the bourgeois revolution. At the same time, when answering whether the advance of science improved morality, he affirmed that the rapid growth of scientific knowledge did not promote strengthening of the moral image of society. Why did he think so? Because, while being a contemporary of rapid development of science and spread of enlightenment, he could not shut his eyes to the fact that extreme dissoluteness and moral laxity prevailed among the upper classes of eighteenth-century French society. Linking these two circumstances, Rousseau assumed, not without grounds, that progress in the one field did not exclude decline, i. e., regress, in the other. The dialectic in his arguments, that Marx so highly valued, was manifested in just that.

Social development in fact includes a constant strengthening and growth of some tendencies, i. e., of elements of progress, and just as constant a weakening and even disappearance of others, i. e., elements of regression. At each separate stage there are both progressive and regressive processes. On the one hand the automation and robotisation of industry increases productivity of labour, releases some of the labour force, promotes rapid reorganisation of production, and frees people from monotonous and heavy work. In that sense it is a progressive phenomenon. On the other hand, however, this same process leads to the disappearance of a number of

industrial skills, and of a number of trades, and under capitalism to an increase in unemployment. In that sense the phenomenon proves to be regressive.

What are the criteria of progressiveness? It is sometimes said that productivity of labour is one, or an abundance of material goods, or freedom to move about within a state, and free exit from it. But none of these taken separately is a criterion and condition of the progressiveness of a society and of social development as a whole. When intensification of labour goes hand in hand with intensification of exploitation, mass unemployment, and danger of loss of work, there is nothing progressive in the process; when vast material wealth is accessible to some members of society while others are doomed to hunger and poverty, the creation of this wealth is also not a criterion of progressiveness; and when the unemployed or homeless person can wander about in search of work and a home that is not evidence of his/her freedom.

From the standpoint of historical materialism the criterion of social progress should be the development of material production, improvement of people's living conditions, all-round flowering of each creative individual, a rise of spiritual culture, and the creative character of work. All trends and processes in social development that correspond to this criterion are objectively progressive. The moments and processes of social development that block attainment of these historical goals and do not correspond to the criteria of social progress are regressive.

There are progressive and regressive stages in every socio-economic formation. And the progressive and regressive tendencies exist and interact at every stage. But on the whole, when things are regarded on a broad enough historical scale, mankind moves toward the attaining of greater freedom and fuller and more all-round development of the individual. This road is complicated, contradictory, and dramatic. But when mankind has made the transition to socialism and communism, that will ensure the conditions for continuous progressive development, in which objective historical laws and patterns will be realised (606, 607, 609).

423 *The Dialectical Law of the Negation of Negation*

Let us now formulate the main propositions of the dialectical law that determines the direction of development in nature, society and thought.

By a tradition stemming from Hegel (419), this law is called the negation of negation. But we must remember that materialist dialectics regards it not as a pair of mutually exclusive negations, but as a limitless process of development in which dialectical negations open the way from the old to the new and at the same time ensure the link of the new with the old, and continuity between them. The main propositions of this law are the following.

(1) The new, which did not previously exist and which is the dialectical negation of the old, is constantly arising during development.

(2) Everything valuable and viable is preserved during negation and is included in the new in transformed shape. Only a certain part of the old, which has outlived itself and is blocking development, is eliminated.

(3) Development includes certain return to and repetition of already passed stages, but at a new, higher level, and therefore has a spiral, rather than a circular or rectilinear character.

(4) During the transition, in the course of development, from the old to the new there are objectively progressive and regressive tendencies. Whether the type of change of the phenomenon as a whole will be progressive or regressive, depends on which of these dialectically related tendencies will be dominant.

When we compare the law of the negation of negation with the other basic laws of dialectics, the deep link uniting them will readily be noted. This comes out clearly when we compare such categories as "resolution of contradictions", "qualitative leap", and "dialectical negation". Any qualitative leap is essentially a resolution of the main inner contradictions of the phenomenon. In the same way a dialectical negation indicates that there is a moment in the leap-like transition from an old quality to a new one of preservation or continuity, as well as one of annihilation and destruction. The categories by which the law of the unity and struggle of

opposites, the law of the transition of quantitative changes into qualitative ones, and the law of the negation of negation are formulated are linked with one another in a very profound way, since they reflect the most characteristic traits and attributes and special features of any developing phenomenon from different aspects and from a different angle.

The main laws of dialectics provide exhaustive knowledge of the sources, form, and direction of development, and that is determined by their inner unity.

Dialectics, being a theory of the most general laws of development in nature, society, and thought, also has immense practical, social, and political significance. To master dialectics means to regard all phenomena in their inner, mutual connection, and their mutual causality. Whoever treats the problems arising in practical life in isolation will approach them like a metaphysician. Interconnected problems and tasks must also be treated as in continuous motion and development, because life itself, i. e., reality that gives rise to them, is changing and developing. Dialectics teaches us not to ignore the contradictions of life but to find them, to uncover them and promote their resolution, because resolution of inner, basic contradictions is the genuine source of any development. When we come up against gradual, at times insignificant, qualitative changes, we must constantly bear in mind that they will sooner or later lead to radical qualitative transformations. At the same time, the emergence of qualitatively new phenomena does not signify complete elimination of the old. Everything valuable and viable created by the preceding development is preserved and further developed in the leap and the dialectical negation. Lenin taught that one of the most important tasks of correct, scientific, political leadership of society was to know how to see the shoots of the new in the old and support them in good time, and to help them develop and come out on top.

Chapter V
THE THEORY OF KNOWLEDGE

In the previous chapters I examined the materialist answer to the first aspect of the basic question of philosophy and explained how consciousness arose, what its features are and how the interaction of social being and social consciousness is manifested in historical development. Now I must pass to the second aspect of the basic question, i. e., to how we know the external world, and how we check the correctness of our knowledge of nature, society, and thought.

The Dialectics of Knowing

501 *What Does It Mean to Know?*

Modern man has extensive knowledge and possesses the most varied skills. Some know how to work automatic machine-tools, others know how to build space vehicles and to fly in them. Others still are able to disintegrate the atomic nucleus and utilise its energy. By comparison, say, with the end of the last century our knowledge has grown tenfold, to judge only by the number of books published and by the number of articles in scientific journals. Everybody is well aware that knowledge, especially scientific knowledge, is an important motive force of industry. Only by means of it can the acute contradictions between nature and society be eliminated and society itself rationally transformed, and human life be made more interesting, healthy, and intelligent. But far from everyone can say what knowledge is, how it arises, where its sources are, and how to distinguish correct knowledge from false and incorrect,

and whether we have guarantees that we are able in general to know ourselves and the world around us.

Five hundred years ago people believed that Earth was the centre of the world and that the planets and sun rotated around it. Now every boy and girl knows that Earth and the other planets rotate around the sun. But our everyday observations still tell us that the sun rises in the east and sets in the west. Until the end of the nineteenth century scientists considered that atoms were the tiniest indivisible particles of matter; 30 years ago they thought that elementary particles were indivisible. We now know (104) that these notions, too, were untrue. Elementary particles also have an inner structure. Before the flights to the moon many scientists thought that it had originated through the breaking away and escape of a huge fragment of an incandescent mass from Earth through the effect of some gigantic celestial body passing close to it. The data obtained from the moon have shown that the old hypotheses were unsatisfactory and call for additional investigation in order to get a truer idea of its origin. All that forces us to ponder whether there is any firm and reliable knowledge whatsoever. Today we think we know certain phenomena well, but tomorrow it may prove, as has happened many times in the past, that our knowledge is mistaken. The answer to what knowledge is is not simple; that idea was well formulated by Goethe's Faust.

Yes, of the kind which men attain!
Who dares the child's true name in public mention?
The few, who thereof something really learned,
Unwisely frank, with hearts that spurned concealing,
And to the mod laid bare each thought and feeling,
Have evermore been crucified and burned.[1]

You will clearly notice, in these lines, that knowledge, specially when it undermines fixed prejudices, contradicts the ideologies of the classes dominant in antagonistic society, and the religious world outlook, or substantiates the need for social reforms, often gets a hostile reception, and provokes keen resistance by the opponents

[1] I. W. Goethe. *Faust*, Translated by B. Taylor. N. Y., Grosset & Dunlap, p. 50.

of social progress. We know that clericals burned Giordano Bruno, who preached the doctrine of Copernicus, and Servetus, who discovered the lesser circulation of the blood, at the stake, and that reactionaries of all hues persecuted Darwin's theory of the origin of man, and that the coming to power of fascism was accompanied with persecution of progressive scientists.

What knowledge is, how it arises, how it changes and develops, how its correspondence to objective reality is established—none of these is an idle question. The answer to them is a very important and specific task of philosophy since other disciplines are not concerned with studying the special features of cognition. The theory of knowledge, or epistemology (011), is the branch of philosophy that answers these questions.

502 *Cognition as Reflection*

All materialists agree that cognition or knowledge is a special form of reflection of reality. What is this feature? We already know (118) that reflection is a universal property of matter. But it does not follow that there is knowledge at all levels of reflection. Knowledge arises only with the origin of man.

All the knowledge we dispose of relates either to certain phenomena and processes, or to certain actions and forms of human activity. When we speak of the need to add or multiply two numbers, we have to know not only what a number is, but also how to perform the operations of addition or multiplication. When we begin to erect a building we have to know not only what bricks, structural members, etc., are, but also how to perform building work.

Knowledge is always expressed in language in the form of separate words and word groups, by means of which concepts are formulated, and also in sentences and propositions by which the properties of objects and of various forms of human activity, and the relations between them, are described. Such-and-such a sentence may also describe one's inner sensations or mental processes. There is no external likeness or similarity between the separate words, word groups, or sentences, on the one hand, and the phenomena of the external world, on the other, that could be established by the sense organs.

Therefore, when we say that our knowledge reflects reality, we have in mind the special correspondence of concepts and judgments (statements) to phenomena of the external world and certain actions performed by humans. This means that certain phenomena, processes, or forms of action correspond to quite definite concepts. It also means that we can describe and recognise quite definite properties of phenomena and processes of objective reality, and the relations between them, by means of certain statements. And finally, it means that, when formulating certain rules of action, and giving or receiving orders and instructions, we know (understand) what acts and actions must be or must not be performed so as to achieve such-and-such an end. That is the sense of the statement that our knowledge is a reflection of objective reality.

Knowledge does not exist in or by itself. It is the result of a special process, that of cognition or knowing, or of man's cognitive activity. Consequently, in order to understand the essence of knowledge more deeply and correctly, and to answer what it means to know, it is necessary to study *the process of cognition, its sources, and the main stages* in which human knowledge is formulated and created. It is also important to understand how the correspondence of our knowledge to objective reality is tested and confirmed, and what one has to do to make this correspondence deeper and fuller.

503 *A Talk about the Sources of Knowledge*

Philosophers have been discussing what are the sources of knowledge, and what knowledge of reality begins with, since ancient times. Materialists like Democritus and Epicurus considered that knowledge arose as a result of the impact of material atoms on our sense organs. The idealist Plato suggested that man was shut up, as it were, in a cave in front of which figures floated that threw a shadow on its rear wall. Seeing these shadows, which we identified with material things, we tried to recall and re-establish the figures that threw them, i. e., ideas. It was these eternal and unchanging ideas that were the source of knowledge according to Plato. In modern times two trends have been distinctly formu-

lated, viz., empiricism and rationalism. Supporters of empiricism considered the source of knowledge to be sensations and the experience based on them. Rationalists suggested that knowledge was born by human reason itself, by the very capacity to think allegedly initially inherent in man. Sensualism is closely linked with empiricism; its spokesmen often denied the significance of theoretical and abstract forms of knowing, and reduced all knowledge to sensation. There were many materialists among sensualists who considered that sensations were caused by the external world, but the extreme forms of sensualism, which assumed that the sole reality was sensation, led directly to subjective idealism and agnosticism (010, 011). In order to familiarise ourselves with the arguments of empiricists and rationalists, let us listen to a talk between imaginary persons who express the standpoint of rationalism, empiricism, and dialectical materialism.

Empiricist (E). Any normal person, when asked how he knows a rose is red and smells sweet, will cite his sensations. I see a red flower and sense its aroma. Sensations are consequently the true source of knowledge.

Rationalist (R). But surely we are not only dealing with what can be sensed and observed. Where do we get knowledge, for example, of the fact that the sum of the angles of a triangle is equal to two right angles, knowledge of elementary particles, or knowledge of the laws of social development? We cannot see them, smell them, or feel them.

E. We can draw several different triangles, measure their angles several times, and then generalise and formulate a theorem about the sum of the internal angles. As for elementary particles, we see the readings and evidence of various instruments and call the sum of them in one case an electron, in another a proton, and in a third case a positron, and so on. Only sense impressions from the pointers of instruments really exist, and the concepts "electron", "proton", etc., are only words signifying these sensations. As for the laws of social development (for example, of class struggle), they too are concepts that generalise diverse sense impressions. People build barricades, go on strike, demonstrate, and in doing so experience certain sensations

and impressions, and call them by the words "class struggle", etc. These words have no other reality, and that should be honestly recognised.

R. But then we prove to be simply the prisoners of various sensations. Surely there will be many mistakes among them. We know that there are various hallucinations, optical illusions, mistakes of hearing, etc. If we believe all that we will constantly fall into contradictions. How then can we distinguish true sensations from false ones? Surely, how can one check some sensations by others, just as unreliable?

Dialectical Materialist (D. M.) (joining the dispute). One must add that there are many statements and concepts in science and everyday life that cannot be reduced in any simple way to sense perceptions and sensations. In physics, for example, we speak of the velocity of light equal to 300,000 kilometres a second. We can understand what that is, but we are unable to sense such a speed since our sense organs are not adapted to it. We know that colour-blind persons cannot distinguish red from green, but you and I distinguish them. Whose sensations should be believed? In mathematics theorems about figures in multidimensional space are demonstrated, but although these theorems are quite exact, it is impossible to create a sensory image of such space.

E. But what significance do such theorems have, if they are not reducible to sensations?

D. M. Important practical results can be obtained through them and by means of many other statements irreducible to sensations, and physical and chemical processes can be controlled by means of them. The same also happens in the social sciences. If the concepts "class struggle" and "laws of social development" were simply names for a set of sensations, it would be easy to get rid of them by altering the impressions and sensations. But the point is that class struggle and the development of society occur independently of the will and consciousness, sensations and impressions of separate people.

R. In that case I suggest that the source of our knowledge should be taken to be human reason.

E. What does that mean?

R. We must recognise that man has an inborn capa-

city to think. He is able to discover the basic, profound knowledge of the world put by God or nature into his mind. Descartes, for example, considered that God created this knowledge, while the materialist Spinoza considered it the result or outcome of material substance. However that may be, when we find, invent or discover knowledge, we can deduce everything else from it by the laws of logic, and then check it by experiment or observation in so far as it relates to the world. The main thing is to derive knowledge bit by bit, step by step, consistently and consecutively, without missing anything.

E. But surely any fairytale can pass for science that way. It's enough to talk consistently and logically about wizards, witches flying on broomsticks, and so on, and to say that you saw your initial knowledge in your mind, to accept any fiction or invention on faith.

R. But surely I spoke about checking by experiment and observation.

E. You are inconsistent in that, for you yourself said that sensations, and consequently observations based on them, can be deceptive. I don't see what advantages rationalism gives.

D. M. Both your points of view are one-sided, and they can both lead sooner or later to idealism. By affirming that the sole source of knowledge is sensation, empiricism gravitates toward idealism and agnosticism (010). It may turn out that there is nothing behind the sensations, and the material world disappears. Rationalism too leads to objective idealism, because it recognises the existence of eternal, inborn knowledge that does not depend on real social conditions or on people's previous experience and practical activity.

E. What do you suggest?

D. M. Both points of view are the result of a metaphysical divorce and counterposing of sensory (empirical) and rational knowledge. But the main mistake is that you ascribe a simplified two-member form to all knowledge, viz., "man—the world opposed to him", and you do not see any link between the two members. In fact, however, there is a complex link between man and the external world, which is manifested in a special human activity, viz., practice, the basis of which is material production, and activity with things and tools. It is practice

that is the basis and source of our knowledge, and the means of checking its correctness. To convince ourselves of the truth of this point of view, we have to examine in more detail how knowledge comes about, i. e., what role sensation plays in it, how abstract concepts and knowledge arise, and what role people's material activity plays in this process.

504 *The Role of Sensation in Knowing*

Sensations arise through the action of objects of the external world on our sense organs. Let us consider this process from the example of the formation of visual sensations.

Sunlight, which is a flux of electromagnetic fields (photons) that have a certain energy, strikes some object (an apple, say), and is partly reflected from its surface, and partly absorbed by it. The rays reflected from the surface of the apple strike our eye. The energy of the reflected rays is altered according to the physical and chemical structure of the surface. In the eye they again undergo a number of conversions and transformations. The light waves are refracted in the lens according to the laws of optics, and leave an impression of the objects from which they are reflected, a hundred or even a thousand times weaker. The cells of the retina pass bioelectric impulses along nerve fibres, and these cause a special transformation in the cells of the visual centre of the brain, a result of which is various visual sensations of light and shape. These sensations are united into a whole, or are synthesised into what we call a visual image of the object (e. g., apple).

Reflecting on the way a visual image arises, we come to the following conclusion: a visual image exists in one's brain; consequently it is subjective. It arises as a result of numerous transformations and conversions of material light waves reflected from the surface of an object. The waves are focused into special bioelectric impulses that are again transformed into colour and spatial geometrical sensations in the cells of the brain. As a result the image contained in the brain corresponds strictly to the object, and helps us distinguish it from all other objects. In that sense we say that a visual sensation is a reflection of an objective thing. Lenin pointed

out, when characterising the role of sensations in knowing, that they are "a subjective image of the objective world",[1] and at the same time a "transformation of the energy of the external excitation into the fact of consciousness".[2]

Another important conclusion is that the character of sensations depends not only on the organisation of the visual apparatus, i. e., on one's eye, and not only on the peculiarities of the object, but also on their interaction, which itself is realised in the form of practical material activity; without the latter it does not lead at all to the forming of a proper or correct image of the thing. The picture of a high building on the retina occupies only a few millimetres, while our brain, in making a visual image of this tall edifice, automatically and unconsciously correlates it with other objects, and we get a correct idea of its dimensions. This capacity of the brain is not inborn. A baby does not have it. It is developed in the course of long practical training through personal experiment and social practice.

Here is another example. A person in a dark room is shown a burning candle, without warning, by means of a film. The tongue of the flame, and the smoke, are pointing down, but the brain, in which the necessary information has been previously stored, automatically "corrects" the film's "mistake", and the person sees a normal, customary picture of a candle with a rising flame. Steeplejacks and people who have been raised to a great height determine the dimensions of things on the ground differently. The inhabitants of forests and of prairies perceive spatial distances differently. That does not depend on the structure of the organs of vision, but on the personal and social practice, and culture of perception that they have assimilated with education and during their lives.

What can one now say about the role of sensations in knowing? Sensations are a subjective image that reflects the objective world. This is not a simple mirror image, however, as empiricists think, but a very complex

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[1] V. I. Lenin. *Collected Works*, Vol. 14, Progress Publishers, Moscow, 1963, p. 119.

[2] *Ibid.*, p. 51.

process of rèflection that includes several qualitative transformations and dialectical negations. Sensations give us initial information about the reflected objects. But this information does not depend only on the features of the objects and our nervous system. One's experience, social practice, and all our historically formed culture that generalises historical development make an important contribution to the shaping of sensations. This thesis of dialectical materialism is of fundamental importance for understanding the role of sensation in the process of cognition.

505 *The Role of Abstraction in Knowing. The Method of the Ascent from the Abstract to the Concrete*

Man cannot only make use of sensations and sensory images in his activity. They are clearly not enough for understanding and even more for transforming the world. But why? (1) Because we cannot pass our sensations on to other people, although we can talk about them; and we are not able to sense images existing in the brains of other people, although we can know about them from conversation or from reading books. (2) In both everyday life and in science we come across knowledge of a kind that cannot be obtained or developed by means of sense perception, i. e., through sensations. We cannot, for example, see, hear, smell, or touch a number, a historical process, matter, etc., although we can see two apples, be witnesses of historical events like war or the launching of the first artificial earth satellite, or touch and smell a certain material object, for example, a flower or a cup of coffee. In order to develop complex knowledge of the world as a whole, and of the processes taking place in it, and to pass on, store, and create new knowledge, we need concepts (101) and the logical processes connected with them. What relation do these forms of knowledge have with sensations? How do they arise?

The business of creating concepts is often called abstraction, and concepts are often therefore called abstractions. Abstraction takes place in several stages. In the first a sort of grouping of the various objects that give rise to similar sensations and sense images in

us takes place. A ripe apple, a carnation, a carrot, and the blood of a mammal have a common property, in spite of all their differences, by which a similar colour sensation arises in us, namely red. We abstract all the differences that distinguish one object from another, i. e., discard all the differencies. In the second stage we equate, as it were, or identify the various nuances or varieties of one and the same trait. We can, for example, identify all the shades of one and the same colour. By comparing the relation between a worker John and a factory owner Smith, between a tenant Franz and a landowner Müller, between a fisherman Jacques and the owner of a cannery Donge, we can abstract the differences in age, character, nationality, language, etc., and single out what is common, namely that one man makes a profit from the work of the other. The size and form of the profit, and other details do not interest us here. We are comparing and identifying only the type of social relations. In the next stage we consolidate the properties and relations distinguished in "pure", ideal form, so to say, in which they are perhaps not met either in nature itself or in society. This stage is therefore sometimes called idealisation. Finally, in the fourth stage, the properties distinguished and singled out are consolidated in language. This is the stage of denomination. A name is given to the property by means of a separate word, or a group of words. So a concept expressed in language arises. The set of objects to which it refers forms their meaning, while the property or relation consolidated and reflected in the concept forms their sense. The sense of the concept "red" is the capacity of light rays of a certain energy to evoke a quite definite colour sensation in us. The meaning of this concept is the objects that reflect rays of that energy. The sense of the concept "exploitation" is the extraction of profit from other people's work; its meaning is a certain type of relations of production.

Like sensations, abstractions are a reflection of objective reality. In real life they are developed and refined over a long time. They are based on sensations and sense images. But abstractions, in contrast to them, not only, and not so much, reflect the external, sense-perceived aspect of material things and processes, as

their inner connections and relations not accessible to direct sense perception. That is why Lenin also said that abstractions reflected reality more deeply, more truly, and more fully. And he saw their main purpose in that.

In what way do abstractions or abstract concepts help us understand the inner, deep links of the phenomena and processes around us?

Things in the real material world have an infinite set of properties, aspects, and connections. Each abstraction taken by itself reflects some one link or connection, or property, for example colour, shape, the causal dependence of one phenomenon on another, and so on. Taken separately, however, these properties or connections are reflected with maximum fullness and exactness. In order more deeply to know real material things that have an unlimited number of connections and properties, i. e., to reflect them in our consciousness, we have to unite the separate abstractions, and joint them together in a certain way in a new *concrete* concept that provides the fullest knowledge of a *concrete* thing for its time and age. A *concrete concept, consequently, is a kind of sum or aggregate of various abstractions, or abstract concepts, that reflect certain properties, aspects, and relations of an object.* As our knowledge that reflects the external world develops, concepts become increasingly concrete. The concept of the moon, for instance, was very abstract in the time of antique astronomy. It included several attributes: the Moon rotated around the Earth; its disc was a little bigger than the palm of the hand; it shone at night. In the nineteenth century, thanks to the development of astronomy, and the making of optical telescopes, the presence of mountains and craters on the Moon was already known, its real size had been calculated, its distance from Earth established, its influence on tides clarified, and so on. In our day, through the landing of automatic moon rovers, and man, on the moon, our information about lunar soil, and its chemical composition, and many other of its characteristics has been greatly increased. The concept "moon" has become much richer, more full of content, and more concrete than it was 100 or even 20 years ago. The development

of science is always accompanied with growth of the concreteness of scientific concepts.

It is necessary to differentiate and not confuse concrete things and concrete concepts. The former exist in objective reality itself, outside and independent of consciousness; the latter are the result of people's cognitive activity. Concrete concepts arise through consistent, consecutive supplementing and refining, extension and synthesis of separate abstractions that reflect various aspects and connections of concrete things. The transition from separate abstractions to concrete concepts is called *the method of ascent from the abstract to the concrete*. This ascent is not haphazard but proceeds according to certain rules and laws. The most important of these is the requirement that the link between the separate abstractions that make up a fuller, more exact, and more concrete concept, should reflect the objective, real connection between the properties, and characteristics of the phenomena and processes reflected in the concrete concept. When this link corresponds to the real connection of the properties and characteristics of the studied phenomenon or process, we get a very true, deep knowledge corresponding to objective reality itself.

Concepts are consequently not inborn or innate in man, or created by God. They arise historically and are shaped through abstraction. They are based on sensations, and their means of material expression is language. The process of abstraction also includes certain elements of fantasy and creativity. When abstracting certain attributes, and singling out and grouping others, we display a certain active attitude to reality that is guided by aims and tasks posed by life, and by objective needs arising in our production, everyday, and social activity. A concept therefore not only reflects objective reality but is also stamped by traces of human activity and creative activity capable of constructing concepts. When the creative activity comes into contradiction with the objective properties and relations of things, untrue concepts that reflect objective reality in a distorted, wrong way, can arise during abstraction. There is always a possibility of such concepts' arising, and in certain conditions it can lead to idealism.

Not every untrue concept or every mistake in abstraction leads to idealism of course. The concepts "green cat" or "good-natured triangle" are simply senseless. There is nothing corresponding to them in reality. Properties and attributes that are not connected in reality are mistakenly "stuck together" in it in a wrong way. Concepts that arise through a metaphysical separation of, or break between, separate properties that exist in objective reality, and this reality itself, lead to idealism. A person has a greater or less expectation of life, is better or worse informed about various things, has a certain physical strength, and so on. But it is enough to cut the property of being informed or of strength, or of expectation of life, off from real people, to exaggerate them to the extreme, and inflate them, for a fantastic concept of an omniscient, all-powerful, immortal being — a god — to arise. Similarly it is sufficient, when studying the moving matter, to separate motion from material bodies, to connterpose substance to energy, to separate time from space, for concepts of motion and energy, existing independent of matter and opposed to it, to arise; and that is a direct step to "physical" idealism, to a doctrine that the material world can disappear or simply not exist, given the eternity of energy, from which it follows that energy is immaterial, i. e., ideal.

The epistemological, i. e., cognitive, roots of idealism lie in its being possible for simplified untrue techniques to arise in the complex, dialectical process of cognition that lead to the formation of concepts that reflect reality in a distorted way and make it possible to think that ideas and concepts themselves exist independently of matter or precede it.

But the epistemological roots by no means necessarily lead in themselves to idealism. It is only a possibility of idealism. For idealism to actually arise and be consolidated certain social conditions are necessary, and certain classes and groups who have an interest in an idealist world outlook as the basis of their class dominance. These conditions are called the *social roots* of idealism. Figuratively speaking idealism is a sterile flower on the living tree of knowledge (which needs

both social and epistemological roots). Insofar as the social roots of idealism are extirpated through a transformation of society's life, the struggle against its epistemological roots is brought to the fore. To extirpate them it is necessary actively and consciously to master materialist dialectics and the Marxist-Leninist theory of knowledge.

507 *What Is Truth?*

We employ interconnected, not isolated concepts, in the business of knowing. The interconnection is made by means of statements and inferences, by which we assert or deny something about properties, relationships, or interactions in the world around us. The separate concepts "house", "location", "hill" tell us little about where our home is situated. The statement or expression "the house is on the hill", on the contrary, gives us the needed information. An inference or conclusion is a chain of statements so built that one of them follows from the others by the laws of logic. When we know the necessary address, for instance, we can construct the following inference: "If the house we need is on a hill, we will have to climb the hill". But the statements and inferences by which a person formulates very important and valuable information about the external world can also reflect this world correctly or incorrectly. In order to distinguish a statement that correctly reflects the world from ones that do not, we employ special concepts "truth" and "falsehood". What is truth? This is a very complicated question, and is one of the central problems of the theory of knowledge. It is answered differently in idealist and materialist philosophy.

Aristotle considered truth to be knowledge in which judgements about the external world were truly made. Subsequently many philosophers agreed truth is the correspondence of thought with reality, and of knowledge with what we know. But that formulation is held by both materialists and idealists, because, while answering the basic question of philosophy differently, they also understand the correspondence of thought and reality differently. The objective idealist Plato, for example, considered truth to consist in correspondence of our knowledge to eternal, invariant ideas. From his point

of view knowledge of the material world could not be true since the material world was inconstant and changeable. Truth, however, should relate to something eternal and unchanging. The objective idealist Hegel considered truth to be the correspondence of our knowledge to the absolute spirit, the absolute idea. The aim of human knowledge was full coincidence with the absolute idea, and truth, in his opinion, consisted in just that coincidence. Most materialists before Marx considered that truth consisted in correspondence of our knowledge to the objective material world. But the main difficulty arose in just that, namely how to check, how to establish this correspondence? If the means, measure, or criterion was sensation, then there were many difficulties, for sensation itself was deceptive. If the criterion of truth lay in human reason itself, then that sooner or later led to idealism (503).

Only dialectical materialism, which made a revolution in the theory of knowledge, put forward a fundamentally new theory of truth, its foundations, and its criteria. What is this theory?

The concepts, statements, and inferences by which we express our knowledge of the external world, and about ourselves, are not only a reflection of this world but also the product of our activity; consequently there is something in knowledge that depends on the person who works it up, i. e., on the subject of knowing. Insofar as our knowledge reflects the objective world it also has a content that does not depend either on man or on humanity as a whole, and consequently depends only on the objective world. *This content of our ideas and knowledge does not depend either on the individual person or on humanity as a whole, is called objective truth.*

The statement that water boils and is converted into steam at a temperature of $+100^{\circ}$ C at standard pressure is an objective truth. Although the fact that we measure the temperature on the Celcius scale and not the Fahrenheit or Réaumur depends on man, the fact of the boiling itself, and the conversion of the water into steam does not depend either on man or on humanity.

True knowledge, like the objective world itself, develops according to the laws of dialectics. In the Middle Ages

people thought the sun and planets revolved around the Earth. Was that false or true? The fact that man observed the movement of the heavenly bodies from a single "observation point", i. e., Earth, led to a false conclusion that the sun and planets revolved around the latter. One can see in that the dependence of our knowledge on the subject of knowing, but there was a content in this statement that did not depend on either man or humanity, but was knowledge that the heavenly bodies of the solar system moved. There was a kernel of objective truth in that conclusion. Copernicus' theory affirmed that the sun was the centre of our planetary system, and that the planets and Earth rotated around it in concentric circles. The proportion of objective content in that was much greater than in the former views, but by no means fully corresponded to objective reality, since the astronomical observations for that were lacking. Kepler, relying on the observations of his teacher Tycho Brahe, showed that the planets did not revolve around the sun in circles but in ellipses. That was much truer knowledge. Modern astronomy has calculated the trajectories and laws of rotation of the planets even more exactly. It will be clear from these examples that *objective truth develops historically.* With each new discovery it becomes fuller.

The form of expression of objective truth, which depends on concrete historical conditions, and which characterises the degree of its accuracy, precision, and fullness that has been reached at a given level of knowledge, is called relative truth. The whole development of human knowledge, including science, is thus a constant succession of some relative truths by others that more fully and exactly express objective truth. The process of cognition is a fuller and more exact knowing of objective truth.

Completely full, exact, all-round, comprehensive, exhaustive knowledge of a phenomenon is called absolute truth. It is often asked whether we can achieve and formulate absolute truth. Agnostics (010) answer in the negative. As proof they cite the fact that we are dealing only with relative truths, each of which, they argue, proves in time to be not quite exact and full, as in the example of the solar system. Full, exhaustive

knowledge, they say, is consequently unattainable. But that argument is mistaken and metaphysical. Metaphysicians think that absolute knowledge can be known and expressed at any moment of our activity once and for all. It often seems that absolute knowledge can be attained in very simple cases. Isn't the statement "Moscow is the capital of the USSR" absolute truth? But does that statement provide exhaustive knowledge of the size of Moscow's population, its area, and the number of its buildings, or of when it became the capital of the USSR, and so on? Even if such information were taken as of 1 January of this year, it would be inexact in a year or two. So we find that what is absolute truth at first glance is in fact relative truth since it does not contain full, exhaustive, once and for all true knowledge about Moscow. The more complicated any phenomenon is, the more difficult it is to attain absolute truth, i. e., full, exhaustive knowledge about it. Yet absolute truth does exist, and it is necessary to understand what is the limit and the goal to which human knowledge aspires. Every relative truth is a step bringing us closer to that goal.

It is wrong to claim that there are three types of truth, viz., objective, relative, and absolute. Relative and absolute truth are in fact only different levels or forms of objective truth. Our knowledge is always relative since it depends on the level of development of society, technique, the state of science, and so on. The higher the level of our knowledge the closer we come to absolute truth. But the process can go on endlessly, because we discover new aspects and properties in the world around us at each stage of historical development, and create ever fuller, more exact knowledge of it. This constant process of passing from some relative forms of objective truth to others is a most important manifestation of dialectics in the process of cognition. Each relative truth thus contains a proportion of the absolute. And on the contrary, absolute truth is the limit of an infinite succession of relative truths.

We now have the right to ask how objective truth is established, how it is checked, and from what it is drawn, and what enables us to distinguish true knowledge from false.

508 *The Role of Practice in Knowing*

The most important form of human activity is *practice.* It is *sensual material activity directed to transforming the world around us, nature and society, and underlies all other forms of social and intellectual activity including the process of knowing.* Consequently, *practice includes not only the labour process but also all people's society-transforming activity.* While we have so far regarded practice mainly from the angle of how it influences the development and perfecting of the capacity for human thought and social activity, we must now approach it from another aspect. *The most important revolutionary contribution of dialectical materialism to the theory of knowledge is comprehension and understanding of the fundamental role of practice in cognitive activity, and discovery of the fact that it is practice which makes this activity possible and enables true knowledge to be distinguished from false.*

The spokesmen of all schools and trends of philosophy before Marx did not understand the role of practice in knowing. Some of them considered reason the source of knowledge, ideas and principles either inborn or given by God. Others considered sensation the sole source of knowledge. We have already seen what insoluble difficulties and contradictions these views led to (503). Even the materialist philosophers before Marx, including Feuerbach, could not rise to understanding of the role of practice in knowing. They considered that knowledge arose from "pure" sensory sensations during passive observation and contemplation of reality. Marx saw the main shortcoming of contemplative materialism in its incapacity to understand the active, creative role of man as the subject of knowing. What does this role consist in? It lies in the fact that man does not simply observe or contemplate the external world, but changes and remakes it in the course of his life activity, above all by labour. It is thanks to this that the deepest knowledge of the properties and connections of the material world, including society, comes about, which would be simply inaccessible to human cognition if the latter were limited to simple contemplation and passive observation. Since human practice is fluid, changeable, and

constantly developing, the knowledge that we get in practical activity, becomes more complicated and exact, and develops. Practice, consequently, is not only the *source* that knowledge is obtained from, but is also the *basis* of its development and perfecting.

When discussing the role of sensations in knowing, we established that the formation of sense images of the objective world itself depended to a considerable extent on man's practical activity (504) and on culture as a whole. Practice consequently invades the process of knowing and already exerts an influence on it in the very first stages, at the level when sensory or empirical knowledge is being formed. Its influence on the forming of concepts and judgments is even more marked (505). For the very procedures of grouping objects by their separate properties, and of distinguishing and comparing these properties are a definite form of activity. It is mental, spiritual, or intellectual activity, of course, but it takes shape and develops under the impact and influence of activity with material objects, i. e., practice. When the process of forming concepts (abstractions), and of statements containing them, is completed and we have to decide which of the statements are true, and which false, we again turn to practice, which functions this time as a means of checking the truth of our knowledge, i. e., as the *criterion of truth*. That is why Lenin wrote: "From living perception to abstract thought, *and from this to practice*, such is the dialectical path of the cognition of *truth*."[1]

Practice is a specifically human form of activity. Even the most complicated activity of animals cannot be considered practice because the basis and core of practice is work or labour (122, 125). That is why only knowledge of surficial object-oriented connections are accessible to animals, while knowledge of deep-lying connections, i. e., objective laws, is not accessible to them. Ants, we know, have a very complex behaviour. In particular they defend and even rear other insects (aphides) — sometimes called "ants" cows' — and feed on the nutritious nectar excreted by them. But over the millions of years

[1] V. I. Lenin. *Collected Works*, Vol. 38, Progress Publishers, Moscow, 1981, p. 171.

of this "community", known as biocenosis, ants have not bred more productive varieties of aphis. The people who began to engage in landworking and stockbreeding only a few thousand years ago became convinced through active practical activity and by way of trial and error, and experiments, many times repeated, that the productivity of domestic animals and plants could be influenced. They discovered and formulated rules for growing crops and raising animals and thereby learned to create quite new breeds and varieties that did not exist in the wild. New objective truths, as regards agriculture, were thus discovered from practice and confirmed and utilised.

However many times solids and the peculiarities of liquids (e. g. water) were observed, that passive observation would not have made it possible to say how the weight of a body immersed in water is altered. Having to do many times in practical activity with bodies accidentally or purposely immersed in water, people in the long run discovered that their weight became less, the more the water they displaced (Archimedes' law). That discovery was later employed with great success in the practice of shipbuilding.

In the middle of the nineteenth century Marx and Engels, generalising the practice of the class struggle, concluded that the overcoming of antagonistic class contradictions and creation of a classless society were an objective law of history. Their opponents tried to throw doubt on the objective truth of that thesis and to dispute it. The best confirmation of it has been the practice of building socialism in the USSR, which has led to the creation of a society in which there are no class antagonisms.

Practice thus proves to be the source of knowledge both of nature and of society, the basis of the development of knowledge, and the criterion of the truth of the knowledge obtained.

509 *Appearance and Essence. The Dialectics of Knowing*

In order to sum up what has been said in this chapter we must examine two important philosophical categories, viz., "essence" and "appearance".

When we examine an apple, smell it, feel it, and taste it, we get various sensations from which we build up a certain sense image. The objective thing given to us by our sensations is called its *appearance*. Appearance contains information about the objective properties of objects and processes around us. What the object seems to us, how it appears to us, depends, as I have already said, (504), not only on its objective characteristics but also on the structure of our organs of perception, nervous system (including the brain), and finally on our practical activity. Eyeing an apple, we see that it is red and round. That, so to say, is appearance of the first order. When we examine a slice of apple under a microscope, we see its cellular structure. That is already appearance of the second order. By successively employing X-ray apparatus and an electron microscope, etc., we can see the inner structure of the apple's cells and the molecular processes going on in them. That can be called appearance of the third, fourth, etc., order. *The category "appearance"*, consequently, *reflects the objective external aspect of the processes and objects around us that we come across in practical and experimental activity.* We perceive this external outward aspect directly or by means of instruments and various apparatus. But what does the category "essence" reflect?

We learn about individual features, e. g. the colour, shape, and size of an apple, by receiving visual sensations. These attributes distinguish it from other objects. Later we learn about its cell structure, characteristic for all fruit of this species. Going further we get a notion of the physical and chemical processes in the cells characteristic not only of plants but also of living organisms in general. By penetrating ever deeper into the inner structure of the apple we get to know more and more stable, necessary connections governing the growth, development, and physiological processes of this species of fruit. In other words, by moving from appearance of the first order to appearance of the second and other orders, and getting to know the inner structure of appearances or phenomena, we discover their objective patterns; it is these patterns that form their essence. *The category "essence"*, consequently, *reflects the inner deep properties and connections that govern the function-*

ing and development of the objects and processes being studied. It reflects the aggregate of the inner patterns of a phenomenon or group of phenomena. Lenin therefore stressed that the categories "essence" and "law" were concepts of the same order. It is particularly important to remember that when studying complex social phenomena.

Strikes are constantly occurring in modern capitalist society. They are directly accessible to our sensory observation. Although more or less different demands are made in various strikes, and the latter develop differently and are accompanied with different events, their essence is economic struggle of the working class for its interests. We can also distinguish a more general and deeper essence of different forms of the proletariat's class struggle (economic, ideological, and political). They ultimately boil down to an objective, historical necessity of replacing the capitalist mode of production by a socialist one. Behind the diversity of external social phenomena there is thus their single, objective essence. There is no hard and fast dividing line, as we see, between phenomena or appearance and essence. What cannot be observed today and is the essence of an object, may become accessible to observation tomorrow and be converted into appearance. The categories "appearance" and "essence" are contradictory, as it were, on the one hand, since they reflect the external, more changeable, and the inner, more stable, aspects of every object; at the same time they are dialectically linked and pass into one another. Appearances and essence do not exist separately in reality itself, so that Lenin remarked that essence appears and appearance is essential. He meant that the inner, hidden side is always discovered through the external one, accessible to observation, while the external is governed by the inner, and has its cause in it. At the same time the categories "appearance" and "essence" express the link and dependence of the stages of knowing. Appearance is cognised by us at the level of sensory knowledge and live contemplation. Essence, however, is discovered at the stage of abstract thinking by means of concepts and judgments.

Immanuel Kant, trying to reconcile empiricism and rationalism (503), claimed that we can only know

appearances, i. e., how things appear to us through our sense organs. We could not know the essence of things, which he called the "thing-in-itself". Kant stressed, as it were, that objects of the external world existed independently of our knowledge, and thus took a definite step toward materialism, but by affirming that the "thing-in-itself" was unknowable he retreated to agnosticism and subjective idealism (010) and fell into an unresolvable contradiction. The question arose of how one could say that the "thing-in-itself" exists objectively, if it were impossible to cognise it. In order to get around this contradiction Kant appealed to faith, to a supreme reason standing above sensual knowledge. We knew of the existence of "things-in-themselves" because we believed in them. Both materialists and idealists criticised Kant for that inconsistency. The former rebuked him for considering the "thing-in-itself" unknowable, and for putting an impassable gulf between appearance and essence. Lenin called it "criticism from the left". The theory of knowledge of dialectical materialism, being based on experience and the achievements of all modern science, considers that unknowable "things-in-themselves" do not exist. There are only various objects, events, and processes that are not quite fully known and that can be known to the extent that our practical and cognitive activity is deepened and extended.

The true dialectic of knowing starts from the point that the developing world is reflected in developing knowledge through a constant change and development of our social, production activity. We constantly pass in the course of cognition from appearance to essence, from some relative truths to other, deeper ones, constantly check them in practice, and ruthlessly reject mistaken, false judgments or inferences.

The Forms and Methods of Scientific Cognition

510 *Theory and Hypothesis*

Science is the highest form of cognition. Its influence on all aspects of the life of society is continuously growing in our day. The basis of this influence is application of scientific advances in industry and the admin-

istration of society, which leads to scientific and technical progress (311). What is the most important, most characteristic feature of scientific cognition and knowledge?

The ancient Babylonian astronomers (to believe the legends) knew the distribution of the stars and planets very well. They observed dozens of eclipses of the sun and moon. But they could not calculate the trajectories of their motion, or exactly predict future eclipses; furthermore they could not say why heavenly bodies moved and why eclipses occurred. Today students and even senior school pupils easily answer these questions, while astronomers can predict the motion not only of the separate planets with great accuracy, but also the motion of whole stellar systems, and can explain the physical processes taking place in distant stars. How has that come about? It has happened because modern science relies on scientific theories, and these theories make it possible to explain already existing phenomena and to predict new ones. There were no scientific theories in the time of the Babylonian astronomers, and they were still unable to create them. What is a scientific theory?

A developed scientific theory is a system or chain of interconnected laws of science. The laws can be deduced, moreover, from other ones by means of the rules of logic and mathematical transformations. Through these transformations we ultimately obtain knowledge of phenomena of nature that exist at the moment or will exist in the future. A very simple example of a scientific theory is that of the rotation of the planets around the sun formulated by Kepler. It includes three laws expressed in mathematical form. An astronomer, having certain initial data at his disposal obtained from observations, no longer needs to make new observations, as the Babylonians did. He can put these data into formulas expressing Kepler's laws, make certain calculations, and say exactly where such and such a planet will be at a given moment. When the laws of classical dynamics and gravitation discovered by Newton are added to Kepler's laws, we get a new, more powerful theory, celestial mechanics, by which we can not only explain and predict the location of heavenly bodies but also indicate the causes of their motion,

and so on. Theories can consequently embrace more or less broad fields of phenomena of the material world and provide very deep, reliable knowledge about them that enables us to get all the requisite information without resorting for the time being to complex, tiring observations.

Scientific theories have other advantages as well. They give us instructions, as it were, and reliable rules for practical activity, and make it possible to systematise and classify the phenomena of the objective world. What do the laws contained in scientific theories owe these possibilities to? The point is that *the laws of science are a reflection of the laws of objective reality* (108). The laws of reality exist objectively, independently of whether they have been discovered by men or not. But we can only employ them, rely on them in our activity, and utilise them for the good of society, after they have been discovered, known, and formulated in the form of laws of science. Let me illustrate that by the example of Mendeleev's famous law.

The periodic law of chemical elements reflects the objective, necessary inner connection of the physical structure and chemical properties of the atoms of the various elements. By relying on this law, we can *explain* the chemical properties of any element when we know its place in the table. And we can *predict* the properties of still unknown elements from this law. Mendeleev himself predicted the properties of aluminium, which was not yet known in his day. In our days, a group of Soviet scientists, basing themselves on Mendeleev's law and the theory of quantum mechanics, was able to create a new, artificial element that did not exist in nature, which they named "kurchatovium". Its properties and structure were explained and predicted in advance. The scientific theory, moreover, gave an instruction, as it were, for the experimental activity to synthesise the new element. It would have been impossible in this case to use the method of trial and error, as people have for thousands of years to solve simple, ordinary problems. Modern discoveries can only be made by means of a serious scientific theory. It is impossible to create the controlled thermonuclear processes needed by power engineering without quantum

mechanics and the special theory of relativity. Gene engineering and the creation of new biological species are impossible without theoretical molecular biology.

A scientific theory thus facilitates and speeds cognition up tens and hundreds of times, makes our knowledge deeper and more reliable, and helps us build on it as the foundation of all our practical activity. That is why one of the greatest physicists of the nineteenth century, Ludwig Boltzmann, could say with every right that there was nothing more practical than a good theory. How are scientific theories and the laws composing them created?

The most important form of the origin of scientific laws is a hypothesis. A scientific hypothesis differs from an ordinary guess, and presupposes that it should be well based on objective facts, observations, and experiments, and should correspond to already available, firmly established scientific achievements. Hypotheses can arise in two ways. First, it arises as a generalisation of a more or less considerable number of accumulated observations that cannot, for some reason, be explained by former theories. Such hypotheses are called empirical generalisations (i. e., based on experience). By observing marine tides a thousand times scientists long ago put forward the hypothesis that this phenomenon depended on the position of the Moon. Subsequently this hypothesis was checked from exact calculations and observations, and acquired the force of a scientific law. Second, a hypothesis arises as a scientist's theoretical guess or surmise, taking into account other firmly established laws and theories. In the general theory of relativity, for instance, a hypothesis was put forward that space changes its curvature in accordance with the mass of the moving bodies. For a long time it could not be tested since it was difficult to measure changes in its curvature in circumterrestrial space. But the exact landing of a Soviet space laboratory on Venus, calculated from this hypothesis, served as an argument for regarding this hypothesis as a firmly established objective law. *The rise of hypotheses itself and the checking and choice of the truest and most exact of them, comes about through scientific observations and experiments.* A hypothesis checked and confirmed by experiments

and observations ceases to be treated as a simple guess and as a more or less truthful proposition. Scientists begin to regard it as a law of science, i. e., an objective truth that reflects stable, necessary links of studied reality itself. The "conversion" of a hypothesis into a law of science is an important step in scientific cognition of the world. And this conversion itself is only possible through practice, the essential elements of which are scientific observations and experiment.

511 *Experiment and Observation in Scientific Cognition*

When an astronomer picks up radiowaves or X-rays on a radiotelescope coming from mysterious depths of space, he may discover a star or a cluster of stars invisible in an ordinary optical telescope. A biologist, by observing animals in the laboratory or in natural conditions, may discover previously unknown patterns of this behaviour. Observation is based on a process of obtaining sense impressions and visual, aural, and other sensations. Much of the information that we obtain in ordinary life, at work, or in scientific research, is based on observations. But scientific observations differ qualitatively from everyday ones. They are made, for example, (1) by means of special instruments and apparatus; (2) according to a special programme or plan, as a rule, and on previously chosen objects; (3) they pursue a strictly defined aim, i. e., not a simple gathering of unconnected facts, but the collection of facts that will enable new hypotheses to be put forward, or ones previously advanced to be checked; (4) they are often made on objects and processes, as a rule, that are not met in everyday life. Finally, (5) the observations must conform to requirements of high accuracy and precision, reliability, etc. Yet, all the same, even the most complicated and exact scientific observations will not enable us to get to the very depth and essence of the phenomenon. Why?

Any observation, even when made with the most accurate instruments, leaves the studied phenomenon in the form in which it exists in nature, without changing or transforming it, but in order to know the deep inner connections of any object, it is necessary to transform and alter it, and to find out how it behaves

during the transforming process. For that the object has to be torn from its usual links and conditions, put into other conditions, and the regime of its activity altered; it has to be divided into parts, made to clash with other objects, and forced to work and operate in unexpected circumstances. That also constitutes the content of scientific experiment, or of experimental research. Experiment is consequently a special scientific form of practice. During an experiment observations are no longer made passively, but actively, in the form of "living contemplation". Since an experiment is mounted according to strictly established rules and with a preset aim, namely to confirm or refute a hypothesis and to obtain new facts for formulating new laws and theories, it is a most important means of scientific cognition and knowledge.

It is customary to distinguish several forms of experiment: (1) *exploratory*, aimed at discovering new phenomena, new properties, or previously unknown links between phenomena; (2) *testing* or *checking*, whose aim is to confirm or refute a hypothesis and estimate its exactness; (3) *constructive*, during which new substances, new structures, or new materials are created or constructed that did not previously exist in nature; and (4) *control*, whose aim is to check and adjust measuring instruments, apparatus, and instruments.

All these types of experimental activity are quite often interwoven in one experiment. The launching of a space laboratory to Venus, for instance, made it possible to confirm the correctness of a number of propositions of the general theory of relativity (a testing experiment), to discover new phenomena in the atmosphere and surface of the planet (an exploratory experiment); in that connection quite new devices and apparatus were made (a constructive experiment), and the precision and reliability of the operating apparatus were checked (a control experiment).

A distinguishing feature of modern science is that experiment now finds broad application as a general scientific method of cognition not only in the natural sciences and engineering but also in social life.

In the conditions of scientific and technical progress experimental methods of knowing and transforming

reality have become broadly common in all areas of industry, agriculture, and management and administration. In the Soviet Union, scientifically organised experiments are more and more often being carried out in works and factories, agro-industrial complexes, and production associations so as to find or check new forms of work organisation and management, to introduce new equipment and advanced technology. We find in that one of the most powerful mechanisms of the effect of science on social practice. And that explains why every conscious person needs to understand the role of experiment in cognition and practical activity.

512 *Certain General Scientific Methods of Cognition*

Modern science is developing rapidly. It studies the most varied objects in nature and society, from elementary particles to stars, from living organisms to robots, from the mind of an individual to social transformations on the scale of all society. It leads to the formation and creation of new sciences, a process that is known as the *differentiation* of scientific knowledge. The differentiation of science is leading to the development of many various, specialised scientific methods of knowing. At the same time there is a reverse process, namely, the *integration* of science, which is manifested in the laws and patterns discovered by some sciences finding application in others. Concepts formed in physics or chemistry are applied to study living organisms. Economic laws are employed to study the history of society, and the advances of psychology are taken into account when robots are being constructed, and so on. But the most important manifestation of the integration of science is the development and deepening of general scientific methods of cognition broadly employed and utilised in all forms of research. It is an important task of the theory of knowledge to study them.

1. DEDUCTIVE AND INDUCTIVE METHODS OF COGNITION

The laws, hypotheses, and theories of any science form a special level of knowledge known as *theoreti-*

cal. Knowledge based on direct observation and experiment, i. e., on sense perception, forms another level of knowledge, the *empirical.* Between the theoretical and empirical levels of the knowledge of modern science there are very complex relations: the theories, hypotheses, and laws of modern physics, cybernetics, astronomy, biology, and other sciences are very abstract and cannot be expressed in visual, graphic models, concepts, and statements directly comparable with or applicable to sensually perceived phenomena. These forms of knowledge are usually expressed in complex symbolic form as mathematical equations and in abstract logical formulations. In order to apply them to reality and to check their truth, the theoretical level of knowledge has to be compared and confronted with the empirical level. The *deductive method of cognition* is employed for that. This method consists in the following. The main, initial laws and hypotheses of a theory are consistently transformed by means of strictly defined logical and mathematical rules. As a result of these transformations a long chain or system of formulas, theorems, or propositions is obtained that express certain patterns or describe definite properties and connection of the objects studied. The process of constructing this derived knowledge from the initial basic laws and hypotheses is called deduction, and the knowledge obtained deductive.

The deductive method makes it possible to obtain a vast set of corollaries by means of various logical and mathematical transformations from a relatively small number of basic propositions and laws of a theory. Unlike the initial theses, which lack visual representation, the corollaries are applicable to sense-perceived material reality, for which an empirical, i. e., sense-perceived meaning is given to them. For example, the variables contained in formulas are compared with the readings on the scales of certain instruments, with the readings of various electrical dials or displays, or with ordinary visual and acoustic observations, etc. The connection between the theoretical and empirical levels of knowledge is thus revealed by the deductive method and consequently with experiment, observation, and practice in the broadest sense. The basic laws of quan-

tum mechanics, for instance, are not amenable to direct, unmediated application to reality itself and are not comparable with the results of experimental observations. The final conclusions obtained from them by mathematical transformations can be checked experimentally, and through that not only is the truth of these basic laws demonstrated but very broad practical application of them is found.

While the deductive method makes is possible to pass from the theoretical to the empirical level of knowledge, the *inductive method* makes it possible to pass in the opposite direction. In practice, and in scientific observation and experiment, scientists accumulate a vast quantity of more or less similar facts relating to some phenomena of nature or social life. The question arises: can knowledge about the objective laws governing them be drawn from the separate, uncoordinated facts subject to chance effects and changes? The inductive method of constructing scientific knowledge is a kind of set of rules that make it possible to pass from sense observations and empirical knowledge about separate facts to theoretical knowledge of the laws underlying them and forming their essence (509). Application of the inductive method is associated with broad use in scientific cognition of mathematical statistics and the theory of probability, by which the probability of the development of some property in a whole series of experiments, etc., can be quantitatively estimated. If the degree of probability that the process or property will be stable is very high, the knowledge of them can be treated as a law of science. That is how the law of the distribution of energy in isolated physical systems (the second law of classical thermodynamics), the Darwinian law of natural selection, and many other regularities and laws of modern science were discovered. By enabling one to pass from separate partial observations to more general theoretical knowledge, the inductive method plays an important role in the development of science. Outwardly the deductive and inductive methods are opposite in direction, but inwardly they form a profound dialectical unity promoting rapid development of the whole system of scientific knowledge.

2. *ANALYSIS AND SYNTHESIS*

When scientists come to study a new object, they have only very general abstract knowledge of it as a rule, that reflects its separate properties and characteristics. This knowledge is not sufficient for deep understanding, let alone practical application of the studied phenomena or processes. In order to get all the requisite information about them and to discover the laws governing them, it is necessary to present the object as a special system. This system is then consecutively broken down, expanded into a number of subsystems of various levels, right down to separate elements (106). This process of consecutively breaking a system (whole) down into subsystems (parts) and elements, and studying these subsystems and elements step by step is called *analysis*. During it information is accumulated about the separate properties and characteristics, parts and elements of the studied object. But during it the original, initial notion of the object as a kind of whole is lost as it were. In order to get new, this time quite concrete and rich knowledge of the object, it is necessary to carry out a new stage of cognition, called *synthesis*. All the knowledge gathered during analysis is united and linked up by certain rules so that they reflect the properties, characteristics, relations, and connections between the subsystems and elements of the studied object most exactly and fully. When the uniting or synthesis of the knowledge is completed we again get an integral notion and integral knowledge of the object. In contrast, however, to the original, initial knowledge it is not abstract but concrete (505) and provides a volume of information that makes it possible to alter and transform the studied objects, and to use them in practical activity to attain planned ends. The passage from analysis to synthesis can be repeated many times. Each new repetition of the procedure leads, as it were, to a new spiral of knowledge. The methods of cognition are repeated but at a new level of the dialectical spiral of cognition.

3. THE LOGICAL AND HISTORICAL METHODS OF COGNITION

Any, however complex system in nature and society can be examined from two angles. With the first approach knowledge is treated as given and formulated, and to some extent complete. With the second stress is put on studying the process of the object's development and formation. The first approach makes it possible to bring out the laws of the studied object's functioning or life activity; with the second the objective laws of its development, forming, origin, and change are brought out and studied.

The method of knowing or cognition that we employ in the first approach is known as *logical.* It consists in bringing out the basic, most important, essential features, properties and characteristics; and in consistent passage from the initial concepts that reflect these properties and features, to more complicated concrete concepts that provide us with fuller and more thorough knowledge of the studied phenomena and processes. Use of this method helps us know the object as it is in its essential features when we are cognising it.

With the second approach we reproduce the real process of historical development, step by step, which is far from always simple and straightforward. The *historical* method of knowing consists in consecutive, consistent examination and description of all the stages of the formation, development, and shaping of the studied phenomena or processes. It traces the whole spiral of the real, complex process of development in all its zig-zags and retreats. The historical method is therefore very laborious and requires a great expenditure of energy and time. At the same time it helps us answer many questions that the logical method cannot provide exhaustive answers to. These questions include that of the sequence and direction of the historical development of the studied objects. The logical and historical methods therefore do not oppose one another but rather supplement each other.

When a doctor is studying the symptoms of an illness, for instance, he singles out its most important signs: change of temperature; change in the state of the blood;

the presence of certain micro-organisms; changes in the separate organs. In conclusion he forms a diagnosis through a logical linking up and putting together of the facts obtained, i. e., he obtains quite concrete knowledge of the state of the patient's health and the illness. But this diagnosis alone is not sufficient for effective treatment. The doctor needs to know the history of the illness, the sequence of the appearance of the symptoms, the development of the separate manifestations of the illness, the changes in the various characteristics of the organism, how the patient feels, and so on. Only by supplementing the knowledge previously obtained by this historical information can the doctor finally make his diagnosis more precise and prescribe effective treatment. Furthermore the treatment itself calls for constant examination of the course of the patient's improvement in its development, dynamics, and changes.

The logical and historical methods of cognition dialectically supplement each other, as well, in the study of various social phenomena. When we are studying the contemporary economy of some country, for instance, we first of all try to bring out its structure, to analyse its main relations of production, to examine the main components of the economy (industry, agriculture, commerce, services sphere, finance, tax system, etc.); the most important sectors of the economy; and the weight of new technologies (biotechnology, information technology, etc.). This research is carried out in the context of a logical approach that makes it possible to distinguish the main centres of the economic system, and their connections, interaction, reciprocal influence, etc.

In order to answer why such-and-such a situation has built up in a country, what are the trends and perspectives of its development, why it differs in certain indicators from the economies of other countries, it is necessary to adopt the historical approach and examine in detail the origin of all the components of the economy in the course of their rise, establishment, weakening, or strengthening of the separate elements in the near and more distant future.

The logical and historical methods are closely con-

nected and mutually supplement one another. By singling out the main structural components and connections in an economic system, the logical method indicates what mechanisms of this system precisely must be historically analysed, what precisely is most important in the historical research for understanding today's economic situation. The historical method, however, by examining the sequence and causal connections of the rise of this economic system, and its transition from earlier states to the present one, helps us to understand the patterns brought out by the logical analysis better, and to explain the specific features and peculiarities of this economic situation.

There is thus a profound inner link between the logical and the historical methods. The former helps bring out the main key moments subject to historical study, and the latter helps concretise, refine, and supplement the results of the former.

513 *Models and Modelling in Scientific Cognition*

One of the most common methods of cognition employed in modern science is modelling. What are models and modelling? The word "model" means a plan or design, or three-dimensional representation, but that in itself explains little, because the concept "model" has acquired a special meaning in science.

Objects are very often not amenable to investigation. They may be too big, or expensive, too complicated, or not available. In that case another object is made or found that is similar in some essential respect to the object or process of interest, i. e., a substitute or surrogate object. If this object can be studied, and the results obtained then applied with the appropriate corrections and adjustments to the object of interest and employed to cognise the latter, it is called a *model.* The process of creating or choosing a model, studying it, and applying the results obtained to cognise the main object, is called *modelling.*

Anthropoid apes are similar in many respects to man. Scientists long ago discovered that the *Rhesus* blood of the species of macaque monkeys is similar to that of man. By studying its blood they discovered special properties named the rhesus-factor. Basing themselves on

the similarity of the blood, they applied the results obtained to human blood and discovered similar properties in it. In this case the monkey's blood was a model of human blood.

In engineering the making and study of a model often precedes making of the original or prototype so as to avoid many mistakes and difficulties in constructing the latter. Before a huge power station is built, a scale technical model of it is made and a series of experiments carried out with it. The data obtained are then taken into account when the station is being designed.

In these examples the role of model was played by quite material objects. But in modern science so-called ideal models are finding broad application. They include, for example, so-called mental experiments. Before starting a very complex, expensive experiment, a scientist may create a whole set of the requisite instruments in his imagination, and perform or play various actions with them, sometimes also employing blueprints, drawings, and diagrams as auxiliary means. Only after doing that does he either abandon the real experiment (when the mental one is unsuccessful) or start on practical realisation of it.

Mathematical modelling is a variety of models and modelling. In it, instead of material objects and processes being taken as the surrogate object, a system of mathematical equations is used. By substituting various numerical data obtained from observations and experiments in these equations, and solving them, scientists can correctly evaluate the quantitative characteristics of various processes and foresee difficulties that may arise in practice. The broad application of mathematical models in all spheres of modern science, especially in engineering and the theory of control, poses the question of the role of mathematics in scientific knowledge.

514 *The Application of Mathematics and Modern Science*

Instead of using a measuring rod to measure the area of a rectangular field, we can just measure two of its perpendicular sides and then by multiplying the

figures obtained together, calculate the area of the field in a jiffy. The significance and application of mathematics in science, engineering, and practical activity, rest on the fact that by various means of measurement we can ascribe certain numbers to material objects and their properties, and then, instead of laborious manipulations with the objects, operate with the numbers according to certain mathematical rules. We can again apply the numbers obtained to the material objects and use them to know the other properties and features of the objects. The dialectical connection of quantity and quality are distinctly manifested in that (411). Mathematics makes it possible within certain limits to characterise the infinitely varied qualitative features of things through their quantitative characteristics. And since the latter can be described by means of mathematical rules expressed in formulas and equations that are relatively clear-cut, simple, and clear, the process of knowing objective reality is simplified, speeded up, and facilitated.

Mathematics has begun to penetrate many branches of science in our day. Scientists now employ increasingly complex abstractions (505) that cannot be reduced to sense images, and so the laws and theories have to be formulated by means of complicated mathematical equations. Since the middle of the twentieth century computers have been developed very rapidly, and now make it possible to perform very complex calculations rapidly and reliably by means of previously written programmes, and to solve problems that are either simply too difficult for a person or too laborious.

Mathematics is based on rigorously proved theorems and rules that are objective truths, do not depend on anyone's will, and therefore make it possible to obtain definite knowledge about the world around us. But just as quantity cannot be divorced from and counterposed to quality, so mathematical methods of cognition cannot be divorced from the qualitatively varied methods of the different sciences. Only a unity of all the methods of contemporary scientific knowledge guarantees them objective truth and increasing influence on scientific and technical advance.

All forms of social consciousness (morals, artistic consciousness and art, political and legal consciousness) have a definite influence on the development of society (226-231). At the same time it is necessary, in the conditions of scientific and technical progress, in order to solve the various problems connected with growth of the productive forces and protection of the environment, improvement of medical care, increase in the prosperity of socialist society, etc., to rely primarily on the advances of science. That is why it is so important to understand the place and role of science in modern society.

Around 300 years ago the English satirist Jonathan Swift very ironically depicted contemporaneous science. Describing Lemuel Gulliver's voyage to the island of Laputa, he created a gallery of eccentric savants who tried to trap sunlight by means of green cucumbers so as to use it later for heating, and were engaged in making cloth from cobweb and constructing metal plates and wire machines capable of doing mental work. The attitude to science has radically changed in our day, not just because it really has discovered the law of the interaction of sunlight and green plants, learned to make fibres finer and a thousand times stronger than cobweb, and build computers capable of lightening mental work, but mainly because scientific and technical advance has begun to be increasing through the introduction of its results (311). Science itself has been converted in our day into a field of the mass production of knowledge.

Research has become one of the most expensive and labour-intensive forms of human activity. Society, spending vast sums on building powerful particle accelerators and various instruments and devices, and on training scientists, has a right to expect great practical results from science.

The role of science in modern society does not boil down to its promoting the development of engineering and technical progress. Socialist society relies on the knowledge created by the social sciences (economics, history, jurisprudence, etc.) to tackle the most

important social and economic problems. The administration and direction of developed society calls for profound knowledge of economics, psychology, sociology, and the theory of morals. Accelerated development of the productive forces and the achieving of very high labour productivity remain most important tasks during the whole period of the development of socialist society and its transition to communism. At the same time this process is impossible without perfecting social and individual consciousness, and without all-round development of culture. A firm scientific foundation is also needed, based on a materialist understanding of social development and the theory of scientific socialism. Modern science is thus exerting a powerful influence on the shaping of all intellectual culture, on the perfecting of social consciousness, and all-round development of the personality. That applies not only to the social but also to the natural and technical sciences; and their special role in socialist society is exhibited in just that.

Science is now acquiring a complex character. In order to tackle technical, economic, and management tasks, big scientific teams consisting of scientists of various specialities have to be drawn on. Integration of knowledge is not limited to strengthening the links between the various sciences. Because of the rapid development of education and its general accessibility in the USSR, scientific knowledge is beginning to penetrate all forms of social consciousness. The artist who wants to paint a picture of some great battle and the novelist writing a story about the war, has to turn to history. The history resorts to physical methods in order to determine the exact date of ancient monuments by means of isotope analysis. The social sciences, especially economics, history, and sociology, directly reflect social being. By discovering objective laws of the development of society they create the basis for conscious participation of the masses in history. That participation itself is only possible when broad strata of the working people master and apply the fundamentals of the social sciences in practice. Social consciousness is no longer moulded spontaneously in socialist society, as in the preceding formations, but is formed on a firm

scientific basis, and an active influence is exerted on it not only by the social sciences, but also by the natural sciences that reflect nature, and the technical sciences that develop rules and laws for constructing technical devices. The results obtained by these sciences broaden our notions of the Universe, and of the relation and unity of animate and inanimate nature, and deepen our knowledge of the interaction of nature and society. They are included in the system of the world outlook and promote a better substantiation of the materialist view of man's place in the world, and awareness of the meaning and purpose of his activity. Science, being now a productive force, is at the same time vigorously interacting with other fields of society's life. It therefore has to be approached dialectically. On the one hand, it is the highest form of knowledge and a reflection of objective reality; on the other, it is becoming part, through scientific and technical advance, of the system of material production. This unity of opposites is a powerful source of its development.

Philosophy constitutes the methodological and world-outlook basis (003, 004) of scientific knowledge. That is why mastery of the fundamentals of scientific knowledge, and furthermore active involvement in scientific research, calls for profound, creative mastery of the philosophy of dialectical materialism. The perfecting of science itself largely depends on perfecting the methods of research. The theory of knowledge of dialectical materialism, by thoroughly studying the dialectics of scientific knowledge, promotes development of its methodology.

The profound link of philosophy, and especially of the theory of knowledge, with the development of science is confirmed by the whole history of the relationship of philosophical and scientific knowledge. In those countries and periods where science rapidly developed, the philosophical theory of knowledge and its methods were also developed and perfected. That is understandable; the more rapidly science develops the greater are the difficulties, surprises, and problems that arise in its way, and the more often scientists have to ponder over the very essence of knowledge, the conditions and

criteria of its truths, and how to perfect and refine scientific knowledge. At the same time a general decline of science and culture is usually accompanied with a lowering of the standard of philosophical research and investigations. The state of philosophical thought and the standard of development of the methodological problems of scientific cognition are a kind of barometer indicating in what direction and at what rates the natural, social, and technical sciences are developing.

Chapter VI
MAN AND SOCIETY

601 *A Chat on the Essence of Man and the Sense of Life*

Let us begin this concluding chapter with a conversation, this time between Reader *(R)*, who has worked through all the preceding material, and Philosopher *(DM)* who takes his stand on dialectical materialism.

R. At the beginning of the book you said that knowledge of philosophy, above all of Marxist philosophy, is necessary in order to understand the essence of man, his place in the modern world, and the sense and purpose of his life, and so as to understand the most acute problems of the present day.

DM. Quite true. And we have really constantly discussed these problems. In the first chapter, for example, we looked at the main, basic question of philosophy, that of the relation of consciousness to matter. For that is essentially a question of man's relation to the world as a whole. In the second chapter we continued the discussion, examining the relation of social being and social consciousness, of people's material-production and spiritual activity. In the third chapter we saw the relation of human society to nature.

Finally, having studied the laws of dialectics and become acquainted with the theory of knowledge of dialectical materialism we are ready to understand other unresolved questions.

R. Let's try and deal with them then. What is the essence of man, for instance? What is the sense of his life? Why does man live? It's extremely difficult to find answers to those questions.

D.M. What makes it difficult, in your opinion, to answer them?

R. There are several billion people in the world, we know, living in different countries, people of various nationality and race, men and women, old and young, members of different classes and social groups. They have different educations and upbringings, different characters and aims; and they understand life and their place in it differently. In that case can we speak in general of some single essence of man? What kind of in the least degree common aims can there be talk about, or of the sense of life, when we take even two different people, let alone society as a whole.

D.M. Your question contains the possibility of a mistake. These differences are so great, in your opinion, that you don't admit the existence of common aims, or of any kind of general, common sense of life for social groups and classes. You suggest that there is no common essence of man, or nothing that could unite people. That is just as extreme as to think that all people are the same, that they are little impersonal, social screws. But there is a dialectical unity of the general, particular, and individual (212). Our philosophy does not aim to prescribe all their personal goals to people or their each separate action, and so on. Man and society are a dialectical unity, so that these questions can only be answered provided we recognise the difference and community of people, the interconnection of personal and social interests, the interdependence of social and personal activity. Only with an approach like that can we understand what the essence of man is, and what is the sense of his life.

R. So what is this essence?

D.M. The history of philosophy has given many different answers on that score. Greek philosophers, for example, thought the essence of man was that he was a microcosm in himself, that is a tiny, living, moving world that repeated the world around him, the macrocosm, in reduced form as it were. But the development of science since has shown that man's life activity is governed by laws of social development, while the external world develops according to the laws of nature. Life refuted the antique Greek understanding of

the essence of man. Mediaeval Christian philosophy saw his essence in his divine origin, in the fact that he had a soul. But the soul was created by God once and for all, while people are quite different. They feud, and fight, and perform the most ungodly, anti-divine deeds. Their way of life, tastes, and views, and the very understanding of life, moreover, have altered from age to age. The Christian conception of the essence of man has also not stood the test of time. Bourgeois philosophers, despite the diversity of their views, come down to seeing the essence of man and his main aim in domination over nature and other people.

R. (interrupting). Then what is the sense of life and the supreme manifestation of humanity?

D.M. The overwhelming majority of people are working people and, in the conditions of antagonistic society, are exploited. They do not make profits, do not draw benefits from this domination. Furthermore, it debases and degrades man, and destroys and disrupts nature. Domination, and the making of profit at any price, consequently cannot be the essence and sense of life for most people. They only define the essence and aims of a handful of exploiters.

R. So how does Marxist philosophy understand the essence of man and the aim and sense of his life?

D.M. Marxist philosophy assumes that man is primarily a social creature. He arose and became differentiated from the animal kingdom through labour. His actions, aims, views, and intentions are ultimately determined by the social relations in which he lives, and above all by the relations of production.

R. If the essence of the people of a given age is determined by social relations, shouldn't all the people, at least in a given society, be as like as twins? Why then do people differ in behaviour, tastes, views, life aims, and character?

D.M. Don't forget that one and the same essence may be differently displayed, since the conditions for that are always different. The essence of all diamonds is the same, and is determined by their consisting of ions of carbon incorporated in certain crystal lattices. In nature, however, there are no two absolutely identical diamonds. They differ in size, colour, transpar-

ency, shape, the presence of cracks, and so on, even if only slightly. That is because of their having been formed in different conditions. Surely people are a billion times more complex and diverse. The manifestation of human essence is personality. And there are no two people with wholly identical personalities.

R. But what is personality? What determines it?

D.M. It depends primarily on the essence of man, i. e., on historically changing social relations. The personality (individual) of one age, or belonging to one class, therefore differs essentially from the individual (personality) of another age or class. Attitude to work, to one's class, family and school upbringing, and standard of education and how well-informed a person is, and how developed his/her capacities are, affect the moulding of a personality. It is also affected by one's temperament, the attitude of other people to one, one's self-estimation, etc., etc. Therefore, while there is a common essence, every individual is original, and inimitable. The dialectic of the general, particular, and individual comes out in that.

R. So it follows that, in order to understand each concrete individual, we must not only know his/her essence as a social and historical being but also the details of his/her life, the peculiarities and features of his/her upbringing, biographical details, and so on.

D.M. Quite true.

R. There is a new question here. Social relations, and so also the essence of man, alter from age to age. This essence is displayed, moreover, in billions of different individuals, and they all have different aims, and a different attitude to life. Can we then speak of a single sense and aim of life for humanity or at least for our age?

D.M. Of course we can. And this supreme aim is to achieve the freedom of each individual and of society as a whole.

R. What will this freedom give us?

D.M. It gives us the chance of a full-blooded, i. e., a creative life, and full self-realisation.

R. But why are creativity and a creative life so important? And what is self-realisation?

D.M. Any process of development, as you know,

is the origin of the new (401). In nature the creation of new continents, mountains, or rivers took millions, or hundreds of thousands of years. The creation of new species of plants or animals also took thousands or hundreds of years. Modern man creates artificial rivers and lakes, and changes the landscape in a matter of years and months. We have learned in a short time to create new species of living organisms with properties planned in advance. Creativity is also conscious, purposive creation of the new in the interests of man and to meet his material and intellectual needs. People have always been creative, but generally it has been spontaneous. In exploiter societies, moreover, it was the lot of a few and not always to the benefit of mankind. Millions of people worked, governed by need, and someone else's will, for aims they did not understand. Their inborn capacities were undeveloped or developed in a one-sided way. The level of the productive forces, way of life, and character of the relations of production did not allow people to realise their intentions, capacities, hopes, and ideals in the course of material labour and social life. The objective conditions for that did not in general exist.

Self-realisation is, in fact, a process of realisation and embodiment in material objects and spiritual values, and in a person's life itself, of engineering and technical ideas, moral and artistic standards, and ideals of a just social system. It is inseparable from creativity and, moreover, from creative consciousness. Such creativity is only possible given real, genuine freedom, which is only attainable through the long, complex development of mankind.

R. But if people are free and each can understand life in his/her own way, pursue his/her aims, etc., won't that lead to endless clashes? One person may want to write music for self-realisation, and pound the piano from morning to night, but that music may disturb and interfere with someone else, who needs complete quiet in order to solve a mathematical problem. What will humanity gain as a whole if everyone is occupied in self-realisation and acts freely without allowing for others? In society, too, after all, there will also be unpleasant, arduous, uncreative work.

D.M. You are muddling anarchy and true freedom. Whoever acts to the detriment of others, or of society, cannot be free. And in order to understand what will benefit mankind from the creative labour and self-realisation of each of its members, and what the individual will gain thereby, let us get a more detailed understanding of all these questions, and let us begin with what freedom and necessity are.

602 *Freedom and Necessity*

The question of what freedom is and whether man can be free is one of the eternal ones of philosophy. It is a manifestation of the basic question, that of man's relation to the external world.

The philosophical concept of freedom must not be confused with the philistine notion of freedom. For the philistine, to be free means to act arbitrarily, according to one's will, to satisfy any desire. Is such freedom possible? Assume that someone in a burning desert wants immediately to bathe in a cooling stream. The wish is impossible because the person has not taken objective necessity and the real conditions into consideration. Assume that another person wants to fly like a bird. However much he flaps his arms like wings, he cannot overcome gravity. Here, too, objective reality comes into conflict with his desire. But does that mean that man is always the slave of necessity, that he cannot overcome it and act according to his desires?

The Greek philosophers thought freedom was only allowed to gods. Man was a toy in their hands. He was a slave of his passions and of external necessity. That view reflected the level of social development when man was weak and helpless in the struggle with nature's elemental forces and class exploitation. Christian divines and philosophers considered that man could be free, but understood freedom in a very limited way. In their view it consisted in the possibility of choice between two paths: either to perform deeds pleasing to God, and as a reward to go to paradise, or to perform acts pleasing to the Devil, and as a punishment to go to hell.

The Dutch materialist thinker of the seventeenth century, Baruch Spinoza, considered that necessity prevailed in nature. Man, possessing reason, was able to know this necessity, and so become free. Freedom, according to Spinoza, was recognised necessity. Is that so? Is it enough to recognise objective necessity in order to overcome it, to cease to depend on it, and to become free?

Wishes are no use to make a pond suitable for bathing to appear in a hot desert. It is necessary to carry out certain irrigation works, to build canals and irrigation ditches, to find sources of water, and to learn to preserve and distribute the moisture. And for that it is necessary in turn to know the laws of nature, to choose a correct building plan, and to take well-grounded decisions. But decisions and schemes alone are not sufficient. It is necessary to do a vast amount of work and to make the chosen scheme reality; only then will man be freed from scorching heat and realise his wish.

It is not enough to wish in order to fly. A host of various necessities and objective laws operate in the world. Apart from the law of gravity there are also laws of the resistance of air to moving bodies. We cannot free ourselves from any of these laws, or from any of these necessities. But, when we recognise objective necessities we can overcome the operation of one of them by relying on the other. That is what the constructors of aircraft do, utilising the force of air resistance to overcome the force of gravity. But knowledge just of necessity is not enough. When relying on knowledge it is important to take a correct decision, to choose the most successful design and construction, and in practice to build an aircraft. Only then can we freely move in the air.

The Marxian conception of freedom is thus not reducible just to knowing necessity; it links that with people's practical activity. *To be free means to know how to cognise objective necessity, and, relying on that knowledge, to work out correct aims, to take and select substantiated decisions, and to carry out same in practice.* Engels therefore stressed that freedom did not consist in imaginary independence of objective necessity,

but in knowing how to take decisions with knowledge of it.[1]

In that sense man can only be free as a social being. It is impossible to be free outside society. A completely isolated person, even when he is able to cognise objective necessity, can hardly realise the wisest decision. Rebutting bourgeois thinkers who considered that man should be emancipated above all from obligations to society, Lenin wrote: "One cannot live in society and be free from society".[2] The freedom of each separate individual is consequently achieved only in certain historical conditions, and precisely when all society is free. What are these conditions?

In antagonistic formations two great compulsory forces, two types of external necessity, hold sway over man. He depends (1) on natural necessity, and (2) on social necessity. The latter is manifested in the historical conditionality of exploitation. The exploited cannot be free because they do not have the material and spiritual opportunities to satisfy their needs. The exploiters, however, while disposing of material wealth and political power, possess a certain degree of freedom, but it, too, is very limited, primarily to the context of private property. In order to be free, in fact, it is necessary to know historical necessity, to take a correct decision, and to carry it out. But historical necessity ultimately leads to the abolition of private property, and consequently comes into conflict with the interests of the dominant classes that rely on it. Consequently they too cannot fully know this necessity and are forced to take decisions and to act in contradiction to it, and so are unable to be truly free. In exploiter societies, including capitalist society, real freedom is thus impossible. The working people are not free from exploitation and absence of the material and spiritual conditions for all-round development of the individual. The exploiters, too, are not free from the political and legal limitations they themselves have created, needed to defend and consolidate the pri-

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[1] See Frederick Engels. *Anti-Dühring* (Progress Publishers, Moscow, 1975), p. 132.

[2] V. I. Lenin. *Collected Works*, Vol. 10, Progress Publishers, Moscow, 1978, p. 48.

vate property belonging to them. Freedom, consequently, is a historical phenomenon. It was impossible to be free in knowledge alone, in thought, and in fantasy. That is not real freedom. It is subjective freedom, i. e., an abstract possibility of genuine freedom. Real freedom is only possible given the appropriate objective conditions. These conditions are created with the transition to communism. The whole period of building socialism is a process of steady growth of freedom for each member of society and consequently for all society. "The free development of each is the condition for the free development of all," Marx and Engels proclaimed in the *Manifesto of the Communist Party*.[1]

The attainment of freedom for everyone and for society as a whole calls for fulfilment of the following very important conditions, and above all of a powerful material and technical basis. That is possible *only when the advances of scientific and technical progress are united with the advantages of socialism.* The development of the productive forces must be raised to a level that ensures maximum freeing of man from heavy, exhausting labour and from dependence on nature. That will create the conditions for getting a full, all-round education and flowering of everybody's capacities, which in turn will significantly increase the opportunities for satisfying everybody's material and spiritual needs. At the same time it will open up unforeseen prospects for further creative transformations and improvement of all social life.

The development of people's conscientiousness, a deep understanding of the proper relation between personal and social (public) interests, and the forming of rational wants and needs, self-discipline, mutual respect, and strict observance of moral standards and law and order, are no less important. Freedom is unattainable in general without this condition. Freedom is only possible if every person is capable of restricting his/her actions and intentions independently, without outside coercion so as not to limit the freedom of others. Until this level

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[1] Karl Marx and Frederick Engels. *Collected Works*, Vol. 6, Progress Publishers, Moscow, 1976, p. 506.

of conscientiousness has been achieved, the functions of regulation of social relations will continue to be performed not only by the citizens themselves but also by various social organisations and institutions. As people's conscientiousness increases, these functions will be increasingly performed voluntarily by society's members themselves. This is why the all-round development of conscientiousness is a most important requisite for achieving freedom by society at large and by every individual. Insofar as these two conditions can only be achieved in the period of the transition to communism, Marx, Engels, and Lenin had every reason to consider that period as transition from the kingdom of necessity to the kingdom of freedom.

The attaining of freedom in the sense that Marxist-Leninists understand it, is consequently the historical goal of mankind, because only a free person living in a free society can display all his/her creative powers in fact and in practice for his/her own and other people's good. When these creative forces are needed, not for waging war and not to achieve selfish aims, but for unlimited development of the individual's capacities and improvement of human life, then the kingdom of freedom will be created. But it will arise, not in spite of historical necessity, but through it, through overcoming the contradiction between freedom and necessity created by the development of antagonistic socio-economic formations.

603 *The Role of the Individual and of the Masses in the Development and Life of Society*

The ideologues of exploiter classes have always claimed that freedom and creation could only be the birthright of the chosen few, and that the majority of the people, contemptuously called the mob, were only capable of obeying and fulfilling the designs of eminent personalities, the creators of history and culture, by their forced labour. Freedom and creativity were thus matters closely linked with the role of the individual and of the masses in the making of history.

Can we, in fact, regard history as a process of the growth of human freedom, if this freedom is available only to individual persons? Can we consider that the

regular transition from the realm of necessity to that of freedom means that the latter allows only individuals to display their creative talents, while the broad masses remain just the background for them, simple performers of their will and designs? When answering that Marx, Engels, and Lenin stressed that communist society was the real realm of freedom for all, and that historical development should lead the broad masses, the real creators of history, to freedom. The concept "people", or "masses", is itself different in the different socio-economic formations.

In antagonistic societies the people are by no means the whole population of a country or state, but only the most considerable part of it. They are primarily the *working masses* who create all material wealth and the material culture of society. The people's role in the making of history is determined by their constituting society's main productive force, and being in that sense *the real makers of history*. But the activity of the masses is not confined just to material production. The working people also create the foundations of spiritual culture — folk art, folk architecture and building. They develop national languages, are the bearers and creators of most important spiritual values, of a conscientious attitude to work, patriotism, national self-consciousness, and so on.

At the same time the masses differ in their level of creative activity in different historical eras. When we read books on the history of society, visit art galleries, listen to great musical works, we constantly come across the names of outstanding personalities, statesmen, generals, artists, and musicians. The names of the millions of simple working people are unknown. It is on just such facts that bourgeois ideologues rely who claim that history is made by eminent individuals, and that the people are only the passive material of history. Matters are not like that in fact. Among the millions of ordinary working people who have remained nameless, there were many highly gifted and talented people whose talents did not get developed and applied as they should have been just because antagonistic society did not need their capabilities on the one hand, and did not allow them to develop, and stifled "excess tal-

ents", on the other. But why was that? Surely the dominant classes could have gained, and benefited, from development of the capacities of all the working people? It transpires that this development of capacities was not only unnecessary in class, antagonistic societies, but, which is much more important, incompatible with exploiter modes of production, since the social activity and creativity of the masses increased their revolutionary spirit, self-consciousness, and resistance to exploitation. That is why the dominant classes prevent development of the broad masses' real creative capacities. That is why the history of antagonistic formations has only preserved the names of a few outstanding people for us.

To some extent the working people, even when they are engaged in forced, exhausting, and monotonous work, always create something new. But their activity is limited by the level of development of the productive forces and the form of the dominant relations of production. Even in conditions of relatively rapid development of machine production under capitalism, the workers were simple appendages of the machines. Their inventiveness, rationalising activity, organisational capacities, and creative initiative were only supported when they brought additional profit. In the conditions of exploiter society therefore the initiative and creativity of the masses are restrained by the conditions of social being.

At *sharp turning points of history*, however, as antagonistic contradictions sharpen, and during social revolutions, the *conscious political activity of the masses rises steeply* (421). And each time that leads to qualitative growth of public and political activity, which is confirmed by the history of the revolutionary and national liberation movement in all countries. Outstanding political leaders, generals, thinkers, production organisers, etc., have been thrown up from the people themselves. We thus come to the conclusion that there are quite definite objective relations between the masses and individual personalities in history.

Historical materialism does not deny the role of the individual in history and public affairs. In opposition to subjective idealists who suggest that outstanding personalities determine the fate and destiny of peoples by virtue of their high talents, and direct the development

of culture by their will, while the masses are only performers of their designs, the philosophy of Marxism-Leninism considers that individuals can have a marked influence on the course of social events in quite definite conditions. What are these conditions? Such-and-such a figure can influence the course of historical events if he/she very deeply and faithfully reflects the interests of a certain class or social group, and knows how to organise the struggle of the masses for certain aims, and if he/she relies on the support of certain social forces and, moreover of all the people. Such a personality can leave a definite mark on the development of society when his/her activity and the products of his/her creativity most deeply reflect the needs of the time and suggest ways of tackling unresolved problems.

Now we can appraise the role of the individual in history more exactly. Such-and-such an outstanding public figure can be considered progressive when he/she expresses the interests of advanced, progressive classes and forces of society, and devotes his/her life to realising progressive social ideals. The individual's real historical progressiveness is determined by how far he/she furthers solution of the real socio-historical tasks facing a given nation or state, on the decision of which society's gradual development depends. A person who promotes human freedom, the attainment of high social justice, improvement of the habitat, achievement of the ideals of humanism, development of democracy, and understanding of the truth, is progressive. Such people can also have a marked and sometimes very significant effect on historical progress. But a rigid, unequivocal division of all historical personages into progressives and reactionaries would be too primitive. All people, including public leaders, are complicated and ambiguous, often change their positions and views, and behave differently in different historical situations. Actual social activity is also the true criterion here of truth, and the basis for a proper appraisal.

We see that the counterposing of the individual to the masses is itself the product of that stage of social development when there are not the objective, economic, social, and cultural conditions for an active creative life and full self-realisation of everybody. In the conditions

of antagonistic formations, of course, the working people are not completely depersonalised and are not completely similar cogs in a gigantic social machine. But their individual capacities and inborn qualities are not fully developed but are crushed and killed by exploitation, hard conditions of life, and lack of opportunities for harmonious all-round development. Harmonious development of the individual is impossible in modern capitalist society, because that society is itself inharmonious. For each person and each worker to be able to develop to the full as a rich, all-round individual, social reforms have to be carried out leading to the kingdom of freedom.

604 *The Individual and the Masses in Socialist Society*

Socialism is shaped and moulded in tough, and often protracted struggle. But, having arisen and become consolidated, it is opening up quite new opportunities for development of the individual. The decisive factor of social development under socialism is also the masses of the people. It is through their revolutionary creativity that new forms of life are being formed, a new social system, a new culture and new relations between people. The opponents of socialism, in trying to present it in an unfavourable light, constantly assert that the drive toward all-possible development of the masses' revolutionary creativity makes socialist society a mass society in which there is no place for brilliant individuals and for the development of individuality. If the masses are the decisive force in production, social and political life and all social reforms, and if the guiding force is Communist and Workers' Parties, the individual, they say, does not play any more significant role in that society than a cog in the work of a big factory. Therefore the socialist formation provides nothing good for brilliant, original, personalities. Their arguments, however, are quite untrue theoretically and in practice.

The masses, i. e., the broad layers of the working people, are the decisive force of all history and of all socio-economic formations. Their role, functions, and structure, and their relations with the individual in antagonistic formations are nevertheless qualitatively

different from what exists under socialism. Two models are possible here.

The first model is that the brilliant, original personality or group of such personalities constitute a special elite, a stratum of the elect who guide and lead the rest of the people who form the masses, impose cultural notions, tastes, stereotypes of life, patterns of behaviour on them, and lead them along the chosen path to goals they themselves have determined, like a shepherd leading his flock. The other model is that the human collective itself, the masses themselves consist of brilliant, original, independent, personalities of broad outlook and education. Each of these individuals is involved in developing social and political aims, in accordance with his/her capacities and preferences, and in the creation of cultural values and the shaping of the way of life and standards of behaviour.

In the first case we have a collective of faceless, average, uniform individuals, interchangeable, and not representing great social value. In the second case we have an aggregate of brilliant, energetic, all-round developed people who aspire to the fullest self-realisation, with allowance for the common interests, moral standards, and social justice (601). It is this second model that is the image of the relationship of the masses and individuals under socialism.

It does not follow, however, that this second model begins to operate immediately in socialist society just as soon as it is formed and consolidated, and that everybody automatically becomes a brilliant, bold, all-round developed, freely thinking, creative personality. Everything is much more complicated in real life. People take part in socialism with their individual peculiarities, group interests, and patterns of behaviour inherited from the past. Because of social inertia they still pass on their views, habits, way of life and behaviour for a long time to the rising generations, bringing them up in their own image and likeness. The moulding and development of the socialist individual and the creation of a truly socialist personality, and, moreover, not a separate individual but a mass of free, creative, conscious individuals who respect one another and the rules of social life is therefore not a simple or easy business. It calls for

no little effort and a struggle against those who consciously or unconsciously prevent movement ahead, and block the forming of everyone's active life position. The smugness, complacency and shortsightedness, conservatism and bureaucracy of some of the leadership of Soviet society for instance, led from the mid-1970s to a slowing down of growth rates, a retarding of socio-economic development, and a lag in science. For a number of reasons difficulties and dialectical contradictions (407) thus arose in socialist society, that it is taking great efforts and perseverance to overcome. Everyone who criticises an unsatisfactory state of affairs, uncovers shortcomings, tries to alter the existing order of things and to activate and improve all kinds of production, social, political, and intellectual activity, excites and unfriendly, ill-disposed attitude among conservatives. The moulding and activity of an individual who aspires to realise the ideals of socialism, involves struggle, without which there cannot be movement ahead. Only a society in which each individual is free and utilises freedom for the good of society, and consequently for his/her own good, can be free and thriving.

That is why recognition of the growing role of the broad masses under socialism not only does not rule out creation of the requisite conditions and guarantees for maximum development of everyone's capabilities and personal characteristics, but on the contrary presupposes and demands it. The more brilliant, dedicated, selfless, high-principled, gifted, talented people there are in society, the more society itself will benefit from that.

605 *Socialist Democracy and Communist Education*

Attainment of the ideal of socialism presupposes realisation of supreme justice and fairness in the distribution of material and spiritual goods, full observance of law and order and legality, observance of all the rights of man. In socialist society politics (226) and education are the most important instruments by which these aims are achieved. But the instruments do not operate of themselves. At the centre of political and educational activity stands man, the human being. But hasn't man always, and in all societies, been engaged in

political activity, and in the upbringing of people like himself, and especially of the rising generation? What is there new in this sense under socialism?

In antagonistic societies political initiative, and also the main educational function, are in the hands of the dominant classes. Their spokesmen (priests, ideologues, parliamentarians, and statesmen), are the subject and active force of this activity. The masses are the passive object, the "field" so to say, that the representatives of the dominant elite plow and sow as they think best.

The distinguishing feature of socialism is just that in it very broad strata of the working people are at once the subject and the object of political activity and education. They themselves govern society and develop the standards of social behaviour. The instrument of this new order of things is socialist democracy.

In Greek "democracy" means "rule of the people". Such modes of organising power and authority in which the broad masses elect the politicians and leaders who head the state and make the laws, are usually called democratic. In the little states (city states) that existed in Ancient Greece, all the free adult members of society took part in the election of various officials and judges who enforced the laws, administered justice, directed the everyday business of the state and its defence, and conducted international affairs. In the old city states laws were also adopted by universal vote, but one must remember in that connection that democracy then had a limited, class character, since slaves did not take part in it, being deprived of the right to vote or be elected.

In modern states democracy operates through a system of representatives who are selected on the basis of certain laws, and whom the voters entrust in the intervals between general elections with the making of laws, control over the executive branch, and discussion of all problems of interest to society. Such, for example, is the structure of contemporary capitalist democracy. In reality, however, such democracies only formally grant all citizens equal rights and an allegedly equal share in the exercise of power. The formal legal equality before the law, and the equal rights and duties of mem-

bers of society are reduced to nought in fact by economic inequality and the existence of rich and poor. The mass media, election campaigns, and public opinion are in the hands of those who have powerful material and financial resources at their disposal.

Only under socialism are the conditions for real equality created for the first time, and not just formal legal equality, but social and economic equality, for all members of society. It does not follow, however, that the establishing of real people's power proceeds smoothly in all socialist countries, without difficulties, without deviations, and without separate cases of breach of socialist justice. The strength and advantage of socialist society, however, is that it is capable of critically recognising mistakes and deviations from the ideals of socialism and of overcoming them and rooting them out. This cannot happen, however, without a struggle between the supporters of progress and conservatives, between the defenders of democracy and bureaucrats. It is in this struggle, however, that real political convictions are built up, and political, democratic consciousness consolidated.

In the USSR members of the supreme legislature and local authorities are supposed to report to their electors according to the existing legislation and the Constitution. If elected representatives do not fulfil the voters' will or defend their interests adequately or satisfactorily, do not uphold democratic precepts, and do not fight for social justice, the electorate has the right to recall them and elect new people. During the election campaign various social organisations and work collectives can nominate candidates with different points of view on how the interests of the people should be defended and on how the most pressing, urgent social problems should be tackled.

Democracy is widely practiced in socialist society in management of the economy, in the distribution of material wealth, and in the organisation of the work of work collectives of industrial and agricultural enterprises, co-operatives, and research and design institutions. Each member of a work collective who has the requisite knowledge and experience, who enjoys the respect of his comrades, and who has the appropriate personal inclina-

tions, can be elected to management posts. In capitalist society the management of enterprises, concerns, and transnational companies is not elected by the people who work in them, but are appointed by the owners and shareholders. In socialist society, on the contrary, democracy is full; discrimination by race, nationality, property, religious belief, education, or sex does not exist in it.

The French philosopher Helvetius noted, back in the eighteenth century, that a person was educated from the very beginning of his/her life, not so much by words, the comments of teachers, and the sermons of parents, as by reality itself, the conditions of life, and the social set-up in which he/she lived and the activity in which he/she engaged. One must not think that people are deprived of passions affection, antipathy, strong character. On the contrary, they possess them in full measure. Broad openness and publicity in the discussion of all the problems interesting any citizen, interest in the fate of one's work collective, and active involvement in decision-making at all levels of the economic and state system make it possible for all these features of the individual to be displayed to the full. When realising himself/herself, each individual must, in the conditions of socialist democracy, give full consideration to the interests, personal aims, and peculiarities of other people. Under socialism unprecedented opportunities are thus opened up both for the inculcation of a feeling of collectivism and for the moulding of distinct, individual features, and disclosure of everybody's capabilities. For the first time in history, the aims and interests of society as a whole fully coincide with those of the person.

606 *Acceleration of Socio-Economic Progress. Reorganisation (Perestroika) and the Human Factor*

Socio-economic and spiritual progress (422) is an integral feature of society. But in various periods, and in different socio-economic formations (213, 217-220) it occurs unevenly, at different rates, frequently being interrupted by broad spells of stagnation and even regress. Stagnant periods are also possible in the development of socialist society. In the Soviet Union, despite

rapid rates of socio-economic development over several decades after the socialist revolution of 1917, the rejection of economic methods of management, excessive centralisation, rejection of the principles of socialist democracy, and authoritarian methods led to a strengthening of stagnant tendencies.

All that made it necessary in the mid-1980s to recognise the need to reorganise the economy and social and political life in a radical way. This reorganisation *(perestroika)* is affecting all spheres of public affairs, all social institutions and political organisations. It is calling for an end to be put to bureaucracy, corruption, breach of the rule of law and of human rights, and to subjectivism in political leadership. *Perestroika* is also affecting the Communist Party, which is taking the road of inner democratisation and pursuit of real political activity in full accordance with the theoretical principles and ideology of renewal. Realisation of this perestroika, which includes greater economic independence for the work collectives at enterprises, extension of co-operatives and of self-employment, should provide the preconditions for an acceleration of scientific, technical, and social advance, and for a stepping up of all forms of social, economic, and intellectual and cultural activity. The orientation on furthering socio-economic development is also associated with a philosophical rethinking of the role of the human factor.

It would be wrong to understand the human factor in a simplified way, as the sum-total of causes activating people's production and social activity. People not only work, not only take part in political life and affairs, but create families, rest and relax, read, watch TV, communicate with friends, concern themselves with various kinds of non-productive affairs at their leisure, bring up children, amuse themselves, dream, and so on. Deprived of ordinary everyday joys and cares, worn out by bureaucratic measures, exhausted by various technical strains, and in a state of stress, they cannot be complete, whole citizens, family people, creators of their own destinies, and sound members of a collective. If suitable conditions for a normal human life are not created, the human factor may be converted from a mechanism of progress into a brake on

it, weakening people's activity, and lowering their social, production, political, and personal tone. The importance of a philosophical comprehension of the role of the human factor in the development of society lies in understanding its contradictory nature and in the need for conscious stimulation of its positive aspects, thus reducing to the minimum its negative aspects that arise when real human interests and needs are not taken into account. At the same time there are differences and often contradictory tendencies in social reality. Therefore, even in a society that has taken the road to socialism, there is room for a certain property inequality, differences in the life of various strata of the population, and of ethnic and vocational and occupational groups. There are also differences in the intellectual and moral situation that do not always coincide with the ideals and principles of justice, humanism, and democracy. Crime, corruption, bureaucracy, individual displays of lawlessness, social passivity, etc., are possible. The striving to activise the human factor means, above all, a desire to inculcate in people's consciousness an awareness that all these negative phenomena cannot be rooted out just by compulsion and state control, by action "from above". A real transformation of life, and a radical restructuring of it, are only possible through the constant efforts and strivings of each and everyone.

607 *The Road to a New Civilisation*

The acceleration of socio-economic advance, as an objective law of developing socialism, opens up new prospects for perfecting of human civilisation. What is "civilisation"?

We often speak of civilised society, civilised people, civilised behaviour, etc. The concept "civilisation" is one of the very important categories of historical materialism that characterise the essential features, structural peculiarities, and tendencies in the development of society. What are these features, peculiarities, and tendencies?

The category "socio-economic formation" (213) characterises society from the angle of the factors determining its development. It indicates that the structure

of society, its qualitative wholeness, and the objective laws of its historical development, and also the sequence and succession of social structures, depend on the mode of production of material goods. But historical materialism never reduced (and does not) all the forms and types of social activity, and the content of spiritual culture, just to material production. The more developed a society is, and the higher the level of development of its formation, the greater is the significance and meaning acquired in its life by art, morality, science, philosophy, and law, and the more complex the forms of social behaviour and conduct become, and the richer the forms of relations and communication between people. All these aspects of social life, which embrace both the material and the spiritual elements of society regarded as a "social organism" and as a special dynamic system (106), are reflected in the concept of civilisation.

This concept appeared originally in the philosophical literature of the eighteenth century. The French enlighteners, and later bourgeois thinkers in the United Kingdom, Germany, and Russia, employed the concept to describe the life and culture of developed, relatively highly cultured societies in which there was a certain state and legal order. They counterposed civilised society to uncivilised, barbaric, savage, primitive society. Various conceptions of civilisation therefore often came to be employed to justify the special "civilising mission" of developed capitalist countries in relation to backward countries and peoples, and emerged in essence as a justification of capitalist states' policy of colonial conquest. The fact that countries and nations that had lagged behind in their development often had their own ancient, indigent, interesting culture and civilisation was simply not taken into account, and that led to the destruction of many valuable memorials of culture, causing unjustified damage to national cultural traditions.

Oswald Spengler (1880-1936), the reactionary German philosopher and historian of culture, regarded civilisation as the final, critical stage in the development of any closed historical culture. From his standpoint this stage was characterised by the development of

technology, huge concentrations of people in big cities, decline of morality, and law and order, a loss of interest in cultural values, degradation of the arts, and so on. The English historian Arnold Toynbee (1889-1975) understood civilisation only as a means for distinguishing, recording, and studying the aspects of each established original culture. The concept "civilisation" obviously played and plays a marked role in analysing complex social phenomena, but a truly scientific understanding of this category has only been given by Marxist-Leninist philosophy.

Civilisation is a certain stage in the development of social life characterised by a special division of labour, by social processes built on that basis, and by various forms of the interaction of people. In present-day socialist society, in which there are only friendly classes and social groups, civilisation is characterised by the degree of development of culture and social relations, and by the level of development of social-production activity, in their organic dialectical interaction. The new civilisation presupposes a society with highly developed spiritual and material culture in which standards and rules of communist morality prevail, a society whose moral principle, i. e., the principle of behaviour and activity, is mutual aid, mutual benevolence, a creative attitude to the individual, conscious observance of law and order, and a high level of labour, production, and executive discipline. The new civilisation does not arise immediately in ready-made form. It takes shape in the process of overcoming the survivals of capitalism in consciousness and daily life, the standards of behaviour and activity incompatible with socialist culture, socialist morality, and the principles of social organisation. A characteristic feature of the new, communist civilisation is a striving to overcome the cultural and economic backwardness of separate peoples and nations, and to provide equal conditions for the development of all countries and nations that have taken to road to socialism. The new, socialist civilisation is incompatible with the "civilising mission" that capitalist ideologists considered the privilege of only a few, highly developed capitalist countries. This also makes the new, socialist civilisation attractive in the eyes of millions

of people and the struggle to preserve and develop it the goal of their social and personal activity. The further perfecting and development of the new civilisation calls for clear, scientific understanding of its perspectives, its immediate and long-term goals.

608 *The Struggle for Peace and the Destiny of Humankind*

One of the most important and most acute problems of today, associated with the very possibility and perspective of the existence of man is the struggle to prevent nuclear war, to consolidate and maintain peace.

Wars have existed as a certain form of violence and compulsion since remote antiquity. With the rise of classes and states, war became a special form of political compulsion. War is a continuation of politics by other means. War is a continuation of the politics of some class or other. In each class society — slavery, feudal, capitalist — there have been wars that continued the policy of the oppressor classes, and there have also been wars that continued the policy of the oppressed classes. There are thus just and unjust wars, defensive and predatory wars waged in the interests of the ruling classes, and revolutionary-liberation wars waged in the interests of the working people.

Most wars that started in exploited societies were unjust, predatory, wars of conquest. They were profitable to the ruling class and caused immense suffering to the toilers. In slaveowning society, wars were a main source of slaves. Heraclitus, the Greek philosopher, said that war was the father and lord of all, making some slaves and others freemen.

Although Christianity condemned war in words, the whole Christian Middle Ages were a time of continuous predatory wars, crusades, internecine feudal wars, etc. In the age of capitalism wars became particularly fierce and bloody. The inhumanity of capitalist society, the main aim of which is to make profit and increase private property at any price, was displayed particularly clearly in the many wars and campaigns to seize colonies and conquer other nations. Gain, enrichment, consolidation of the power of the ruling classes were the main content of unjust wars. But, during social re-

volutions and during national uprisings just wars arose.

Since wars are associated with the death of people, and the destruction of material and spiritual values, avoidance of them has always been one of the most important ideological and philosophical problems. In the depths of antiquity, but especially in modern times, many leading thinkers, for instance the humanists of the Renaissance and the thinkers of the French Enlightenment (Rousseau, Montesquieu, Condorcet), Kant, and others sharply condemned wars, put forward schemes for lasting peace, and called for expenditure on the peaceful development of society rather than on armaments. But all these good intentions were abstract and did not take into account the fact that a society based on private property, with its inherent, profound antagonistic contradictions (406) necessarily gives rise to wars.

The question of stopping wars became most acute in the age of imperialism when the development of technology made them particularly bloody and destructive. The First (1914-1919) and Second (1939-1945) World Wars unleashed by aggressive imperialist states, claimed tens of millions of human lives, and led to the destruction of hundreds of towns and thousands of villages, and of productive forces, and the loss of many cultural valuables. Aggressive wars of conquest are rooted in the very nature of imperialism. At the same time the crisis of world capitalism and the transition, to a new, socialist society (which is the content of our epoch), and the break-up of the colonial system, gave rise to a number of just, national liberation, and civil wars. Examples of these wars are the civil war in Russia, the national liberation war of the Vietnamese people, and the Great Patriotic War of the Soviet people (1941-1945).

While recognising that wars have objective economic and social causes in class society, even with the sharpening of the social contradictions that are tearing mankind apart today, Marxists believe there is no fatal inevitability of world war. The dialectic of freedom and necessity (602) shows that the human race is capable of understanding objective patterns correctly, and by relying on them is capable of taking and carrying out proper decisions. That conviction is based on the

persistent, stubborn, systematic struggle of Communist and Workers' Parties, socialist countries, and all the progressive forces of humanity to prevent a nuclear war.

All wars lead to the death of people. In some cases these sacrifices are completely unjustified; in others (for example, in revolutionary and liberation wars) they are accepted in the name of freedom, independence, and the happiness of the majority of the members of society. But in a nuclear war there will be no justified or unjustified victims. If unleashed, it will annihilate everything living on Earth, man himself included.

The prevention of nuclear catastrophe has thus become a matter on whose decision the destiny of the human race, the existence of society, and the possibility of further historical progress depend. It has therefore acquired paramount ideological, philosophical significance.

With the rise of socialist society, of the socialist community, there is the possibility of preventing world war for the first time in history. Where does this possibility come from? The point is that the principle of peaceableness is inherent in socialist society and in the very nature of socialism. A society in which there are no antagonistic classes and private property has no interest in waging wars. If it is forced to fight defensive, just wars it is only in response to the aggressive actions of imperialist states. Socialism, in its very essence, is interested in peace as the main condition for rapid development of material production and spiritual culture in the interests of all society. Furthermore the world socialist community is not only interested in maintaining peace, but also has enough economic, political, and military might to oppose world imperialism's aggressive intentions. This power and might is an important guarantee for the maintenance and strengthening of peace.

Resolutions and statements of the Communist Party of the USSR proclaim very important theses about the struggle for peace, prevention of nuclear war, peaceful uses of outer space, and peaceful coexistence of states with different social systems. The Communist Party and the Soviet Government uphold a broad, construc-

tive programme of measures to stop the arms race, effect disarmament and maintain international peace and security.

In today's world faced with the global nuclear danger, a clear awareness that all group interests should be pushed into the background and the interests of maintaining peace, and consequently of saving mankind, should be brought to the fore, is of the greatest philosophical importance. The forces struggling for peace therefore reflect very profound general interests of all humankind.

609 *Predicting the Future*

The philosophy of Marxism-Leninism is above all a philosophy of action. It was not without reason that Marx and Lenin, when speaking of its main task, stressed that dialectical materialism, unlike all preceding philosophical systems, did not limit itself to explanation of the world but indicated the road to transforming it, and substantiated the need for such change. In order to act, one must know how to plan activity, and in order to plan it, one must know how to foresee and imagine the future. That is why people, as rational, purposively acting creatures, have always tried to dispel the fog that veils the future, and get a glimpse of it. Life, however, seldom conforms even to the boldest predictions and forecasts. Why?

A very fashionable trend in modern social thought in the West is futurology. Western futurologists, basing themselves on various, allegedly scientific methods, try to paint various pictures of the remote and immediate future of mankind.

One of these pictures represents humanity in the twenty-first century as a gigantic concentration of colossal industrial centres. Thousands of factories, fully equipped with robots, make the work of the average person superfluous; billions of people will become superfluous inhabitants of Earth, and men of genius will be called on to govern mankind. A special organisation of power will arise — geniocracy. The billions-strong army of dispirited, dull, faceless people will be doomed to extinction; and a gigantic entertainment industry will be needed in order to occupy their leisure. Lacking

interest in life and will to struggle and act, people will be only a burden to the ruling elite. There will be no prospect for such humans other than gradual extinction.

Another picture of the future is painted as an allegedly opposite process. The gigantic towns will begin to be deserted; people will strive to get back to nature and to hamlets. Employing modern techniques, including microcomputers, they will set up small and medium-sized enterprises. A host of independent, isolated, competing enterprises and communities will arise. People will endeavour, on a new industrial base, to revive the "golden age" of the mediaeval guilds, producing a modern product. Only in conditions like that, the authors of such scenarios of the future claim, will it be possible to preserve even the slightest individuality and human personality. Otherwise all people will become completely depersonalised, converted into "one-dimensional" creatures and simple appendages of immense industrial enterprises and transnational corporations. The break-up of society into separate communities is the price for preserving even a shabby, squalid, wretched, mediocre personality.

An even gloomier picture is painted by the authors of scenarios that assume the inevitability of atomic catastrophe and extinction of the human race through its destructive consequences. Sick and disfigured people will either be unable to control modern technique and provide themselves with food and shelter, or will be converted into the slaves of "immortal", undying robots.

Without going into the details of these scenarios, let us note their main feature, viz., that they all start from the idea of the eternity of capitalism. And the gloomy foreboding of its inevitable death is converted into just as gloomy and pessimistic a forecast. Capitalist futurologists are ready to assume the extinction of mankind, triumph of a realm of robots, and the domination of fantastic, extraterrestrial civilisations, etc., anything except victory of socialism.

The idea of the triumph of socialist society, and of a new, just social order, did not arise yesterday. Long before the works of Marx and Engels appeared, there

was utopian socialism (233). The most talented of its spokesmen painted bright pictures of a socialist future, filling them with the most amazing details. They described the dress and life of the inhabitants of this society in detail, created detailed schemes and plans of their houses, of the routine of their days, and of the constitutions and laws of the future socialist communities, and determined in advance how marriages would be concluded and children brought up. The spokesmen of this imaginary utopian socialism were convinced that it would come about through the enlightening, educational activity of outstanding thinkers rather than through revolutionary mass struggle of the working people. There is no need to say that their dreams never came true, because true socialism and communism could only be built by persistent, bitter struggle by the broadest masses of the people led by progressive parties relying on the theory of scientific socialism rather than on utopian socialism.

The theoretical and methodological foundation of the theory of scientific socialism is the philosophy of dialectical materialism. By disclosing the most general laws of the development of nature, society, and thinking, and showing that it is social being that determines consciousness, and that revolutionary change as a great historical leap from the realm of necessity to that of freedom, must be begun with transformation of social being itself, dialectical materialism substantiates the objective necessity of transition to the communist formation.

Having established the historical inevitability of communism, Marxist philosophy does not propose any utopian pictures of the future. It does not impose any details onto the future based on present-day notions and achievements. (Incidentally, allowing for the mounting rates of scientific and technical advance, it is simply impossible to predict such details.) In addition the philosophy of Marxism, which generalises the experience of historical development and of the international working-class movement, outlines with scientific reliability the main stages of the transition from capitalism to socialism and from the first phase of communism, i. e., socialist society, to its second and higher

stage, i. e., full communism. This transition may be realised in different forms allowing for the specific features of each country, the balance of class forces, the international situation, and the time when the revolutionary process begins (214). But, however varied its different forms, the content of this process is one and the same. It includes stages of the building of socialist society, and of its all-round improvement, and of the transition to communism.

As experience of building communism is accumulated, scientific notions about the highest phase of the new society will be enriched and concretised. Any attempts to run ahead, to introduce communist principles without allowance for the level of society's material and spiritual maturity are doomed to failure, as experience has shown, and may cause losses of both an economic and a political character.

How and when each nation and each country will take the road to socialist and communist reforms, and in what order they will do it, can only be answered by history. Marxist philosophy indicates only that these reforms and transformations are inevitable. Therefore, while not predicting the details of the future, it substantiates the historical inevitability of the coming of communist society the road to which will not be simple and not be easy but is in the order of things. And that is what determines the contribution of Marxist philosophy to the shaping of a scientific world outlook, and makes it the most important instrument for inculcating communist consciousness. Thus, when the philosophy of Marxism speaks of the future and draws aside the curtain covering it, it does not paint in fantastic details but points out the main laws, patterns, and stages of the road that must lead to communism.

A Last Chat with the Reader

What can one say about present-day philosophy? How can one answer whether it is needed? What good can one extract from knowledge of its main problems, methods, and content?

It is said that over the gate to the temple of Delphi, where Pythia the Delphic oracle forecast the future, there was an inscription "Man: Know Thyself". The long history of human thought and the history of mankind indicate that this is by no means a simple task. People have built and destroyed cities and whole states. They have covered infertile lands with orchards and gardens and converted beautiful pastures and vast forests into deserts. People have created wonderful works of art and great literary masterpieces but they have also destroyed magnificent memorials of architecture, burned libraries, persecuted and sometimes even killed great philosophers, astronomers, scientists, artists, poets, and politicians. People have fought and become reconciled, done evil and good, struggled for justice and denied the very possibility of it. They have given the world heroes but have also given it terrible criminals. So what is man? How are we to know him? Is such knowledge possible? And what is its value?

The external world that science studies is complex and beautiful. We now know how atoms and elementary particles are constructed. Much is known about the Universe, whose diameter is roughly 25 billion light years. Man has flown out into outer space and has built computers that perform dozens of gigaflops a second, and are capable of solving problems that not so long ago could only be solved by man, and even problems that cannot be tackled without computers. But

all man's actions and all his deeds are very contradictory, very heterogeneous and diverse, and often negate one another.

It is quite difficult to know man and human society, and it is even more difficult to predict the future of the human race. Knowledge of the external world acquires sense and meaning provided that we can say why this knowledge is necessary and what it yields to mankind. None of the specialised sciences gives an answer to that, and none can. At the same time we know that man gets knowledge of the world in order to satisfy his needs. The world consequently cannot be known without knowing what these needs are and what is the sense of human being. Man, however, on the contrary, cannot be known without knowing the world, because human beings are a particle of it, the crowning glory and consummation of its long, complex development. So, it turns out, the two tasks of knowing the world separated from man, and of man counterposed to the world and separated from it, are quite incompatible when taken separately. Only an overcoming of the external oppositions of these tasks and bringing out of their deep inner unity lets us come to a correct answer.

Only by finding a true method for discussing the problem of man's place in the world and of the essence of the relations between man and external reality, can we know what the sense of human being is, and what is man's purpose. Dialectical materialism provides this method. It shows that man travels a hard road of mistakes and discoveries, tireless struggle and agonising search for truth toward his cherished goals — freedom, justice, unlimited creativity, and harmonious flourishing of his capacities. All world religions teach that the greatest creative act, the creation of the world, is the work of God. Man, having discovered and realised his creative possibilities, can far exceed the imaginary creator of the world religions. He can establish justice, and a rational and humane social order in which there will be no humiliated and scorned, no exploited and rightless, no persecuted and persecutors, no obedient subjects and despotic conquerors. Such a society, instead of dominating nature, could live with it in full

harmony, and everyone could enjoy her gifts without detriment to others.

It is to such a social ideal, a society in which everything is created by man for man himself, that the best thinkers of the past aspired. But what prevented their dreams from being fulfilled? Almost all the unsuccessful reformers and "benefiters" of mankind considered the cause of that to be people's bigotry, conservatism, and ignorance, and their tendency to evil. But however much they unmasked these shortcomings, and however fiery their appeals to the best sides of human character, the state of things did not alter for centuries, and justice and freedom remained unattainable. Pythia's call to man to know himself, or in other words to know the essence of society, remained impracticable.

Only with the rise of revolutionary Marxist-Leninist philosophy was it first shown and confirmed by science that the essence of the matter comes to a transformation of society and of its socio-economic structure. The adherents of the Marxist world outlook, having developed a materialist conception of history and created a revolutionary political organisation capable of leading the struggle of society's progressive forces for its social transformation, have shown that to know man means to regard him as the concentrated expression and manifestation of historically determined social relations. Man's consciousness has a social character. In order to remake social consciousness it is necessary to transform social being in a revolutionary way. In order to replace base passions, thirst for power, selfishness, destructive will, and other negative aspects of human behaviour by humane creativity, passion for knowledge, humanism, and lofty morality, it is first and foremost necessary to alter social reality and social relations and create truly human conditions for man.

It is not an easy matter to attain these ends. No few difficulties have been met, are being met, and will be encountered on the way to them, and many mistakes have been and will be made, because mankind still does not have experience of social transformations on such a scale and of such an extent. But in order to foresee the possible objective difficulties to the max-

imum, and to minimise possible mistakes and miscalculations, the progressive forces of society need to be guided in their activity by a scientific, progressive outlook on the world on the basis of which new thinking must be based and perfected. That is precisely why it is necessary to study the fundamentals of Marxist philosophy that has accumulated in itself the achievements of modern science, and historical experience and practice of building socialism. Only by means of this philosophy can we know the essence of human being and the historical perspectives and aims of society.