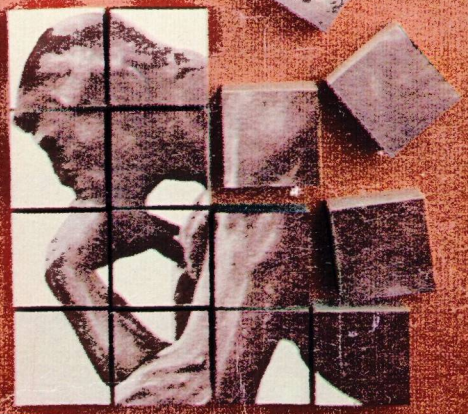
abc OF SOCIAL AND POLITICAL KNOWLEDGE

WHAT IS Philosophy?

GALINA KIRILENKO,
LYDIA KORSHUNOVA



PROGRESS PUBLISHERS

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Galina Kirilenko
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WHAT IS PHILOSOPHY?

PROGRESS PUBLISHERS
MOSCOW

Translated from the Russian by *Lilia Nakhapetyan*

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АВС социально-политических знаний

Г. Кириленко, Л. Коршунова

ЧТО ТАКОЕ ФИЛОСОФИЯ?

На английском языке

Printed in the Union of Soviet Socialist Republics

К $\frac{0302000000 - 186}{014\ (01) - 86}$ без объявл.

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I. SOURCES OF PHILOSOPHICAL KNOWLEDGE

What the world will be like in the foreseeable future is a matter of concern for everyone no matter how far removed he is from scientific work, political struggle, or revolutionary movement. What is in store for man: the holocaust of war, or a peaceful life? What will the Earth be like – will nature survive or will it be annihilated as a result of scientific and technical progress? Will oppression and social injustice disappear from the world, or will they persist for ever? These are *general* questions confronting each person living on the globe. To give correct answers to them, one should have a knowledge of philosophy.

The word "philosophy" is made up of two Greek words: σοφίγ – love, and φίλεw – wisdom and so

means a love of wisdom.

The world around us is boundless. Man can only try to solve its riddles gradually, step by step; yet he will never cognise the world completely. Philosophy embodies man's striving to engage in a constant search in order to cognise the infinite, the "roots and causes" of all things existing, and to call in to question everything he has achieved. Plato, that great philosopher of antiquity, said that philosophy had its source in surprise, in amazement.

In remote antiquity there emerged a great variety of ideas about philosophy and its purpose. The great Greek thinker Aristotle held that all sciences pursue a special aim, except philosophy, which "alone of all the sciences is free, for only this science exists for its own sake".[1] However, Cicero, a famous thinker and orator, manifestly asserted the opposite: "Thou we are turning to, thou we are asking for help. On philosophy, the lodestar of life, neither we nor human life itself, could exist without you!"[2] Some people believed that philosophy was inseparable from religion, that it helped towards a better understanding of religious dogma, while others were of the opinion that it was based on doubt and reason, and so was

[1] *Aristotle's Metaphysics*, Indiana University Press, Bloomington and London, 1966, p. 15.

[2] Ciceronis, *Tusculanae Disputationes* V, 2,5.

incompatible with religion, which proceeds from belief.

There are even more differences of opinion concerning the essence and purpose of philosophy among modern thinkers. Some of them maintain that philosophy is a doctrine about science, and others liken it to art, while still others, e. g., Albert Camus, a French writer and philosopher, assert that the only serious philosophical problem is that of suicide. There is yet another group of thinkers who suggest renouncing the very term "philosophy".

To find one's bearings in this variety of opinions, let us turn to the origins of philosophy. Where and when did it emerge? Why did philosophical thought develop quickly in some societies and slowly in others? Are all the peoples capable of fathoming the wisdom of philosophy? These are the kind of questions we are going to discuss in this book.

The Awakening Thought

Understandably, in order to be able to ponder the general questions of being, one should have some knowledge of the world which would provide food for thought. For ages and even millennia the "memory" of mankind has accumulated isolated impressions related to the causes of

natural phenomena such as solar eclipses and river floods, and stored conjectures about the reasons behind the appearance of life and its natural extinction, about the structure of the human body, etc.

Man in the ancient world, however, was not capable of generalising these isolated facts for a long time. His mind was not developed enough to form general concepts about things and he could not abstract himself from particular phenomena. For example, we know that "good" is an *abstraction*, i. e., a certain general idea, which has been formed as result of our acquaintance with many good people, whom we saw to behave in a kind, benevolent manner in certain specific cases. We are abstracting ourselves, as it were, from the inessential aspects of this concept, while concentrating on its main, basic aspects. Hence good, like evil, does not exist as a concrete being or thing. They are both nothing more than the aspects, the features of certain people and their actions. The ancients, however, regarded abstractions as if they existed in the form of concrete things; they could not abstract themselves from the concrete forms of manifestation of these abstractions. Thus, in the ancient Greek myth about Pandora's box, evil is regarded as a concrete object. The box contained all human ills in the house of Epimetheus. Pandora, his wife, opened the box out of curiosity, and so let the ills escape. That was the

way the evil appeared among people.

All the peoples of the world shared this feature at a certain stage of their development, all of them perceiving the general only through a concrete, visible image. Thus, in a fairy tale of the Ashanti, one of the African peoples, we find the same "material" concept of wisdom. Anansi, the spider wandered about the world, collecting grains of wisdom and storing them away in a pot. When the pot was full, Anansi prepared to hide it in a tree; but he got angry with his son and threw the pot down. The pot broke and the grains of wisdom scattered all over the ground under the tree where those who were quick enough picked them up, while those who were not, were left without wisdom and so remained stupid.

For a long time the human language had no words denoting such properties of things and processes surrounding man. In Sumerian, one of the most ancient Oriental languages, for example, there was no word for the notion "to kill". When people wanted to tell about someone being killed, they had to use a word meaning "to strike with a stick on the head".

The ability to make generalisations requires a knowledge of how to differentiate between the necessary and the accidental, the cause and the effect. This ability did not appear immediately. Primitive man, noticing an external likeness between things or phenomena, came to the con-

clusion that there is an indissoluble link between them. Thus, an Indian tribe living in the Orinoco valley in South America believed that only women were to engage in sowing crops: it was women, they reasoned, who were capable of giving birth, so the land will only give a good harvest if seeds were sown by women's hands. Even today, for example, people in Uganda think that a barren woman will make her husband's field and garden as barren as herself.

In ancient times, man did not separate himself from nature; he believed that nature was populated by beings like himself – the spirits of water, fire, air, land, etc. Survivals of such "personifications" of nature have persisted, for example, among some Ugandan tribes. The world around man swarms with spirits called Juoks, who are quite concrete and real for those who believe in them. In death, man himself turns into a Juok; he renders support to his tribe's chief, and helps or punishes his tribesmen.

In this way, the realm of nature and the realm of man, that of objects and that of the spirits, were intertwined in primitive man's consciousness. Man treated natural forces as living beings; he was angry with them if there was a storm, a hail or drought, and thanked the land for a rich harvest and the sky for long-awaited rain.

So the consciousness of primitive man was characterised by an inability to form abstract

ideas and differentiate between the essential and the inessential, and by the prevalence of emotions over reason. Rabindranath Tagore, the greatest thinker and poet of our times, gave a brilliant description of such a mind in one of his poems:

The silly mind, it's looking for a way
To see itself in history in vain.
It roams aimlessly, from rooms into the open,
And further to the distant fields ahead,
And to the forests dense.
It stamps its feet, and raises dust, and howls,
And bumps its head against the trees.
It rushes headlong if a light it sees
And goes in circles to arrest it.
And like a babe it falls
Onto the grass,
And knows not where's dreams
And where's life.[1]

Some thinkers, aware of the radical distinction between the primitive consciousness and the thoughts and emotions of modern man, came to the conclusion that philosophy could not have arisen on its own, as a result of the natural development of man's consciousness. They regarded philosophy as a specific gift bestowed by some

[1] J. Rabindranath Tagore, *Lyrics*, Moscow, 1967, p. 71 (in Russian).

higher, divine power on "chosen" peoples, mostly those of Western Europe. A Negro, in the opinion of Herbert Spencer, an English philospher and sociologist of the 19th century, is by his nature incapable of abstract thinking. He thinks in concrete images only, and his emotions prevail over his reason. Neither can he perceive sophisticated philosophical ideas.[1]

In the 20th century, another point of view became widely current, the proponents of which believe that man has lost unity with nature and other people in his quest for knowledge. Only Oriental peoples have retained this primitive "integrity" due to their specific, inborn features. The inability to think in an abstract, rational way, and to philosophise is therefore not an ill but a blessing. "The Blacks have been endowed with emotions," says Léopold Sédar Senghor, a Senegalese poet, philosopher and statesman, "and the Greeks, with reason,"[2] African thinking is imaginative and poetic. The conclusion drawn by the supporters of an "African personality" concept is similar to racist assertions to the effect that

[1] This viewpoint, which justifies inequality and social oppression, has long been refuted by life: young people from many Asian, African and Latin American countries studying in the Soviet Union are making good progress in all subjects, philosophy included.

[2] L. S. Senghor, *Negritude et humanisme*, Editions du Seuil, Paris, 1964, p. 24.

Africans are incapable of creating their own science and philosophy.

We can see from the above that even the issue of the preconditions of philosophy, seemingly far removed from current problems, involves ideological struggle.

Let us see what caused the specific type of thinking, of consciousness in primitive man. We should probably look for this cause in the conditions of his practical activities, i. e., in the conditions of his labour, everyday life and communication with other people. All the peoples without exception have gone through a stage at which primitive implements of labour were used. To obtain food, man had to put in many hours of exhaustive work, and was wholly dependent on nature and its "whims". Therefore, the spirits born of the fantasy inherent in primitive thinking were of a "practical" value: they could be asked to do something useful. This was why primitive man populated forests, fields and rivers with hosts of nymphs in Greece, mermaids, brownies and wood-goblins in Russia, and Juoks in Africa.

So it was man's helplessness in the face of natural forces and his lack of knowledge, skills and experience that produced "primitive thinking". To try and preserve it intact today means interfering with the development of culture and progress in general.

From Chaos to Harmony

In the course of man's labour activities, work implements were gradually improved, and experience and knowledge accumulated. The axe, hoe and spear-head became lighter, sharper and more durable, for they were now made not of stone, but of metal. Man learned to cure many diseases, came to know the useful properties of plants, and was able to forecast the weather by observing the behaviour of birds, animals, insects and plants. He was no longer absolutely helpless in his battle with nature, for he had learned to make fire, invented the wheel, tamed a number of wild animals and acquired some knowledge of growing agricultural plants. His ideas about the world changed correspondingly.

Though still thinking in concrete images, symbols of natural forces, man now created a harmonious system of images explaining the emergence of the world and all living things with a certain logic. He pondered over life and death, duty and happiness, guilt and responsibility – that is, he posed *general* questions, even though giving them the form of images. He tried to understand and explain the order of things and the stability he observed in the world.

These changes in the ancients' ideas can be traced most clearly in Greek myths. In the earlier, archaic period of his history the ancient

Greek perceived the world as something chaotic, devoid of any order. As Greek society developed, however, the picture of the world in the myths revealed a kind of system: chaos was opposed to Olympic Gods who were engaged in constant struggle against all kinds of monsters, Cyclopes and giants. As they emerged victorious, the Gods established order, harmony and stability. In their struggle they were helped by Heroes, i. e., mortals endowed with outstanding strength and insight.

The ancient Greek created a harmonious hierarchy of Gods, each of them personifying a certain type of human activity: Pan protected herds, Hermes supervised trade, Demeter was the Goddess of fertility and agriculture, Hera patronised marriages, etc. The Gods became more benign, too, since nature itself was no longer something formidable for man. Even Femida, a harbinger of misfortune in the past, now became the Goddess of law and order.

Such a "mastering" of chaos in nature, at first illusory and existing only in man's imagination, is characteristic of all peoples. Myths about the creation of the world reflect an introduction of order into primordial chaos. Some myths of Fali, a North-Cameroon nationality, for example, tell of a Turtle and a Frog who divided up dry land and water to create the parts of the world. Later, Tho-Dino separated males and females among

animals, singled out domestic animals from the mass of wild ones and distributed all labour duties between men and women.

In the legends of American Indians who inhabited the territory of present-day Mexico, the struggle against chaos is described in the same fanciful way: the universe was destroyed four times running because of a controversy among the sons of the Supreme Deity, and order was established in the world only at the fifth attempt.

We see that the idea of law took shape in the minds of the ancients in the form of a myth. Gradually, extremely generalised images of natural forces were formed which could not be embodied in isolated objects. African peoples created such generalised images, too. For example, the peoples of Liberia produced the concept of Nionsva, a kind of creative power with no concrete shape. Ometeotl, the Supreme Deity of American Indians, was also a general notion. The images of his four sons, who personified the four natural elements were generalised to such an extent that they could easily be used for philosophical constructs.

Proverbs and sayings, in which many phenomena are frequently explained without drawing on mythological images and which sometimes even come into conflict with them, reflect gradually accumulating knowledge and experience. Some

of them explain the causal connection between certain phenomena. The African tribe of Bechuans, for example, says: "One event is the child of another." In Nepal, they say, "Show us a man who has become immortal", thus posing a question which can be ranked among philosophical problems as we see them today. Some proverbs and sayings express social inequality. "When I see a dog belonging to the king," a proverb of a Burundi nationality runs, "I am the first to say Hullo." Other proverbs assert the advantages of collectivism: "The mind of one man is like a bag with a hole in it."

Another important sign of the maturity of thinking was the appearance of free-thinkers who questioned the verity of myths. The "Song of a Harp-Player", for example, which was written about four thousand years ago in Ancient Egypt, expresses doubt about the existence of the next world:

> *The rulers are sleeping in Pyramids,*
> *The noblemen and priests in sepulchres.*
> *But there are only their mummies. And*
> *What has become of themselves?* [1]

[1] *Faraoh Khufu and Magicians*, Moscow, 1958, pp. 222–24. (in Russian).

The forefathers of American Indians also pondered the age-old wisdom of myths:

> *You, who are God.*
> *What is it that you determine there?*
> *For us here on earth have you,*
> *perchance, been overcome by sloth?*
> *Must you hide from us your glory*
> *and splendor?*
> *What is it that you are to determine*
> *Here upon this earth?* [1]

All this entitles one to assert that all the peoples have rudiments of philosophical thinking, and that prerequisities for the emergence of philosophy exist in all countries and in all nations. Marx wrote: "Intelligent thinking must always be the same, and can vary only gradually, according to the degree of development, including the development of the organ by which the thinking is done." [2]

However, not all the sprouts of philosophy have developed into harmonious philosophical doctrines, the reason being not the "specifics of thinking" of some or other peoples, but rather the

[1] *Mythologies of the Ancient World*, Quadrangle Books, Inc., Chicago, 1961, p. 466.

[2] "Marx to Ludwig Kugelmann in Hanover, July 11, 1868", Marx/Engels, *Selected Correspondence*, Progress Publishers, Moscow, 1975, p. 197

conditions of their labour activities and the specific features of their political life. It was primarily the socio-economic conditions that caused an almost simultaneous emergence of the first philosophical doctrines in ancient India, China and Greece over two and a half millennia ago. Many scientists assert that philosophy had also begun to develop in the state of the Aztecs, and that only the conquest of America by Europeans had curbed that process. What then are the causes of the development of philosophical thought in ancient Greece, which is unanimously recognised as the source of the ensuing progress of European philosophy?

The "Greek Miracle"

Some scientists are of the opinion that it was an unusually harmonious blend of a highly variegated landscape and mild climate that predisposed Hellenes to contemplation.

Natural factors have, of course, played a certain role in the emergence of "the Greek miracle", but not in the way suggested.

The great variety of landscape and the existence of waterways and mineral wealth in Greece facilitated a sharp upsurge of production. The first millennium before Christ – when philosophy began to take shape – is called the Iron Age (as

distinct from the preceding Bronze Age). Iron and copper ore began to be extracted and several ways of metal-smelting were discovered. Harvests increased, and the crafts flourished. Man used his hands to create, as it were, "a second nature" – the world of cities, warm houses, comfortable clothing, and fertile fields which isolated and protected him from virgin nature.

While being removed from man, nature gradually lost its concrete features in his consciousness and assumed a *generalised* form.

As a result, man began to think about nature as a single whole existing beyond the human world. His growing independence of nature made it possible to separate it in his mind, too. Man no longer identified himself with nature, but started to think about what made him part of it and what distinguished him from it.

The growth of trade and the minting of coins also had a great effect on the development of philosophical thinking. All goods began to be exchanged for gold. The ancient Hellenes developed the habit of seeing a single whole behind a great number of isolated objects and of abstracting themselves from the various properties of things which acquire, in the process of exchange, a new, general property and become commodities.

The appearance of metal money helped advance mathematical knowledge. When man is

engaged in counting, he abstracts himself from the appearance of objects, their colour, size and purpose: he is only interested in the quantitative side. Hence any figure is an abstraction. The ability of operating with abstractions which appears with the development of mathematics is an important precondition of philosophy, for each philosophical category is an abstraction, too.

Both arithmetic and astronomical knowledge were well developed in the Orient – in Egypt, Assyria, Babylonia and Phoenicia – for it was necessary to calculate when the water in the Nile would rise and subside to conduct land surveying and to compute the time of solar eclipses. This knowledge, however, was kept secret by the priests, who even invented a special secret script, so that science became an exclusive prerogative of their caste.

The Greek sages borrowed much of their knowledge from the Orient. It was by no means accidental that the first phalanx of Greek philosophers – Thales, Anaximander and Anaximenes – came from Ionia, which was situated on the coast of Asia Minor, the limit of the Grecian world. In Greece, however, knowledge was not made an exclusive privilege of the priests, and this caste was not a strictly isolated group, as in the Orient. Neither was scientific knowledge regarded here as a "gift of God" which was not to be developed or improved. So the field of scientific knowledge

gradually expanded, and its methods were improved. From attempts to explain in scientific terms individual phenomena, Greek thinkers came over to an interpretation of the "fundamentals and causes" of all that existed.

We may say with confidence that the mind of an ancient Greek was well prepared for delving into the general problems of being. Yet, to engage in thinking one has to have free time. To understand how free time appeared and who could avail himself of it, let us turn to things which seem far removed from the sphere of "pure thought", such as production.

The rapid rise in production and the growth of social wealth enabled a certain section of society to abstain from toiling in a field or a workshop, or from any other work involving physical effort. Brain work was separated from physical labour. The ancients believed that some people were destined to work, and others, to think. Naturally, the possibility to think fell to the lot of those who owned slaves, pasturelands, vineyards, etc.–i. e., the rich. The first Greek philosophers came, as a rule, from the rich and noble families. Heraclitus, Empedocles, Democritus, Plato and some other Greek thinkers were all aristocrats.

Thus the emergence and development of philosophy was only possible in a society where back-breaking slave labour on the part of some people provided others with an opportunity to spend

their time in meditation, i. e., in a society divided into classes. Science, philosophy and art became the prerogative of the select minority for many centuries to come.

Philosophy is a product of a class society, in which constant struggle is going on between the oppressed and the oppressors, as well as between various groups within the classes, for example, between landowners and merchants. This struggle left its imprint on all aspects of life in ancient Greece, and also influenced the development of philosophy.

Why Was Socrates Put to Death?

The progress of trade led to the flourishing of merchants. Their victory over the hereditary landed nobility resulted in the expelment of kings and the establishment of democratic rule in the Greek polises, or city-states. The slaves were not granted any rights under democratic rule either. The establishment of slaveowner democracy led to the stepping up of political struggles. Certain rights granted to the citizens of the Republics enabled them to express their opinions and doubts, and engage in discussions. Debates awakened an interest in the laws of thinking, in logic and the rhetoric, the knowledge of which helped one to prevail over political adversaries.

In Marx's words, "the first necessity for philo-

sophical investigation is a bold, free mind".[1] The specific features of political life in Greece as a result of the establishment of democracy was one of the preconditions for the flourishing of philosophy.

Each small city-state had its own laws relying largely on the authority of the Gods, customs and traditions. Philosophers were deeply interested in such issues as, for example, what these laws were based on – whether it was love of justice or just a fear of Gods' revenge? Were these laws consonant with virtue? What was man? etc. They acclaimed a law which would correspond to genuinely human virtues common for all the people. Socrates maintained that man was not only a member of his own polise, but of the entire community of men, not only a citizen of Athens or Sparta, but of the universe, too. He held the human mind above customs and above a fear of the Gods. Society, like nature, was governed by general laws, and man could only be considered a human being if he tried to comprehend the universal laws of his connection with the surrounding world, and not only the rules of behaviour accepted in his own state.

Socrates' attempt to substantiate his political convictions on the arguments of reason rather

[1] Karl Marx, "Notebooks on Epicurean Philosophy", in: Karl Marx, Frederick Engels, *Collected Works*, Vol. 1, Progress Publishers, Moscow, 1976, pp. 469.

than on the will of the Gods resulted in criticism of his philosophy on the part of the slaveowners, and he was forced to drink a cup of hemlock. Representatives of the ruling class understood even in those distant times that reason and critical thinking could become a mighty weapon spearheaded against them.

The death of Socrates was simultaneously the birth of a new attitude to the world based on knowledge rather than on a blind faith in destiny and a fear of the Gods' revenge. Philosophy, which is at first sight far removed from political events and upheavals, was closely related to the class struggle at its very inception. A new attitude to the world was being born in the struggle of contradictions, and blazed its way, overcoming many obstacles, even though conditions for its development in Greece were much more favourable than in the Orient.

Let us summarise what has been said. Preconditions for the development of philosophy should be sought first of all in the economic system and the specifics of political life in ancient societies. Philosophical problems were first formulated in myths but soon burst out of this tight shell. The accumulation of knowledge required for labour activities showed ancient Greek philosophers that many phenomena could be understood without turning to magic or supernatural beings. There were natural causes for river floods and the falling

of rain and hail; so the emergence of man, the Earth, and the entire universe could also be explained by natural causes. Thinking was becoming more subtle in its contest with the mythological interpretation of the Earth's origin, and fundamental concepts of philosophy were taking shape.

Accumulated scientific knowledge served to promote the evolution of philosophical thinking. Philosophy in its turn helped unite scattered information about the world into a single whole and provided science with a firm theoretical base.

The Cradle of Science

An ancient philosopher had to rack his brains over a great many questions which are now being studied by a whole army of scientists. Ancient philosophers concerned themselves with everything: they tried to explain the origins of the world, pondered the question of whether it was possible to fathom it, and at the same time attempted to find out how a rainbow appears, why eclipses occurred, what generated lighting, etc.

Thales, the first Greek philosopher and one of the "Seven Sages" who founded scientific mathematics together with Pythagoras, was also an astronomer and could forecast solar eclipses. He was well-versed in trade, and was not a novice in politics either. Tradition holds it that it was

Thales who divided the year into 365 days, and the month into 30. Another Greek philosopher, Empedocles, was also a poet, doctor, orator, scientis and politician. He presented his philosophical views not in a treatise, but in a poem, *On Nature*; he founded a school of rhetoric in Sicily, was an author of several inventions and, as legend has it, changed the climate in the town of Agrigentum on the Sicilian coast. In addition to the philosophical doctrine of four Earth elements brought into motion by Love and Enmity, Empedocles formulated many other, more particular hypotheses. For example, he maintained that the Moon was formed as a result of air condensation, and his surmise that light spreads at a certain speed is today justly considered to be that of a genius. He advanced a daring hypothesis of the origin of living organisms, posing, for the first time ever, the problem of natural selection as the basis of biological evolution, and took a great interest in the structure of the human body; in particular, he worked out a consistent theory of the structure of the eye and the mechanism of visual sensations.

Aristotle was a unique personality, in whose works all branches of contemporary philosophical and scientific knowledge found reflection. Apart from philosophical works, which influenced the development of philosophy both in the West and the East for many centuries, he wrote treatises on

the problems of ethics (*Nicomachean Ethics*), socio-political questions (*Politics*), the theory of art, and oratory (*Poetics* and *Rhetoric*) and created a detailed system of formal logic, a science dealing with forms of thinking. His works on natural science – *On the Heavens, On the Soul, Physics, Parts of Animals, Meteorologica*, etc., were of vast importance for the advance of science.

Of course, the ideas proposed by ancient philosophers were by no means always correct. While trying to present a general picture of the world, they substituted imaginary, fantastic causes for real ones and just drew on an analogy instead of substantiating some proposition or other. For example, Democritus believed that the analogy of the chaotic movement of dust particles seen in the air was a good enough substantiation for his hypothesis on the atomic structure of all existing objects. This is how it was described by Democritus's follower Lucretius Carus in his philosophical poem *On the Nature of Things*:

This is the picture that always one has in the field of his vision:
Each single time that the light of the Sun is in our houses a-flooding,
Cutting the darkness with sunrays and spilling its light all around us,
Hosts of the tiniest things you can see in the void which are moving,

Hurrying one in pursuit of another in radiant sunrays.

. . . . . .

This will reveal t'you the way how, forever in non-stopping motion,
Primary things are all thrashing about in the infinite vacuum.[1]

John D. Bernal, an outstanding English scientist and public figure, wrote in his book, *Science in History*, that the ancient Greeks unfortunately thought they had solved all the problems in a strictly logical, correct and irreproachable way. The vital task of contemporary science, which arose almost four hundred years ago, consists in discovering the erroneousness of their solutions. "However," he continued, "we cannot tell whether, in the absence of Greek science, the problems would have been set at all."[2]

The same idea was expressed many years ago by Frederick Engels, one of the founders of Marxism: "The universal connection of natural phenomena is not proved in regard to particulars; to the Greeks it is the result of direct contempla-

[1] Lucretius Carus, *On the Nature of Things*, Moscow, USSR Academy of Sciences Publishers, 1945, pp. 79–80 (in Russian).

[2] J. D. Bernal, *Science in History*, Watts & Co., London, 1954, p. 117.

tion."[1] And this is both the merit and a drawback of the philosophy of the ancients.

We see, therefore, that in the early stages of mankind's development philosophy was a "science of sciences" not because ancient philosophers had a unique gift of penetration or knew a secret which had been forgotten by subsequent generations. On the contrary, this was due to the fact that scientific knowledge was weakly developed and rudimentary. Gradually, as human knowledge expanded, indiviudal sciences began to spring up, first natural sciences – mathematics, physics, astronomy, chemistry, geology, biology – and then those dealing with society and man, such as psychology, history, economics, etc.

In the 19th century, the great German philosopher Georg Friedrich Wilhelm Hegel tried to formulate his "philosophy of nature", holding that only a philosopher could provide the correct answer to all the world's riddles. He created his theory at a time when sciences, such as geology, organic chemistry and the physiology of plants, not to mention physics, had already made good progress. Therefore, when he attempted to elaborate, for example, his own "theory" of light

[1] Frederick Engels, *Dialectics of Nature*, Progress Publishers, Moscow, 1976, pp. 45–46.

according to which light cannot be dispersed into a spectrum by being passed through a prism, or to reject, contrary to accepted scientific concepts the existence of chemical elements, he was sharply criticised by scientists. Hegel's attempts to "abbolish" the generally recognised achievements of the sciences met with failure.

However, some scientists today go to the other extreme, asserting that philosophy has nothing to do with scientific knowledge. Although in the past philosophers anticipated certain scientific discoveries (e. g., the atomistic theory, the Law of Gravity, and the theory of electricity), they argue, they are now "out of a job", since concrete, "positive" knowledge has replaced philosophical meditation. Supporters of this view of the knowledge of the world came to be known as "positivists".

At first sight they seem to be right. Indeed, philosophy does not apply mathematical formulae, and the philosopher does not stage experiments or create material things. What is left to him, then? As in the early age of its development, which can be called "mankind's infancy", the function of philosophy today, they say, remains the same – to help man, who has nothing to do with science, to follow its latest achievements. In the positivists' opinion, the philosopher should only popularise scientific knowledge, putting complicated scientific concepts into simple words

that can be understood by everyone.

There is, however, a different point of view. Since the cognition of the real world has been divided up among concrete sciences, philosophy is left the only sphere – that of imagination, Utopia, myth. The philosopher is a dreamer, who destroys, by force of his imagination, the world as it is, i. e., the real world, and creates another world – the world as it should be. Friedrich Nietzsche, for one, maintained that without such creative activities, neither an individual nor society could exist. "Why should one know? Why should one not deceived oneself?" he wrote. "Man has always longed for belief, not the truth." [1] Thus the philosopher becomes more like a poet or a prophet, and is very far removed from the sphere of genuine science.

Marxists renounce such an interpretation of philosophy. Today, the most important problems humanity is faced with cannot be solved on the basis of physics and chemistry, mathematics and biology. Let us see, then, what is the subject of philosophy.

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[1] Friedrich Nietzsche, *Der Wille zur Macht. Versuch einer Umwertung aller Werte. Ausgewählt und geordnet von Peter Gast*, Alfred Kröner Verlag, Stuttgart, 1959, p. 317.

The Science Which Is Always Young

Sometimes people are to be heard saying that philosophy cannot be considered a science, since throughout its history, it has tackled the same set of questions, while each concrete science, having solved a problem, never returns to it but poses and elaborates new ones. Philosophical problems, however, are called "eternal" not because they cannot be solved, but because each epoch poses them in its own way. As changes occur in society, life conditions, the volume of scientific knowledge, the degree to which man has mastered nature, and in man himself, relationships between man and the world around him also undergo a change.

Philosophers have always wondered what is the source of all changes that are taking place in the world, what causes the multitude and diversity of things, phenomena and events. Ancient Indians thought that everything man saw around himself was the result of the struggle waged by the four sons of the Supreme Deity. Ancient Persians regarded the world as an outcome and eternal arena of struggle between Ormazd (the spirit of destruction) and Ariman (the spirit of creation), and held that in accordance with the agreement they had concluded the world was dominated by the forces of dark and light. In other words, for

ancient man the world was the result of relations between supernatural beings who resembled man in appearance.

Some time later, when man could already abstract himself from concrete details and was able to think in general concepts, he began looking in nature itself rather than in supernatural forces for the causes of changes that occurred in the world. Thus we see that mature human thinking, an ability to form concepts, had an impact on the posing of philosophical problems.

Philosophical ideas also undergo change with the development of concrete sciences. So, philosophers and theologians thought for a long time that man emerged on the Earth as a result of God's act of creation, that man was the summit of all that God created, and that therefore the Earth, on which he lived, was the centre of the universe. However, after the discovery made by the Polish astronomer Nicolaus Copernicus, it became clear that the Earth was but a particle of the Solar System; it was subsequently proved that the Solar System itself is only part of the conglomeration of stars which came to be known as the Milky Way. All these discoveries call in to question the unique nature and perfection of man, as well as his heavenly origin.

Some philosophical problems can only arise at a certain stage of society's development. For example, the idea of progressive social develop-

ment appeared only in the period when bourgeois relations formed and developed, when the expansion of production became a major trend in the economy. Until then, the most typical view of the nature of changes occurring in society was that of eternal development in circuits. It should be mentioned that the idea of progress has again gone out of fashion in the philosophy of bourgeois society today, giving way to the idea of eternal repetition. This testifies to the fact that bourgeois society has today gone astray from the mainroad of social progress, which is reflected in philosophical ideas, too. Many outstanding bourgeois thinkers such as Friedrich Nietzsche, Oswald Spengler, Arnold Toynbee and Pitirim Sorokin share a pessimistic view of the evolution of society.

So we have seen that the method of posing and resolving philosophical problems is closely connected with the level of development of society and all its aspects – economics, political relations, science and culture. Philosophy epitomises its age and is that age's consciousness, a quintessence of everything that was created by mankind at a certain stage of its development.

A Scientist, or a Man of Wisdom?

Do we become philosophers if we start pondering the issues of life and death, happiness, and the choice of which path to take in life? This is a serious enough question. Indeed, we say it is a wise man who can realise his own errors and give valuable advice to anybody in need of it; this kind of wisdom usually comes to man only in his old age. But philosophy is a love of wisdom; does this mean that anybody who knows how to avoid false steps in life can be called a philosopher? It would appear not. Yet there is something in common between a man who has worldly wisdom and a philosopher who is busy tackling problems which are of vital importance to man. Many contemporary bourgeois philosophers are trying to divest philosophy of its unique features and turn it into a branch of particular knowledge; they maintain that wisdom is incompatible with theoretical, genuinely scientific knowledge. "Is there such a thing as wisdom," argues Bertrand Russel, an outstanding representative of contemporary philosophical thinking, "or is what seems such merely the ultimate refinement of folly?" [1]

[1] Bertrand Russel, *A History of Western Philosophy*, Simon and Schuster, New York, 1945, p. XIV.

What, then, is there in common between worldly wisdom and philosophical knowledge, and what is it that sets them apart? The main feature of wisdom was understood by ancient philosophers. Avicenna (ibn Sina), for example, wrote: "In our mind, wisdom can be of two kinds. First, it is perfect knowledge... Second, it is perfect action." [1] Hence, a distinctive feature of wisdom is the unity of knowledge and behaviour, that kind of knowledge which helps man to choose which path to take in life, and not that which is abstract and far removed from vital human needs.

Ancient Indian philosophy, for example, aimed to provide man with a guide to an enlightened life and perfect behaviour. Modern Indian philosophers write in the same vein that "the aim of philosophical wisdom is not merely the satisfaction of intellectual curiosity, but mainly an enlightened life led with far-sight, foresight and insight." [2]

Thus we see that wisdom is always a "practical" philosophy and that it is always connected with man's interests, requirements and goals.

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[1] Ibn Sina, *Danim-Name*, Dushanbe, 1957, p. 193 (in. Russian).

[2] Satischandra Chatterjee and Dhirendramohan Datta, *An Introduction to Indian Philosophy*, University of Calcutta, 1950, p. 12.

Nobody would object to this. Yet, while some think that knowledge is indispensable in solving vitally important problems, and that the real "wisdom consists only in the Truth" (J.-W. Goethe), others argue that knowledge and science serve no purpose when man's personal fate is at stake. Quite the contrary, knowledge brings doubt, disillusionment and grief in its wake. According to the book of *Ecclesiastes*: "He that increaseth knowledge increaseth sorrow." [1] It is much more important to enjoy emotional comfort and peace of mind, say the pragmatists, an extremely popular trend in modern bourgeois philosophy. From these positions, a genuinely wise man will not engage in doubt, meditation, or a search for the truth. No matter what kind of superstitions and false information fill our mind – let them remain; the only thing that matters is to believe they are true.

The stand of such a "wise man" reminds one of an ostrich which hides its head in sand at the first sight of danger, but in the world we live in, when the issue is being decided whether mankind is to be, or not to be, whether it will be annihilated in a nuclear holocaust, or will be able to defend its right to peaceful existence – in this world of ours,

[1] *The Oxford Dictionary of Quotations*, London, Oxford University Press, 1956, p. 50.

true wisdom consists in each man's ability to see the need for a struggle for peace all over the world, and to understand that man's personal welfare, his fate and happiness depend directly on the outcome of the struggle for peaceful coexistence being waged by the progressive part of mankind and each individual in particular.

We can assert with confidence that "wisdom" which is in conflict with the knowledge of the real world and contradictions inherent in it is more often than not used to justify the most inhuman actions. Life itself, and our age in particular, refute such a "wisdom" which is contrary to the main progressive trends in society's development.

It has already been shown that while bringing man's relationships with the surrounding world to light, philosophy tackles issues that are vitally important to him. Philosophy, however, is distinct from so-called worldly wisdom. As a form of theoretical knowledge, it seeks to prove its tenets and present them all in a consistent manner; its principles and main concepts are a result of the generalisation and analysis of a vast number of facts pertaining to the most diverse spheres of man's life and activity; it relies on scientific data.

Philosophy is not concerned with man's relationships in all their unique variety or with the concrete conditions of his life; neither is it concerned with his life story. Each man consists, as it were, of two persons: an individual, "little Ego",

in which the unique nature of his destiny and life circumstances is reflected, and a "big Ego", which makes him part of his people and mankind as a whole. It is with the problems facing man's "big Ego" that philosophy is concerned – i. e., the general problems of human existence.

We are now in a position to give a concise answer to the question – What is philosophy? It is a *world outlook*. It is a view of the world – of nature and society, and of man's place in it – and an analysis of the possibilities of understanding and transforming it. But it is also a conviction, a belief in the necessity for action on the basis of the acquired knowledge. It is a blend of knowledge and assessment, knowledge and conviction, the emotional and the rational. So, philosophy is a special form of theoretical knowledge, involving not just an objective generalisation of the entire human experience, but also the identification of moments in that experience which are of particular significance for man.

The Marxist definition of philosophy as a form of theoretical knowledge resolving the most general issues relating to world outlook, is essentially different from all former ideas about the tasks of philosophy, as well as from its modern bourgeois interpretations.

In the past, philosophy claimed to solve many problems of the existence of nature and society "from the point of view of Eternity" and lay

down, once and for all, the laws of both. Nowadays, some philosophers seek to substitute a specific attitude to the world taken from the point of view of purely individual human existence, the human "little Ego" with petty human cares, fears and concerns for the general problems of world outlook. Such a position is typical, for example, of the existentialists.

Thus, while some reduce philosophy to the study of the laws governing the world, forgetting as it were that man is not only a particle of that world but also its transformer, others dissolve it into individual emotions, ignoring the fact that all human emotions are a result of man's interaction with the world, that they do not arise out of nothing. The true boundaries of philosophy's "territory" are determined by interaction between man and nature. *Philosophy studies the most general laws governing the universe, man and humanity as a whole; it studies the very foundations of the unity of man and society, of man and nature.*

Man's links with the world around him are extremely diverse. Is it possible to identify amongst this multitude of links and relationships the main thing underlying the unity of the natural and the social world? This issue will be dealt with in the next chapter.

II. THE FUNDAMENTAL QUESTION OF PHILOSOPHY

What Shall We Begin With?

What lies at the basis of any world outlook? What must one first of all find if one is to determine one's attitude to the world one lives in and one's line of behaviour?

The German philosopher Immanuel Kant believed that a philosopher must provide answers to three questions: "What can I know?" "What must I do?" and "What can I hope for?"[1] Let us see if those three questions do not conceal a more general one. Indeed, man learns things, indulges in hopes and sets himself goals only because he is

[1] Immanuel Kant, *Kritik der reinen Vernunft*, Verlag Philipp Reclam jun., Leipzig, 1971, p. 818.

endowed with a mind, consciousness and will, and is capable of sensing and interpreting all that occurs around him. Man is not only muscles and nerves, not only a body; he is also endowed, as the ancients said, with a "soul". The answers to all particular questions utterly depend on the way the main question is answered: What is the "soul", the spirit, or the ideal, consciousness, where does it come from, and how is it connected with inanimate nature?

So the fundamental question of philosophy is that of the interrelationship of mind and nature, consciousness and being. Only after we have established whether the mind or nature appears first, whether consciousness can exist by itself outside the human brain, and whether nature can emerge and exist without the spiritual principle – only after all this can we understand the relations between man and the world around him.

Let us examine one of the questions Kant regarded as fundamental for philosophy: "What must I do?" In other words, by what rules and norms of behaviour must man be guided in life, towards what should he orient himself and what must he see as his duty? This is a question of man's morals. But in order to understand *how* to behave, one should first find out what morals, or ethics, are. Why does man defend his honour and dignity? Why does he obey his conscience, why

does he do his duty? In answering these questions, we are bound to explain how and why the senses of duty, justice, virtue and honour emerged in man. Have all these senses developed just because of the conditions we live in irrespective of our wishes, conscience or will or are they the result of a reasonable, conscientious agreement concluded among people? Or, may be, ethics are an outcome of man's contact with some divine principle?

We have evidently returned to the question of the relationship between the spiritual and the natural, the consciousness and being. Hence it is this question that is *most general* in philosophy, and *one cannot tackle more specific problems without solving it.*

Of course, one would not be justified in saying that philosophers have always tried exclusively to solve this fundamental issue. If we examine various trends, schools, and concepts of the past and present, we shall see that some philosophers study the process of scientific knowledge, others are interested in the problem of human freedom, others have spent their lives trying to prove the existence of God, and yet others are concerned with educating a citizen in man, while some continue to turn their thoughts to art, which, in their opinion, is the only subject worth meditation. Yet, though they take different stands and are occupied with different questions, all philosophers turn to the

same problem – *the interrelations between man and the world, the mind and nature*. Can man cognise the world? In what way does reality influence his feelings, thoughts and requirements? Is he able to change the world, is art just a means for an artist to express himself, or a reflection of the world? – all these questions are particular aspects of one general issue.

The question of the relationship between consciousness and being, the spiritual and the material, was not immediately recognised by philosophers as the fundamental question of philosophy. Mediaeval scholastics regarded as such the issue of the relationship between theoretical knowledge and religious belief. Francis Bacon held that the fundamental question of philosophy was that of expanding man's domination over nature (with the help of science), Claude Helvetius saw it in studying the essence of human happiness, and Jean-Jacques Rousseau – in discovering how to do away with inequality among men.

Lenin said that the answer to the question of whether the mind or the external world should be considered primary determined the evolution of philosophical thought, not in words but in actual fact. "The source of thousands upon thousands of errors and of the confusion reigning in this sphere is the fact that beneath the covering of terms, definitions, scholastic devices and verbal artifices,

these two fundamental trends are overlooked."[1]

Only after many centuries of evolution did it become possible to define the stages of philosophy's development, its key problems and major trends. "The historical progress of all sciences leads only through a multitude of contradictory moves to the real point of departure. Science, unlike other architects, builds not only castles in the air, but may construct separate habitable storeys of the building before laying the foundation stone."[2] *It was the founders of Marxism-Leninism*, and in particular Frederick Engels, *who substantiated the fundamental question of philosophy and revealed its role in the formulation of philosophical theories*. Engels wrote in his work *Ludwig Feuerbach and the End of Classical German Philosophy*: "The great basic question of all philosophy, especially of more recent philosophy, is that concerning the relation of thinking and being."[3]

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[1] V. I. Lenin, "Materialism and Empirio-Criticism", *Collected Works*, Vol. 14, Progress Publishers, Moscow, 1977, p. 336.

[2] Karl Marx, *A Contribution to the Critique of Political Economy*, Progress Publishers, Moscow, 1977, p. 57.

[3] Frederick Engels, "Ludwig Feuerbach and the End of Classical German Philosophy", in: Karl Marx and Frederick Engels, *Selected Works* in three volumes, Vol. 3, Progress Publishers, Moscow, 1973, p. 345.

The fundamental issue of philosophy by no means exhausts the entire wealth of philosophical problems or reveals all the diversity of the relations between man and the world, of being and thinking. The crux of the matter is *what is primary, which is the determinant* in the complex "being-thinking" relationship. Without resolving this issue, it is impossible to answer other questions. Consequently, *any philosophical study begins* with resolving philosophy's basic issue.

This, however, is true not only of philosophic research. Indeed, each scientist who undertakes to investigate a scientific problem, for example, to solve yet another riddle of the universe by discovering a new celestial body, is quite positive that the body in question is not just a play of his imagination but exists in reality, independently of his consciousness, i. e., *objectively*. If he believed the opposite, he would not have bothered with inventing sophisticated apparatus to help him study the position of celestial bodies, but would rely on the power of his imagination alone. Thus the solution of the fundamental question of philosophy is an important precondition of any scientific investigation.

An artist also resolves this question for himself when he is painting on canvas either a scene from the life of real people or just a tangle of lines and colour splashes. In the first instance he sees the real world as a source of his own art and of all

types of human creativity in general; in the second, he regards his inner life, his mood and emotions, which are not in any way connected with the world of real things, as solely worth depicting.

The issue is no less important for a politician and a statesman. Can society be changed, for example, by influencing the human mind alone, by enlightening and educating man, or should the conditions under which he lives also be transformed? Supporters of the concepts of "ethical socialism", or "humanistic socialism" maintain that the starting point for restructuring society consists in the change of human consciousness, in the improvement and self-improvement of man. Marxism, by contrast, being a theoretical basis for the building of socialism in the Soviet Union and other countries of Eastern Europe, Asia, Africa and Latin America, regards the changing of the conditions in which man lives as the only firm foundation for the transformation of his way of thinking.

The importance of finding a solution to the fundamental issue of philsophy becomes evident when studying ideological trends within the world revolutionary process.

Theoreticians of left extremism believe that the flames of revolution can rise in any place at all and that they only need to be fanned. Supporters of his idea proceed from the assumption that

man's consciousness, his will and activity play determining role in all social changes occurring in the world. Herbert Marcuse, for one, considers it futile to look for certain historical revolutionary forces. These forces, he argues, can only emerge in the course of revolution itself, while the genuine source and base of revolutionary transformations is man's imagination. On the contrary, genuine revolutionaries, including Marxists, assert that a revolution can be successful only if there exist objective social and economic preconditions, which means that revolution cannot be "exported". And, though the role played by the factor of consciousness, of will in a revolution is great, any revolutionary action may turn into a sheer adventure if there is no real economic foundation.

Thus we see that the fundamental issue of philosophy is of great importance for everyone, since it lays its imprint on the solution of all vital problems. This is not surprising either, for it emerged in the course of man's practical activities, while he was engaged in fathoming nature, society and himself and mastering the surrounding world.

We have already found out that it is only by answering the basic question of philosophy that we can make progress in solving other problems of vital importance for man. On the other hand, if every philosopher, scholar, man of letters and

political figure must give an answer to this question, it is quite legitimate to ask whether the elaboration of other problems will not be postponed for too long, and whether revolutionary activity will not be dampened and the advance of scientific thought held back?

Indeed, this circumstance would seriously complicate mankind's progressive development if the correctness of relevant solutions had to be proved anew in each particular case. Human culture, however, develop differently: that which has been found remains in the treasure-house of human experience forever – in books, drafts, work implements, machine-tools, mechanisms, customs and traditions. And this refers in full measure to the fundamental issue of philosophy.

For a long time now the entire human experience, science, revolutionary-political activities and history itself have proved the primary nature of being, of the real world with respect to the spiritual world and consciousness. *Only by relying on the knowledge of objective laws is it possible to transform the surrounding world*, introduce changes into nature and to re-build society – and this has been testified to by the Great October Socialist Revolution in the USSR, and the experience of the other countries building socialism. Disregard of real conditions and indulging in wishful thinking spells doom for revolutionary transformations.

Scientists also provide tangible evidence in support of the primacy of being, of nature. Relying on modern research, one can safely assert that the psyche of a man or an animal cannot exist by itself but is closely associated with processes underway in the brain. Experiments staged by the outstanding American neuro-physiologist José Delgado showed that, by implanting electrodes into a man's brain, it is possible to awaken memories he has long forgotten, and a certain emotion, or persistent hallucinations can be incited. There is a very close link between the content of our thoughts and emotions, and reality. Everything which makes up our spiritual world is formed as a result of experience, of contacts with the world around us. Even our dreams, as psychologists have proved, no matter how fantastic or queer they may be, have their roots in real life.

We can say with certainty that today the fundamental issue of philosophy is no longer a complicated and entangled problem which represents a stumbling-block for all philosophers. *On the whole, the basic issue of philosophy has been resolved in favour of the primacy of the real world with respect to consciousness.* Therefore, in answering this question a contemporary philosopher does not have to offer new evidence. As Engels put it, the materiality of the world "is proved not by a few juggled phrases, but by a long and wearisome develop-

ment of philosophy and natural science"[1].

It would seem that, since the basic issue has been resolved, there is nothing to argue about, that all philosophers must come to an accord. However, it is not that simple. There is a trite aphorism: If the axioms of geometry involved the interests of men, they would be disproved. And what about the fundamental issue of philosophy which is closely associated not only with the interests of the individual, but also with those of large groups of people, the classes, too. Let us turn to Lenin: "There can be no 'impartial' social science in a society based on class struggle... To expect science to be impartial in a wage-slave society is as foolishly naïve as to expect impartiality from manufacturers on the question of whether workers' wages ought not to be increased by decreasing the profits of capital."[2]

Depending on the answer given to this fundamental question of philosophy, one will either decide that a revolutionary change of society is needed, or make the conclusion that it is impossible; one will either actively participate in the struggle for peace, or reconcile oneself to the in-

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[1] Frederick Engels, *Anti-Dühring*, Progress Publishers, Moscow, 1975, p. 58.

[2] V. I. Lenin, "The Three Sources and Three Component Parts of Marxism", *Collected Works*, Vol. 19, Progress Publishers, Moscow, 1980, p. 23.

evitability of a new war; one will either try to fight man's diseases and physical sufferings and prolong man's lifetime, or regard the human body as a temporary abode of one's soul, and not attempt to make it better. This is why, despite the fact that successes scored by man in his practical activities have confirmed the primacy of the objective world, or, speaking the language of philosophers, the primacy of matter with respect to consciousness yet other opposite answers to this question continue to be current which contradict scientific achievements but meet certain social interests. Hence we must again and again turn to the main issue of philosophy, and again and again prove that which has long been proven. For this reason, just as two millennia ago, depending on the main issue being solved philosophers fall into two large groups – the materialists and the idealists, the former pursuing "the line of Democritus", and the latter, "the line of Plato", as Lenin put it.

Idealism and Ideals

All philosophers are *first of all* either materialists or idealists, and only after the main line dividing them has been drawn, can they be divided into existentialists, Freudians, neo-Thomists, positivists, and Marxists. Materialists hold that matter, the real world, nature, being

(all these words standing for approximately the same notion) emerged prior to man endowed with consciousness. During the evolution of nature, animals, plants and living organisms appeared and later still, human beings. Let us try and define matter in more precise terms. *Matter* is that which exists outside our mind, is independent of it, and has been formed prior to it, i. e., that which exists *objectively*. It cannot be created, and cannot be destroyed; it is eternal and infinite. Man enters into contact with matter while engaging in all types of activity, and throughout his life – whether he is working or just admiring what is going on around him. The human body is also matter: indeed, its appearance, growth and functions are not entirely within the powers of man's will, irrespective of how much he may wish this were so. As man interacts with the material world and with nature, the latter is continually exerting an impact on him, too – on his emotions, consciousness and will. Therefore, not only the emergence of consciousness depends on matter, but its "content", too – for all man's knowledge has been derived from the surrounding world.

Idealists treat the relationship between consciousness and matter differently. For them, nature and people as corporeal, natural beings are creations of a certain spirit, a realisation of somebody's idea, of a good or an evil will. In the same way as a builder can erect a house accord-

ing to a design which an architect has conceived and elaborated, the whole world and man himself are only an embodiment of a gigantic "design" accomplished by an unknown all-powerful architect.

So, while materialists hold that matter is primary and consciousness is its product, idealists maintain that the entire world is a result of the mind's activities. The issue is clear enough, it would seem. The past and present experience of mankind, however, proves that there is always a kind of muddle in the interpretation of these terms.

Sometimes, while calling somebody an "idealist", people mean that the man in question has high and noble aspirations, goals and ideals, that he is an intellectually gifted person. Sometimes, a shade of irony is also added, for an idealist is always a dreamer and is apt to forget about his "daily bread", the crude reality, which relentlessly destroys his most cherished ideals.

"Materialists", according to this approach, are people of poor spirit, who do not believe in virtue and beauty, and think only about satisfying their basic needs. Therefore all human vice – gluttony, drunkenness, lust, greed and drive for profit – are the characteristics of materialists. Even Ludwig Feuerbach, the German materialist philosopher and one of the immediate predecessors of Marxist philosophy, could not over-

come his prejudice against the word "materialism". Mixing up materialism as a world outlook with its debased, vulgarised interpretation by contemporary philosophers, he wrote: "Backwards I fully agree with the materialists; but not forwards."[1]

Of course, this kind of "materialist" would hardly arouse anybody's sympathy. However, an orthodox bourgeois himself would only call to mind virtue, love, trust and mutual assistance when going through the process of bankruptcy. An ardent champion of lofty ideals may sometimes prove to be secretly indulging in the vices he indignantly renounces in public. Contemporary bourgeois society provides us with sufficient examples to confirm this. Monstrous corruption among top-level officials, racial discrimination, overt or covert but in any case silently approved by the authorities, go hand in hand with propaganda about "defending of human rights".

What is then the actual attitude of the materialist and the idealist, as representatives of a definite philosophy, to good, justice and the struggle to achieve a better future? To answer this question, we must first consider the general features of materialist philosophy.

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[1] Frederick Engels, "Ludwig Feuerbach and the End of Classical German Philosophy", in: Karl Marx and Frederick Engels, *Selected Works* in three volumes, Vol. 3, p. 349.

The World Through the Eyes of a Materialist

In trying to interpret the world, a philosopher is first faced with its diversity. There are gigantic celestial bodies and planets, the Earth by no means the largest among them, and there are also tiny, invisible particles in our world-molecules, atoms and elementary particles. We are surrounded by inanimate nature – mountains, expanses of water bodies, the land, and a vast number of living beings. Man uses houses to live in, and buses and aircraft to go from place to place, all of which he has made with his own hands. But he also sees objects around himself which he has not made himself, and which already existed before his appearance. Is there any kind of unity in all this motley picture? The answer to this question is of cardinal importance.

Indeed, if the world is just chaos, then man is "lost" in it like a grain of sand in the universe. If there is no order in the world, and no laws, then it is impossible to understand the origin of all living things, including man himself, a being endowed with consciousness. Materialism itself is also called into question, for if we cannot know how the human mind emerged from matter, then, perchance, it has not emerged from matter at all but exists independently of it? That is why no mater-

ialist can avoid resolving the issue of the world's unity, the issue of the laws which bind it into a single whole.

At first ideas about the existence of universal laws in the world were just guesswork. Materialist philosophers in Ancient Greece made early attempts to discover these laws. Heraclitus, who expressed the universal connection of things in a fantastic form, held that the world is a unity because it reposes on a single base – fire, which "kindled in measure and quenched in measure". Thales saw water as the primary foundation of the world, and Anaximenes – the air. Democritus, who came nearest to a correct view of the world's structure, thought that the single primary base of things were atoms – tiny moving particles. Engels characterised the views of the first Greek materialist philosophers thus: "Here ... is already the whole original spontaneous materialism which at its beginning quite naturally regards the unity of the infinite diversity of natural phenomena as a matter of course, and seeks it in something definitely corporeal, a particular thing, as Thales does in water." [1]

Modern science confirms, specifies and corrects the conjectures of the ancient materialists concerning the unity of the world and turns their

[1] Frederick Engels, *Dialectics of Nature*, p. 186.

naïve hypotheses into a veritable truth. Laws governing the movement of molecules and atoms, living organisms and celestial bodies, have now been discovered. The very existence of science is proof of the world's unity, for science has always studied something general, stable, recurring in all processes and phenomena.

From the point of view of a materialist, the world in its diversity is not only a single whole; it has no end or beginning either in time or space. If we imagine that very long ago the world did not exist and that there were no people or animals, no trees or grass, no fire and no water, that there was not even the tiniest particle of matter, this means that the world could have emerged out of "nothing". And if the world is bound to disappear one day, and not only our world, but all the other celestial bodies as well – does it mean that they will also go nowhere and turn into "nothing"? Such a supposition enters into an irreconcilable contradiction with the fundamental laws of modern science – those of the conservation of matter. These laws lay down in the most general way the specific tendency, which is typical of absolutely all manifestations of the material world, not to emerge out of nothing and not to disappear without trace. A supporter of the "finiteness" of matter will have to resort to the only argument left to him: let the emergence of the world out of nothing be contrary to science – this

is precisely the miracle of it. And miracles, as is well known, always disrupt the natural course of events: they are not to be explained. However miracles do not occur for no reason at all, not even in fairy tales. A miracle is always performed by some wonderous force, which can defy nature and matter. So it has been said: this force is *immaterial*. But there is nothing except matter and consciousness in the world: these are the most general spheres of being. Therefore, the thesis about the finite nature of matter inevitably leads to idealism, to the conclusion that the source of the emergence and evolution of matter, and of the laws themselves, according to which it develops, is a certain spirit, or, as it is usually called, God.

Hence the conclusion: *genuine, consistent materialism is unthinkable without a recognition of the world's material unity, its eternal and infinite nature.*

But will man not be lonely in this sort of the world, will he not be terrified when he encounters eternity? It was precisely this that American philosopher William James had in mind when he described materialism as a gloomy, severe world outlook, nothing short of a nightmare. Man feels himself to be a tiny cog in the infinite process of nature's evolution; he is powerless to break the iron chain of necessity. But is there any foundation for accusations such as these being heaped against materialism?

The Great Watchmaker and a Great Clock

The answer may be both "Yes" and "No". Materialism is not a single, monolithic trend; there are numerous shades and forms of it. The evolution of science and culture, economic development, political and even personal preferences all leave their imprints on the character of materialist philosophy. In particular, all accusations levied against materialism by idealist philosophers of the past and present mainly concern one of its forms – *mechanistic materialism.*

Why this name? In the 17th and 18th centuries, when this form of materialism was taking shape, only one science was sufficiently developed – mechanics. It is a well-known fact that people are inclined to exaggerate their achievements and success; and this is typical not only of individuals, but of humanity as a whole.

Science at that time was essentially in its cradle. It had just begun to benefit man in his work and life, and mechanics was regarded as the only possible base for understanding phenomena. Representatives of mechanistic materialism regarded the laws of mechanics as universal laws, according to which all animate and inanimate nature was developing. An animal was considered to be a sort of machine, and it was even asserted that, like any machine, it does not feel

pain. Man himself, in the opinion of these philosophers, was but a very sophisticated mechanism. Julien Offroy de La Mettrie, a French philosopher, even gave the title *Man-Machine* to his fundamental work.

The universe was regarded at that time as a gigantic clock. But, of course, the clockwork must be wound up by somebody. Who is that great watchmaker? In other words, how can the emergence of the universe, of the plant and animal kingdoms, and of man be explained? It was rather difficult to answer this question merely by drawing on the laws of mechanics. In mechanics, everything is simple: you push a billiard ball, and it will move on the table until it comes to a stop, if not pushed again. Can it be the same with the universe? Perhaps somebody once pushed its clockwork, and it will operate without hitch for some time. As we have shown above, the only "watchmaker", capable of such work, must be immaterial, spiritual power.

Hence the conclusion that mechanistic materialism is inconsistent, since, in the final count, when tackling the problem of the source of changes that occur in the world, and of the world itself, it turns to a spiritual principle, or, in other words, to God. Such a position is called *deism*; it recognises God as the primary cause of the world: having created the world, having wound its "clockwork", God has lost all interest in it, and

left it to its own resources.

However, such an approach to the universe and man did not provide an answer to the questions: what is consciousness; how did man develop reason, his ability to admire beauty, be conscience-stricken, or fall in love with another person? Mechanicists tried to explain this phenomenon in various ways.

Some maintained that thought itself is material and tangible. Thoughts were said to be secreted by the brain in the same way as bile is secreted by the liver. There seems to be a great deal of logic in this view. Yet it is not clear exactly why the function of thinking exists in man. So another group of mechanicists came to the conclusion that the mind, or consciousness is an extra "supplement" to the smoothly working mechanism of the human body. The inconsistency of mechanistic materialism is clearly revealed in this conclusion.

It is inconsistent for materialism to hold that there is nothing at all in the world except matter, and to maintain that anything that cannot by any standards be judged as matter – the human mind, for example – is unworthy of investigation. *A consistent materialist must be able to explain the existence of human thoughts, emotions and willpower as a law-governed and necessary result of the development of matter.* Mechanistic materialism could not do that, because the laws of mechanics could not explain man as a conscious, thinking being, capable of

setting himself goals and achieving them. In mechanistic philosophy, the concept of the unity of the world does not explain the fact that the world is single, but single in its *diversity*. Therefore the colourless, gloomy picture of the world painted by the mechanicist easily disintegrates into active spirit and passive matter; and this is not a far cry from idealism.

Is a Third Philosophical Approach Possible?

The doctrine which recognises the existence of two principles in the world – spiritual and material – is called *dualism*, and is something in-between materialism and idealism, as it were. Such a "half-baked" philosophy is an outcome of mechanistic materialism with its limitations and inconsistency. Idealists, too, sometimes slide down to dualism, since they have to take into account the requirements of science and reality, and so cannot completely reject the existence of the material world.

Dualism, however, is not a "third approach", or third trend in philosophy, in conjunction with materialism and idealism. When tackling cardinal problems, its representatives lean either to idealism or to materialism. Sometimes dualism merely serves as a surreptitious attempt to smug-

gle in materialism, while ostensibly renouncing it. Such clandestine, surreptitious materialism is typical of many bourgeois natural scientists. A classical example of dualism is revealed in the theory of René Descartes, a French thinker of the 17th century who held that there are two primary substances in the world – the spatial substance of matter and the thinking substance of mind, i. e., the corporeal and the spiritual. These substances oppose each other in every respect and are in no way connected. But in the final analysis, Descartes came to an idealistic conclusion that both mind and matter can converge in a still more general primary principle, i. e., God. According to dualism, man, too, is a combination of the corporeal and spiritual, the dark and light principles. From this standpoint, man is half animal and half angel. His better impulses lead him to the good, knowledge and beauty, but his base inclinations force him to satisfy his animal passions. Dualism offers practical advice, too: man should be contemptuous of his body and the need to eat, drink or love; he should "mortify his flesh", torture his body, since it is but the temporary abode of his immortal soul. In this case, too, dualism amounts to idealism.

Opposing dualism is *monism* – a doctrine which professes that some one principle be held up and consistently adhered to. Correspondingly, monism can be either materialist or idealist.

But can idealism be an absolutely consistent monist doctrine? The most consistent idealism, that of Hegel, is usually cited as an example. Hegel believed that at first only an absolute idea – world spirit – existed; later, this spirit gave rise to nature and man. While seeking to understand nature, Hegel said, we must not forget that behind its visible diversity are spiritual laws which introduce order into it and unite the world into a single whole. Thus, while recognising the material world in which we live, Hegel "duplicates", as it were, all that exists, in order to explain its diversity: for an idealist, the external natural world is only an envelope of the ideal world. Therefore, an idealist is incapable of being a consistent monist.

Today, some Western philosophers are attempting to build a "special", monistic philosophy which would fuse materialism and idealism into one. There is, for example, a theory of "neutral monism", whose representatives are trying to replace the "outdated" contradictions between the material and the ideal by a kind of specific common "experience". According to other theories, contradictions between materialism and idealism can be overcome by introducing two points of view about the world. In one, the world is described as a harmonious interrelationship of nature's objective phenomena; in the other, it is regarded as a field of human activities, a projec-

tion of man's emotions and wishes. This would seemingly be to everybody's satisfaction. Yet it is clear that such "neutral monism" is but a very subtle form of dualism.

There is still another, and at first glance, the most consistent, "monist" view on the relationship between matter and consciousness. According to this view, our mind or consciousness is not someting distinct from matter. Thought is material. Lenin, however, criticised the materialist Joseph Dietzgen, who adhered to this view, and described such materialism as vulgar, simplified, and therefore a means of falsifying the relationship between matter and consciousness: "To say that thought is material is to make a false step, a step towards confusing materialism and idealism." [1] The material is not in fact dependent on our mind. But for an objective idealist the spiritual, the thought, is also independent of human consciousness. Consistent monist materialism does not identify thought with matter, but considers thought or consciousness as the supreme product of matter at higher stages of its development.

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[1] V. I. Lenin, "Materialism and Empirio-Criticism" *Collected Works*, Vol. 14, p. 244.

From a Pessimistic Standpoint

Now we can again turn to the problem posed earlier – what is in store for us from the standpoints of idealism and materialism, what stand in life will we take by adhering to either materialist or idealist doctrine?

We have already mentioned that a materialist is sometimes described as a base, coarse person, whose only desire is being well fed. Idealists like to perpetrate this myth. Reducing materialism to only one of its forms, mechanistic materialism, they reveal that mechanicist philosophers offer a hopeless, pessimistic picture: man is a helpless toy in the hands of natural forces, a mere "thing among other things". Freedom of will, creative activities, the struggle to change the world ... these are all illusions. The only thing man can do is to fence himself off from the entire world, forget about the needs of his own people and the whole of mankind, renounce useless struggle and enjoy all the pleasures he can lay his hands on. However, we have just seen that it is only possible to come to such conclusions due to the inconsistent nature of mechanistic materialism, of its deviation from monist materialism towards idealism.

Let us see what life values idealism offers us. It does not see a way for man to achieve much in this world. Therefore, an idealist's world outlook is essentially pessimistic. Death, sufferings and

loneliness dominate the world. True freedom, creativity, love and happiness – all things that man is worthy of – are lacking. Yet we can, an idealist says, make our existence in this world at least bearable without changing it. How? By believing that there is another world and that this invisible world is a genuine; that man is connected to it by close ties, that he can communicate with it, and will soon enter it forever. Well, if this philosophy can be called optimistic, it is a false, illusory optimism.

The pessimistic tone is quite loud in contemporary Western philosophy, too: our entire life is permeated with irresolvable, tragic contradictions, it is an existence leading to death, so human life is devoid of any sense; it is an absurdity. Though some philosophers (Jean-Paul Sartre, for example) attempted to draw revolutionary conclusions from this understanding of man's existence these were only vague anarcho-syndicalist concepts: the world's transformation can not be based on understanding the objective laws of reality, but should proceed *in spite* of absurd reality. A revolution of this sort has no need of a carefully elaborated theory, strict discipline, or collective organisation. Workers entrust the trade unions and the party to defend their rights because they have no option, asserts a hero in Pascal Laine's short novel *L'irrevolution*. First of all, they should be taught to express themselves and their inner

"self" and to avoid turning into a particle of the material world. To stage a strike, to fight for their rights, for better material conditions and democratic freedoms is, from this point of view, to succumb to the "power of things", the power of the material world. Of course, society cannot be transformed if real forms of struggle, relying on the knowledge of objective laws, are ignored. This is essentially what the "striving toward lofty ideals", which idealists regard as their distinctive feature, comes down to. It spells out profound pessimism, egoism, incapability of real action, and boastful, empty talk.

Idealism leads to a lack of faith in man, in his powers, and his ability to choose his own road in life. One example is Kant's ethical, "practical" philosophy. Kant held that man must heed the voice of duty as an incontestable law, he must abide by the commands of his conscience, even if they are contrary to his material interests, such as promotion at work, conclusion of a profitable deal, etc. Man must not await reward for his virtuous behaviour. At this point, one should like point out: here it is that philosophical idealism is fused with belief in noble ideals! But Kant went further than this: man should not expect reward in this world. It is in the other world that every virtuous man will be rewarded for his good behaviour, and those who did not heed the voice of duty will be punished. In the final analysis,

Kant maintained that man will not behave virtuously if he is left on his own and is not subject to control "from above".

Let us see what monist materialism has to say about prospective changes and improvements in the world, and about man's striving toward lofty ideals.

The Roots of Optimism

We shall begin with the following pronouncement: "I laugh at so-called 'practical' men with their wisdom. If one chose to be an ox, one could of course turn one's back on the sufferings of mankind and look after one's own skin." [1] These words belong to Karl Marx, a consistent materialist irreconcilable towards all idealist doctrines.

Unlike idealists, a materialist does not seek assistance from powers of the other world, which lead man by the stick and the carrot along the path of virtue. A consistent materialist believes in man, in his powers and abilities. The specific features of this optimistic world outlook, typical of a consistent materialist, directly stem from his view of the world and man.

For a materialist, the world is single in its diversity, and infinite in time and space. But still

[1] "Marx to Sigfrid Meyer in New York, April 30, 1867", Marx/Engels, *Selected Correspondence*, p. 173.

the materialist has to explain what place man occupies in this world, and how consciousness appears. To substantiate such a view of the world without drawing on assistance from the "great watchmaker", it is necessary to recognise that the forces which underlie the entire diversity of animate and inanimate nature, and, in the final count, of man (who is endowed with reason and emotions) must exist in matter itself, in nature, rather than outside it.

There was a time when knowledge of nature and man was sewerely limited and the question was tackled in a most simple way: consciousness, the "soul", does not emerge out of inanimate matter, but is contained in any phenomenon and has always been present in nature. It is "sleeping", as it were, in the rock, water and the earth, is gradually awakening in trees and animals, and finally "opens its eyes" with the appearance of man. This approach is called *hylosoism*. It is extremely simple, but far removed from the truth. Such an approach is, of course, unacceptable for a contemporary materialist.

Let us try to consider this question from a different angle. What is life? If a rock is constantly exposed to strong winds and snow-storms it will gradually disintegrate; it will look differently, yet it will remain in its place. A living thing, by contrast, even the tiniest of insects, will try to find refuge. Even a plant will "take measures", in a

way, by closing the petals of its flower. So, unlike inanimate nature, any living thing always maintains a balance with the environment, constantly reacting to the modified conditions of its existence in order to escape danger, find food and protect its young.

However, the ability to react correctly to changes in the environment is limited in all living beings except man, who lives in extremely diversified and complex conditions and constantly finds himself facing utterly new situations. Any land beast will perish if placed under water, but man can use a diving-suit supplied with an oxygen tank. Animals inhabiting the tropics cannot survive in the North Pole, even for a short time. Man, on the other hand, can prepare himself for existence even in those harsh conditions. Why, then, does man, who is not so well equipped physically, who does not have either a thick fur coat or sharp nails and teeth, enjoy such an advantage over animals?

It is due to man's faculty to analyse a situation, to summarise what he has seen and to predict the future. Even the worst of architects outdoes the best of bees since he builds a house in his head first. And it is exactly these functions that human consciousness fulfils. Consequently, consciousness emerges as a result of the complication of life conditions of animate beings. It is a product of the development of living matter, the most perfect

means of orientation in the environment. A number of sciences, such as anthropology, psychology, biology and psycho-physiology, incontestably reveal this. So we may draw the following conclusions:

First, if consciousness emerges to help man to orient himself in the world, then it must provide us with true information about the environment, otherwise it would be useless or even harmful for man. Second, if consciousness is an outcome of man's practical needs, then it is an instrument for fulfilling his vitally important tasks. Thus, man is not simply capable of grasping reality, but also of using the knowledge he has acquired to improve his living standards.

Now it becomes clear why the materialist world outlook is optimistic. Despite the great diversity of the world around us and the fact that man is by no means omnipotent, his position in that world is not hopeless. He is able to gain an understanding of the world, even if it takes a while, and can use this knowledge in his own interests. The world is a boundless sphere of activity for man, for his increasing power. He has not been endowed with this property by a supreme force; rather this optimistic approach is based on his profound organic link with nature and other people.

Hamlet or Faust?

We have already made it clear that the question of whether it is possible to understand the world is one of the most important points of contention between materialist and idealist philosophers. It can even be said that the fundamental issue of philosophy can be formulated in precise terms only if it is supplemented by the question as to whether the world in knowable. Let us then attempt to give a more precise definition of philosophy's fundamental issue.

This issue has two sides or two aspects. The first is *ontological*: what emerges first – consciousness or being? And the second is *gnosiological*: is the world around man knowable?

We have already shown that a consistent materialist, while explaining the process of the emergence of consciousness out of nature, simultaneously answers the question as to whether the world is cognisable. Indeed, we not only explain *how* life and subsequently man, its highest achievement, emerge; we also answer the question *why* life and consciousness appear. Having found that a correct knowledge of the world is a necessary condition for man to exist, we arrive at a conclusion that man can cognise it. Having answered the question of the primacy of matter, we are at the same time provided with an opportunity to answer in the affirmative the ques-

tion concerning man's ability to cognise the world. Thus, these two questions are so closely connected that we have every reason to combine them and call them component parts of the fundamental issue of philosophy.

However, it is not always so easy to discern the link between the two aspects of philosophy's fundamental question. Sometimes idealists purposefully complicate this simple problem. For what reason? And how?

Idealists maintain that one side of man's soul is characterised by an irresistible thirst for knowledge. This is man's "Doctor Faust" nature. Another side of man's soul is reflected in Hamlet's "accursed" questions related to man's existence in the world: who am I, where am I heading, shall I cower before destiny's commands or put a fight? Whom should a philosopher follow then – Faust, who is only interested in man's cognitive abilities, or Hamlet, who is pondering over man's place in the world? Idealist philosophers maintain that a philosopher resolves this fundamental question for himself depending on which side of his soul is dominant.

Some contemporary philosophers think that there is not one, but two independent questions. For example, they claim that representatives of positivism are only engaged in the gnosiological issue – studying the process of attaining human knowledge – and are not in the least interested in

the way man's ability to cognise has emerged.

Pragmatists maintain that the question of knowledge is too general and therefore cannot be of interest to all philosophers. They themselves regard as important, not how the world can be cognised, but how a cosy nook can be found in it, how life can be made more comfortable. They would rather not rack their brains out trying to solve insoluble riddles. A philosopher should not try to learn the truth but should tackle the problems man is faced with in different situations.

Neo-Thomists believe that philosophers should try to show that the existence of every blade of grass and every flower, of each man, each state and branch of science, and of the whole universe prove the existence of God and his constant presence in our world.

Existentialists hold that the question as to whether the world is knowable should be interpreted as a question of man's self-knowledge, for each of us is first of all interested in our inner world, our "Ego", rather than in the world which exists outside.

What is the result of such fragmentation of the fundamental issue of philosophy? Let us assume that we agree with the point of view that a philosopher is interested only in the question of man's self-cognition and identification of his value orientations. Can we provide a satisfactory

answer to that question if we consciously prohibit such questions as: How have the world and man as part of it emerged? Is man alone in this world, or is he a part of nature and society? In other words, if we try to ignore the issue of the primacy of mind or matter, we shall "deprive" man of his ties with nature and people, with the past and the future. Having cut off all man's diversified connections with the world, we shall have nothing to do but announce that he is not in any way connected with society either. If Shakespeare turned Hamlet into this sort of non-entity, he would hardly have succeeded in creating a character of such great artistic value. Yet this is the position adhered to by existentialists.

This kind of philosophy purposefully ignores the *social aspect* of the problem of man, thus failing to address the vital questions of our day. An existentialist "forbids" man to think about the *mutual connection* between man and the world, his actions and the goals he sets for himself in the transformation of the world.

Thus, by concentrating the entire set of philosophical problems around issues connected with knowledge and self-knowledge, we shall not be able to solve correctly even general epistemological problems. To take such an approach would mean cutting off the ties with the social struggle and renouncing all attempts of tackling acute philsophical problems involved in a world

outlook.

However, supporters of the division of the fundamental philosophical question into two or even more parts endeavour to substantiate their position. They maintain that the possibility of cognising the world is in no way connected with the primacy of matter and mind, since there are many philosophers among idealists who recognise that the world around them is knowable. Both Plato, the great idealist philosopher of antiquity, and Hegel thought that the world was knowable. But is it really so? To understand this better, let us examine two types of idealism – subjectivism and objectivism.

A Musician without a Musical Instrument and a Mad Piano

Objective idealists maintain that the world is based on mind or consciousness. Yet, the objective idealist argues, man's consciousness is not perfect. Sometimes the world's riddles are beyond the powers of his mind. He is easily defeated and will retreat before difficulties, and passion often obscures sound reasoning. Man is likely to commit errors and will cower before recognised authorities. Moreover, his life is short, preventing him from using his mind for any great length of time. But there is another kind of reason – absolute and supernatural – which

has existed before man came into existence and which will exist eternally. The human mind is but a particle, a pale reflection of heavenly Reason.

Thus, the absolute, heavenly Reason exists *independently of man, i. e., objectively,* while man himself and the entire world are a result of the activities of this supernatural spirit. This is the essence of objective idealism.

For a *subjective idealist,* the mind or reason is also the foundation of all that exists. But here there is no mention about a heavenly, absolute, divine Reason, for a subjective idealist holds that everything around man is merely a product of his own mind, of his own imagination, i. e., it exists only subjectively. A subjective idealist is convinced that when he awakens in the morning, everything comes into being to disappear again when he goes to sleep. According to George Berkeley, an English philosopher of the 18th century who adhered to this theory: "To exist means to be perceived." [1]

Not all subjective idealists come to such extreme conclusions. Kant, for one, thought that the world really did exist, that it was not just the fruit of our imagination. But he maintained that we do not know anything about it. We can only speak about our sensations, rather than about

[1] Cited from V. I. Lenin, "Materialism and Empirio-Criticism", *Collected Works,* Vol. 14, p. 24.

what is behind them. Those subjective idealists who arrive at extreme conclusions and hold that only human consciousness exists in reality are called *solipsists*. Extreme subjectivism is typical, for example, of the doctrine of Arthur Schopenhauer, a German idealist philosopher of the 19th century, who wrote that the world is our imagination. One of the French materialist philosophers of the past said that the logic of subjective idealism is that of a piano which has gone mad and thinks that it can play by itself, even if there is nobody to strike its keys. In the same way, a subjective idealist is sure that man thinks, feels and suffers without any external reason.

Such philosophy is contrary to common sense, to elementary human logic. It is also quite dangerous, for there can be no sense whatever in studying, working, or fighting if our whole life is merely a product of our own imagination. Everything is no more than a dream, and any struggle is a duel with a windmill.

The logic of objective idealism is no less fanciful. If we continue our parallel with a musical instrument, then objective reason is a musician who is performing without a "piano" (nature, animals, or man). We have already seen, what surprising views a philosopher comes to if he sides with idealism. And what does idealism say about the possibility of knowing the world?

An objective idealist will say: yes, of course, the

world can be known. But let us see how he interprets the term "knowable". Plato thought that man could cognise the world, but not the world of matter, rather the world of pure ideas which have created that matter by blowing life into it. The human soul itself once lived in this kingdom of ideas, therefore it is easy for it to "recollect" the world which surrounded it earlier. Thus, the "world" for an objective idealist is not reality, but a specific, ideal world. The cognitive process is that of recollection, since the human mind is a part of that ideal world. There is no need to study reality in search of truth, or collect facts, compare, analyse and generalise them, or express doubt. Man only has to think a little – and the keys to the secrets of the universe will be in his hands.

It is even more simple for a subjective idealist. If the entire world is but a product of our sensations, mind and phantasy, then we are of course able to cognise that "world" – the world of images created by our consciousness. It follows from this that, in fact, cognition of the world turns out to be self-cognition. Reality, nature, all the diversity of social processes do not interest a subjective idealist: they simply do not exist for him.

So we have seen that both objective and subjective idealists recognise that the world can be known. But which world? The genuine world we live in – this fine, great, complicated world full of

contradictions? Oh no – their "own" world, the world of ideas and sensations which has been artificially created by the philosophers themselves. Naturally, the cognitive process turns out to be exceptionally simple in their opinion: all difficulties which generally face a scientist, all the searches and throes of creation which arise when human thought comes up against "stubborn" reality are non-existent. For an idealist, it is just a matter of one idea cognising another idea, the whole of cognition being reduced to self-knowledge.

It is quite different for a materialist. Cognition from a consistently materialist point of view is an extremely complicated, difficult and infinite process. Gradually, step by step, mankind exposes nature's secrets. Man does not cognise his own mind, ideas and sensations, but the objective world that exists independently of his mind, and of any mind in general. The possibility of correctly knowing this world is rooted in the necessary connection that exists between man and the objective world or matter. This process, however, does not take place by way of "recollection". From a materialist point of view, the process of knowledge is a copy, a mould of surrounding things or phenomena. We all know that to make any copy – be it a picture or a document – is a rather painstaking process; to make such a "copy" of nature is by no means less difficult.

So we have seen that the world itself, man engaged in cognising it, and the process of knowing the world are approached by an idealist and a materialist from opposite positions.

One may conclude that *the issue of the possibility of knowing the world is directly and immediately linked with that of the primacy of matter and consciousness.* Hence, there are no two questions of philosophy; there is only one fundamental question. Attempts to deprive philosophy of its oneness and a world outlook approach have thus been proved to be futile.

The Roots of Contradictions

We have discussed some very diverse, and sometimes fanciful notions about nature, man and knowledge. Do these ideas have any foundations, or are they just a whim of phantasy on the part of certain eccentrics?

Old materialists maintained that idealist concepts were just so much nonsense, a whim of perverted imagination, and therefore not to be taken seriously. But idealism cannot be just laughed off. It is necessary to get to its roots and see why has it been able to survive up to this day.

We have already mentioned that the roots of philosophy, of its appearance, are to be found in man's practical activities, his labour, that they arise out of his everyday life. There are also

"practical" causes for the emergence of materialism and idealism – those two contradictory philosophical trends.

In the process of labour, each man sets himself goals. He then looks for appropriate means and, by applying them, achieves as a result that which he has conceived – be it a spade or an axe, a new breed of animal or a harvest of wheat. Naturally, as he works, he is bound to form an idea that the world around him exists independently of himself, that it is objective, and that to achieve a certain goal requires a physical effort on his part, a certain amount of energy, and a definite level of knowledge and skill. Still, it is possible to cognise that world, to improve it and adapt it to human needs, in the same way as man turns natural forces to serve him in agriculture and stockbreeding, or utilises natural substances to produce various tools.

In this way man applies his practical experience to the whole of the universe; nature is for him a gigantic workshop, and he himself a worker in that workshop. This world outlook is an immediate forerunner of materialist ideas.

Scientific knowledge is man's true assistant in his labour activities. That is why materialist philosophy constantly draws on science in seeking confirmation of its conclusions, directly relies on scientific achievements and, in turn, renders help to science. Max Planck, an outstanding physicist

of the 20th century, thought that materialist views are an indispensable requisite of productive scientific research, although this firm, utterly unshakeable belief into an absolute reality of nature is a natural and indispensable precondition of an investigator's work.

It is no accident that the emergence of different trends of materialism is connected with important scientific discoveries. For example, Nicolaus Copernicus's ideas of heliocentrism proved to be a "revolutionary act" not only in natural science, but in materialist philosophy as well. In Copernicus's day, the Earth was considered the immovable centre of the universe. Planets, stars and the heavens were thought to circle it in different spheres. In the "sublunary" world, i. e., on Earth everything was thought to be temporary and imperfect, while in the "supralunary" one, everything was said to be eternal, unchangeable and perfect.

The refutation of geocentrism meant turning the Earth into just one of many planets and eliminated the division of the world into the "sublunary" and "supralunary", each governed by its own laws. The world was thus recognised as a single whole. Copernicus "expanded" the boundaries of the universe and blazed the path to the substantiation of the world's infiniteness in space. Heliocentrism also made it possible to specify philosophical ideas concerning the process

of knowledge by showing that true knowledge does not lie on the surface for man to come and pick up, but has to be extracted by exposing the essence of things behind external phenomena. The discovery made by Copernicus thus served to confirm and develop materialist views on nature and man.

The evolution of mechanics was one of the reasons for the emergence of the mechanistic form of materialist philosophy in the 17th and 18th centuries. In the 19th century, however, as biology, physics and chemistry surged forth, another, and higher form of materialism took shape – dialectical materialism.

Materialism, which relies on reason, science and common sense, has always been permeated with a certain degree of scepticism or doubt. Disbelief, inquiring as to the root of things and phenomena, verification and thorough examination – these are typical features of a materialist world outlook. Hence a critical attitude to religious concepts. "I have to believe in it because it is absurd", said Tertullian, a Christian theologian. A materialist, by contrast, says that if it is absurd, then it cannot be correct, and so he begins to search for a contradiction, trying to get to the truth. A critical mind is typical of materialists of all times and nations. For example, Jawaharlal Nehru wrote about ancient Indian materialists: "The materialists attacked author-

ity and all vested interests in thought, religion and theology. They denounced the Vedas and priestcraft and traditional beliefs, and proclaimed that belief must be free and must not depend on presuppositions or merely on the authority of the past. They inveighed against all forms of magic and superstition."[1] The same position is expressed by Omar Khayyam, the great Oriental poet, scientist and thinker of the 11th century:

In mosques, and churches, and amongst the Gods,
They dread the Hell and dream of Paradise.
But he who's solved the riddle of the world
Has not let weeds to grow in his heart[2]

In this way thinking grew more subtle, ways of acquiring knowledge became more sophisticated, and a harmonious materialist view of reality was formulated.

But idealism has not appeared out of the blue either. The same practical activities of man played a certain role in its birth, too, but in a "negative" sense. Man does not by any means

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[1] Jawaharlal Nehru, *The Discovery of India*, Asia Publishing House, Bombay, 1964, p. 100.

[2] *Omar Khayyam*, Dushanbe, Irfon Publishers, 1970, p. 109 (in Persian).

always succeed in achieving that which he aspires to. This was especially true in ancient times when initial philosophical ideas were taking shape. A great deal of misfortunes fell his way. He often encountered adversity and could not explain everything he came up against. Why does one man have to work and another not? Who has established this particular order of things? When man dies where does his soul go after he is dead?

Man's helplessness in his struggle with natural forces, his failure to solve many vitally important problems and explain the riddles of life led him to turn for support to a mighty, "absolute", ideal power. For this type of man, nature, is not a workshop in which he is both master and labourer, but a church, built by others, where he comes for a short while as a humble petitioner, a begger. So we have seen that man's activities give rise both to materialist and idealist views. In the first instance, man's power and opportunities are definitive, and in the second – his weakness.

Marx wrote: "...Philosophers do not spring up like mushrooms out of the ground; they are products of their time, of their nation, whose most subtle, valuable and invisible juices flow in the ideas of philosophy. The same spirit that constructs railways with the hands of workers, constructs philosophical systems in the brains of philoso-

phers." [1]

Man encountered many difficulties in the past; he also faces them at present. The world around is so complicated and multifaceted that the true state of things sometimes escapes us. From childhood we learn a multitude of notions and ideals. We learn about such things as duty, honour, justice, and law, we study logic and the laws of mathematics. But where have these ideas and laws, these rules and customs come from? Was it really ourselves who invented all of them? We cannot name a person who might have established them; so, perhaps, they have existed all the time, have been provided for us by the Heavens? Such arguments are very close to objective idealism.

We can smell, see, hear and feel. But if we shut our eyes, the world disappears and we are plunged into darkness. If our sense of smell is impaired, odours will cease to exist for us. And if something is wrong with our hearing – then the world will become silent. And vice versa, if some other beings in some other world have not five, but seven, or even eight senses, the world they live in is probably quite different from ours. This kind of argument can lead one to subjective idealism, even without his knowing it.

[1] Karl Marx, "The Leading Article in No. 179 of the *Kölnische Zeitung*", in: Karl Marx, Frederick Engels, *Collected Works*, Vol. 1, p. 195.

The process of cognition is so complicated, and the thorny path of knowledge is so hard to travel that one can easily lose his bearings. And it is just here that idealism offers its services by suggesting its own "solution", which as a rule is the easiest one.

Man, however, is gradually overcoming the limited nature of his experience, and is turning from an outcast of nature into its master. The evolution of science has curbed all sorts of fantastic notions, and materialism is becoming a leading trend in philosophy. Today there are few philosophers who would openly assert that the world and nature are just a dream, a phantom; it would be quite a problem to find an idealist who renounces science and believes it is only religion that provides man with knowledge of the world.

The evolution of the socio-historical experience determines the evolution of philosophical thinking. As Engels said, it is only the power of pure thinking that is pushing philosophers on: "On the contrary, what really pushed them forward most was the powerful and ever more rapidly onrushing progress of natural science and industry. Among the materialists this was plain on the surface, but the idealist systems also filled themselves more and more with a materialist content and attempted pantheistically to reconcile the antithesis between mind and matter. Thus, ultimately, the Hegelian system represents merely a materia-

lism idealistically turned upside down in method and content." [1]

At the same time, idealism is not going to cease to exist, though it masks itself in the guise of materialism, or asserts that it is "above" both idealism and materialism. Will the struggle between materialism and idealism go on for ever?

A "Heavenly" Echo of Terrestrial Storms

Idealism stubbornly sticks to its positions due, in part, to the contradictions of social life. The emergence of idealism today has occurred not only because of the difficulties man encounters in the process of acquiring knowledge and labour activities, and in his life as a whole. From times immemorial, there have been forces which *profit* by spreading idealistic philosophy. For a long time, all mankind was divided into an elite society which owned land and work implements, and the oppressed, the deprived, who owned nothing. The slave-owner, the feudal lord, and the capitalist tried to preserve their power and their wealth not only with the help of rifles and guns, the military and prison. Philosophy, reli-

[1] Frederick Engels, "Ludwig Feuerbach and the End of Classical German Philosophy", in: Karl Marx and Frederick Engels, *Selected Works* in three volumes, Vol. 3, p. 348.

gion, and even the arts were turned into tools of spiritual violence and class domination in a society split into the poor and the rich, the oppressed and the oppressors. It is quite natural that Plato held that man is surrounded by passive matter, by the spontaneous, base and crude, while genuine order is introduced into matter by the idea. It is the idea that brings chaotic matter into harmony; and in the same way that ideas introduce order into the world of matter, aristocrats must govern the popular masses. We see that a philosopher "confirms", as it were, the established social order, and asserts that it is impossible to change it.

As time passed, ancient society was gradually destroyed under the blows of invaders; it was also torn down from the inside by the uprisings of slaves and economic decline as well. Those in power understood that it was impossible to reverse the course of history and felt that the reins were slipping from their hands. In this period, they found "consolation" in subjective idealist doctrines: everything will pass into oblivion; everything except pleasure is an illusion. Or, on the contrary, all our desires are futile, man can never be really happy, so we must reduce his requirements to a minimum and lead the severe life of an ascetic, a stoic. Neither power, happiness nor wealth are within man's reach in this world. They simply do not exist!

In today's bourgeois society, subjective idealist views are firmly entrenched in the minds of the petty bourgeoisie which have been exhausted by competition. These views absolve them from the striving for success and wealth, search for truth and fight against injustice. The subjective idealist philosophy of pragmatism holds that the only thing that matters is being satisfied with having a little luck in life.

As a rule, idealism expresses, justifies and defends the interests of the rich. Yet sometimes it is also indulged in by those who are disappointed with the actual state of affairs and would like to change it. But is idealist philosophy really able to be of assistance in the noble cause of society's transformation?

At the turn of the 19th century, Germany had a relatively backward economy. But the idea of overthrowing the feudal order that had been born of the French Revolution was very much alive. The young German intelligentsia, which expressed the interests of the growing bourgeoisie, strove for radical social reforms. However, it lacked the strength for a *real* transformation of society, for it did not enjoy support among the masses, and state power, siding with reactionary social forces, was too strong. So there was only one way out – to rebuild that world ... in imagination, to mould a philosophy, an ideal world, in which the real world would be renounced. Such

idealist philosophy was created (Johann Fichte, Friedrich Schelling, Georg Hegel), but it was of little help in the cause of actually restructuring the world, since it transferred real problems into the world of ideas.

In France, on the contrary, materialist ideas inspired the bourgeoisie who struggled to achieve power prior to the French Revolution. Bourgeois society had not yet experienced the misfortunes of crises and unemployment. The working class was too weak and poorly organised. The bourgeois still believed that capitalist society offered man boundless opportunities, and was not aware of the fact that his future grave-digger – the nascent proletariat – was coming onto the scene. He was still charged with energy and willpower and was full of hopes. When capitalism did win, however, its "dark" sides soon became evident. Materialist philosophy gradually took a dangerous turn for capitalism. The more discernible the insoluble contradictions inherent in contemporary bourgeois society, the greater the number of idealist philosophical schools which spring up in the West.

So, *materialist philosophy has always expressed the interests of vanguard social forces, and idealist philosophy is a pledged champion of the privileged sections of the population, their rights, their way of life, and their freedoms.*

However, the question may be raised, has

materialism always been regarded by the popular masses as their "own" philosophy? As a matter of fact, the people, slaves, peasants, craftsmen and small traders were sometimes hardly aware of the existence of materialist philosophy, or of any kind of philosophy for that matter. Indeed, what could they have in common with philosophy – a slave, exhausted with back-breaking labour, a peasant, who worked in the fields day and night, or a worker who hardly had a day off. The philosophy which could show them the way to liberation was out of the reach of the working people. Yet a slave aware of his downtrodden position is already on the way to his freedom.

In contemporary capitalist society, workers are organised in large collectives; they enjoy certain knowledge, have broader interests and more free time. Therefore, the possibility of their studying materialist philosophy is now much greater. Before the Great October Socialist Revolution of 1917, many worker groups were organised to study social sciences, including materialist philosophy. Thus, *in contemporary society conditions are formed for the broad popular masses to master materialist philosophy*. The union between vanguard social forces and advanced philosophy guarantees that society will be changed in conformity with the principles of justice and humaneness.

The founders of Marxism-Leninism have been *the first* to clearly formulate the basic question of

philosophy and reveal its composition, thus providing a criterion for the assessment of various philosophical trends, schools and theories. Any bias in interpreting matter, typical of pre-Marxian materialists, is alien to Marxism. Describing matter as an objective reality perceived by us through sensations, Marxism *for the first time ever* solved the problem of the unity of animate and inanimate nature, and of nature and society from materialist positions. It renounced a simplified interpretation of the relationship between thinking and being, which reduced man's mind to material processes only, and substantiated, again *for the first time ever*, the idea of the emergence of consciousness at the higher stage of the evolution of matter. This discovery has become possible as a result of an organic coalescence of materialism with the idea of development.

III. TWO VIEWS OF THE WORLD'S EVOLUTION

The world, which is all around us, is constantly changing, moving and developing. This is shown in our everyday life, through science, human activities and by political struggle. Some of these changes do not attract our attention, while others are of great consequence for people, states, mankind and nature as a whole. The infinite universe is in constant motion; the planets circle the Sun, and stars are born and extinguished. Our globe, the Earth, is also changing: islands and mountains emerge, volcanoes erupt, earthquakes occur, the outlines of sea coasts and river banks are modified, and the flora and fauna are also transformed. Marked changes have taken place in man and society, which has travelled a long road in its evolu-

tion, from a primitive horde to socialism. The world's map is also undergoing a change: the countries which were previously ruled by Spanish, French, British and Portuguese colonialists, have gained their freedom and become independent states, e. g., India, Afghanistan, Cuba, Ethiopia, Angola, Mozambique, and many others.

To survive in the world, to adapt himself to it and change it in conformity with his own goals and requirements, man has to interpret and explain its diversity. Even in ancient times people were interested in such questions as, for example: What is the world and what kind of changes are taking place in it? Is there a connection between things? Why does the world move, and what causes that movement? To answer these questions, Babylonian priests spent many years in observing the movement of planets and describing solar and lunar eclipses. From observation and description people progressed to seeking a deeper knowledge of the world – they tried to explain it. Ancient thinkers felt that it was impossible to understand the world without considering the role of motion in it. Therefore the question, "Does motion exist?" was supplemented by another one: What is the cause of this motion? And that amounted to posing one more and extremely important philosophical problem. As is often the case in philosophy, different opinions

and answers came forth. Aristotle, for instance, thought that ignorance of motion inevitably leads to ignorance of nature. Two ways of explaining the evolution of the world materialised in the history of philosophical thought in connection with the interpretation of the essence of motion, its causes and sources. This led to the shaping of two opposite methods in approaching the world – dialectics and metaphysics. Let us try to examine the essence of each of these methods, and to determine which of them provides a genuinely scientific solution to the above-mentioned questions.

What Is Dialectics?

The word "dialectics" initially denoted the art of holding a conversation with the aim of arriving at the truth through a conflict of different opinions. Plato described a dialectician as a man who knew how to ask questions and give answers, who suggested a definition of a thing or phenomenon only after he had attacked it with all possible objections and in this way arrived at the truth. One great dialectician was Socrates, who spent his whole life trying to discover the truth through investigative conversations. In the course of such conversations, Socrates would ask questions, refute answers, suggest variants, express doubt and reveal the contradictions in the views of his opponents. This method of holding a con-

versation, of attempting to find the truth by comparing opposite opinions, analysing and refuting them was called dialectics. Subsequently, the term came to express something different.

The word "sophist" initially meant a "wise man", or "master". Wise and eloquent instructors who taught the art of debate for moderate pay were called sophists. These men, the first paid teachers, tried to teach their pupils how to "think, speak and act". But their main purpose was to gain the upper hand over the other side in a conversation by any means whatsoever. All kind of ruses and even deception were allowed. The sophists believed that any means could be used to achieve a set goal. For example, a sophist may make his conversation excessively long, for he knows that it is difficult to follow closely a long speech; he may speak too quickly or plead lack of time for continuing the argument, he may tease his opponent, for he is well aware that an angry man does not pay much attention to the logical sequence of an argument... A sophist wishes to win, to prove that he is right at any price. Therefore he sometimes substitute false relationships and connections for real ones, turning himself into a juggler who undertakes to defend or uphold any opinion by resorting to sophisms. Eubulides of Miletus, an ancient Greek philosopher thought up a number of sophisms. Here are a few examples: that which you have not lost is in

your possession. But you have not lost horns, therefore you possess them.

Or another example. Electra knows Orestus to be her own brother; but now he is standing in front of her "covered", and she does not know him who is covered to be her brother. Hence the conclusion – she does not know that which she knows.

The essence of the argument amounts to the following: whether he does or does not know something, man should not engage in a search. If he does know, then there is no need for it; and if he does not know, then he does not know what he is going to look for.[1] Here we have the contraposition of the known and the unknown in knowledge, which leads to the complete divorce of the one from the other.

One more example: Guasun Lu, a wise Chinese of ancient times, wished to cross a border while mounted on his white horse. Since it was forbidden to cross on horse back, he entered into the following argument with the borderguard:

"A horse can be chestnut.

"However, a white horse cannot be chestnut.

"Therefore, a white horse is not a horse at all."

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[1] Diogenes Laërtius, *On the Lives, Doctrines and Sayings of the Greek Philosophers*, Mysl Publishers, Moscow, 1979, p. 138 (in Russian).

The borderguard was so overwhelmed by the logic of this argument that he permitted the wise man to cross the border mounted on his horse.

A sophist develops a special approach to life: in fact, he worships deception. A person who has deceived him seems to him more honest than the one who has not. The principle of usefulness is considered the only criterion for assessing man's behaviour; hence, all actions must be moved by three motives: pleasure, profit and honour. Here is a sophist's idea of justice: it is nothing else but a gain for the strong. As we have seen, sophistry distorts reality; it is opposed to dialectics, though it tries to assume an outward form of it.

Unlike a conversation held by a sophist, that held by a dialectician is aimed at finding the truth with the help of the philosophical art of argument. The dialectical thinker Socrates is quoted as saying: "I only know that I know nothing, but I am striving for knowledge."

Everything Is Undergoing Change...

The fact that everything in the world is constantly changing was already noticed by ancient philosophers. The views of Heraclitus are very illustrative. This ancient materialist is considered to be a great dialectician who maintained that everything in the world is in flux due to an in-

finite primary cause and eternal fire. "All things are exchanged for fire and fire for all things, just as wares for gold and gold for wares." [1] Everything is in motion. Nature is full of eternal motion: "Fire lives by the death of the earth, and the air by the death of fire; water lives by the death of air, and the earth by the death of water." [2] In the dialectics of Heraclitus the world is characterised by the interaction of opposite principles, their unity and struggle. Cognition of the truth is born in the cognition of the exchange of the opposites, of their struggle. "That which is hostile is united, that which is different forms a perfect harmony, and everything takes place through a struggle," [3] since everything is changing because the "struggle is father to everything". [4] Heraclitus's dialectics has already acquired a different meaning. For him, dialectics is a certain interpretation of the world, consideration of its motion, its evolution.

Similar views were also shared by great Oriental thinkers Averroes and ibn Sina (Avicenna). The former maintained that motion is eternal

[1] *The Fragments of the Work of Heraclitus of Ephesus on Nature*, Baltimore, 1889, p. 89.

[2] *Materialists of Ancient Greece*, Politizdat, Moscow, 1955, p. 48 (in Russian).

[3] Ibid.

[4] *An Anthology of World Philosophy*, in four volumes, Vol. 1, Mysl Publishers, Moscow, 1970, p. 276 (in Russian).

and undefeatable. Emergence, change and destruction are all contained as a possibility in matter, since destruction is an act of the same order as reproduction. Any conceived being contains in itself decay as a possibility. Avicenna, who was called a "prince of philosophy" by his contemporaries, also thought that motion is potentially contained in matter and amounts to its ability to be transformed. The ancient Chinese philosopher Zhang Zang ascribed material power (qi) to motion, which vibrates in cycles and alternately disintegrates, returning to the great vacuum, and is then concentrated, shaping the entire visible world. In the ancient Indian philosophical book *Upanishads*, it was said that all material processes are changeable and unstable. Thus we have seen that the ancient philosophers of Greece, the Middle East, India and China recognised an inifinite change of motion and the world's evolution.

Speaking about the history of dialectics, we cannot ignore Hegel, the creator of the harmonious theory of dialectics. Hegel maintained that the world develops due to the interaction of opposite forces, but connected that development with that of a certain absolute idea, "World Spirit", or "World Reason". The world in his dialectical doctrine seems to be turned upside down: he ascribes all which is developing in nature and human history to "World Reason"; as a result, his dialectics is idealist. Hegel divined,

as it were, the dialectics of the real world in the world of ideas (thinking). World history, he said, is that of the evolution of "World Spirit". Everything develops because of the contradictions inherent in each thing and phenomenon; therefore, everything has its own history. The correct, rational kernel contained in Hegel's philosophy is his theory about development, whose motive force he ascribed to the interaction of opposites in things and phenomena.

Materialist dialectics, on the other hand, is a theory about evolution as the infinite change and motion of nature and man, as well as the method of cognising the world, which does not recognise finite and eternal truths. Materialist dialectics has facilitated a correct approach to the knowledge of the world.

Through their activities people have long been aware of invisible, soundless, yet actually existing links between various phenomena and events occurring in the world. Millennia have passed since the time ideas about the "connection of everything", about a "chain of causes", etc., were first expressed. The interpretation and development of such ideas proceeded from perceiving the coexistence of isolated phenomena to forming concepts, and then an idea about the universal interdependence of things and phenomena. Democritus rendered a great service to posterity by using theoretical arguments to espouse the idea of cau-

sal connection as the most important form of interconnection. He declared that everything has its own cause behind it, that nothing can emerge without a reason. Causal connection, according to Democritus, is a natural necessity, therefore, lack of cause is an accident which is negated as an objective fact, being a subjective expression of the lack of knowledge about the genuine causes of the given phenomenon.

Cause-and-effect connection as the only form of interdependence of natural phenomena had taken root both in philosophy and natural science. Other forms of dependence, in particular, accident, possibility and probability, were assessed as psychological sensations, as subjective notions. Francis Bacon, for example, wrote in his *Novum Organum*: "It is rightly laid down that true knowledge is that which is deduced from causes." [1]

Causal connection was interpreted in mechanistic physics of the 17th-19th centuries as an invariable, immediate and rigorous necessity. For example, the speed with which a ball moves on a billiard table is determined by the force of the hit and the ball's mass. The more precisely the forces of the hit and the mass of the ball are calculated, the more exactly can one determine

[1] Lord Becon, *Novum Organum*, New York, P. F. Collier & Son, 1902, p. 108.

and predict its speed and the moving ball's position at each particular moment.

From this point of view, the entire objective world seems to be welded together by a chain of interconnections. We can precisely determine the position of all the bodies in the universe at each particular moment in the future by establishing the precise value of their mass and velocity. It turns out that everything in the world is predetermined. This is a fatalist view, i. e., a belief in fate or destiny.

If interdependence is presented not as an objective but as a subjective connection of our notions and is declared to be a necessary form of thinking, eternally inherent in the human mind, this will result in agnosticism and, subsequently, in idealism. Thus, Kant regarded causal connection as a pre-empirical (a priori) form of thinking.

A consistently materialist interpretation which holds that causal interconnection is the most important form of the general (universal) link reveals its objective nature. From the point of view of materialist dialectics, the entire world is an aggregate connection of moving and changing objects. Neither an isolated phenomena, process nor motion in general can be comprehended outside this universal world connection. Therefore, dialectics sees scientific, *objective* examination of each object, each thing, as an infinite process of bringing to light its ever new aspects, relation-

ships and linkages. Modern natural science, e. g., physics, gives concrete expression to these fundamental interactions which embrace a wide range of phenomena occurring in the universe – from the emergence of galaxies to the minutest processes underway in elementary particles. In the objective world, a general interconnection is revealed in all types of motion: in mechanical displacements, in various physical, chemical and biological processes and in social events.

Of course, there were also views in the history of dialectics which exaggerated (absolutised) the role of changes in motion. Cratylus, for instance, an ancient Greek philosopher and a disciple of Heraclitus, said that it is impossible to enter twice in one and the same river: while we are entering it, both the river and ourselves have become changed. From this he deduced that knowledge is unattainable. This position is called relativism; it exaggerates the role of mobility, changeability and motion, and holds that, if everything is in motion, nothing definite can be said about objects. This view transforms dialectics into its opposite – metaphysics, which we shall now discuss.

What Is Metaphysics?

The word "metaphysics" literally means "after physics", and has been derived artificially. A librarian in Alexandria, Andronicus of Rhodes (who studied Aristotle's manuscripts), while placing them in order, put the treatises dealing with the sphere of the so-called First Philosophy, or Philosophical Wisdom, after his *Physics*, a doctrine on nature. From that time on philosophical works as a whole were called metaphysics. Subsequently the meaning of the word underwent a change. Hegel, for example, called metaphysics a view of motion which is the opposite of dialectics. Metaphysics' principal feature is absolutisation of the unchangeability of objects and logical forms of thinking about these objects. Motion, its source and the contradictions underlying it were not considered essential in things which were regarded as end results. "To the metaphysician, things and their mental reflexes, ideas, are isolated, are to be considered one after the other and apart from each other, are objects of investigation fixed, rigid, given once for all. He thinks in absolutely irreconcilable antitheses. His communication is 'yea, yea; nay'; for whatsoever is more than these cometh of evil." [1]

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[1] Frederick Engels, *Anti-Dühring*, p. 31.

So dialectics and metaphysics are two opposing views of development, two different modes of interpreting the knowledge of the world. Sometimes it is asserted that dialectics recognises motion while metaphysics rejects it, but this is not true with respect to modern metaphysics. While it is true that in the past, e. g., in the 17th century, metaphysics did abstract itself from motion as an essential property of material phenomena and their interconnection, later, particularly in the 20th century, it did not deny motion but rather treated it in a simplified manner. While both dialectics and metaphysics recognise motion, they interpret and explain it differently, and so essentially oppose one another.

Dialectics interprets development as an interaction of opposites, their unity and struggle; in fact, it amounts to inner development, or self-development. By contrast, metaphysics reduces development to simple displacements, increases or decreases, repetition, or movement in circles, and rejects self-development.

A metaphysical view of the world and its cognition was justified at a certain stage when it was connected with advances in science and the need for progress in knowledge. It facilitated the accumulation and collection of facts about isolated things and phenomena and the discovery of their properties by way of comparison, observation, etc. This prompted discoveries in the sciences—

mathematics, physics, biology, chemistry, etc.

The French biologist and thinker Jean Lamarck created a theory of animal evolution based on a vast collection of factual material. He presented his views in his *Philosophy of Zoology*, where he treated evolution as a movement from the simple to the complex and considered it a result of the organism's improvement under the influence of internal and external factors. However, under the domination of the metaphysical way of thinking, the accumulation of knowledge and its systematisation could only result in a situation whereby objects and phenomena were not considered in terms of their relationships with other objects and phenomena, but only in isolation; scientists were distracted from their change and development.

This view dominated up until the 19th century, and many scientists believed in the unchangeability of the world and the stability of its fundamental laws which were reduced to those of mechanics. According to this view, nothing new can appear in the universe. In this way metaphysics, which is a historically limited method of knowledge, gradually began hindering the evolution of science.

Three Great Discoveries

As science developed, the bankruptcy of the metaphysical view of the world became clear. This first occurred in cosmology. The German natural scientist and philosopher Kant and the French astronomer and mathematician Pierre Laplace offered similar hypotheses about the origin of the Solar System: both suggested that it had formed naturally out of dust-like matter. Their theory was the first breakthrough in the metaphysical concept of celestial bodies.

Dialectical ideas concerning universal change and evolution were born in the very heart of science itself. The idea that only by drawing on the theory of evolution is it possible to explain the diversity of the changing world has been firmly entrenched in science, particularly since the mid-19th century. Of enormous significance for the formulation of the dialectical view of the world were three great discoveries made in the 19th century – the discovery of the cellular structure of living organisms, substantiation of the law of conservation and transformation of energy, and the theory of evolution. They helped reveal the universal interrelationship of things and phenomena in the world, and showed that development proceeds from the simple to the complex, from the lower to the higher. Previously both scientists and philosophers-metaphysicians

regarded various forms of matter – caloric, magnetic, mechanical and electric – as existing independently of one another; now, however, their internal relationship has been proved.

In the 1930s, German biologist Theodor Schwann and botanist Matthias Schleiden discovered the cell which is basic to the structure of all plants and animals while studying the development of living organisms. This discovery was of immense philosophical importance, for it established the unity and affinity of all living things.

The law of conservation and transformation of energy, discovered and proved by English physicist James Joule and Russian physicist Emily Lentz, states that nothing appears or disappears without cause. A similar thought was expressed centuries ago by ancient philosophers, but this was only a guess on their part: they also argued that nothing is created from nothing. This aphorism was not scientifically substantiated until the 19th century, when Joule and Lentz proved the interrelationship between all types of energy and established by experiment that energy is indestructible and uncreatable, and can only transform from one state to another: from mechanical to caloric, from caloric to electric, etc.

The theory of evolution, elaborated by the English natural scientist Charles Darwin, explained the interrelationship between the plant

and animal kingdoms. Relying on a vast body of factual material, Darwin proved that all of nature, from a plant to man, is in a constant state of flux and evolution. The idea of evolution has also spread to other fields of knowledge. Theories of how the universe emerged and evolved were created in the 20th-century in physics and astronomy. Geology and geography confirmed the idea that the Earth, its core and surface are constantly changing. Geology began to study the evolution of matter. History delved into the principle of historism, i. e., suggested the idea that progress was a movement from the lower to the higher. Psychology revealed that the human psyche also undergoes changes. Thus the theory of universal evolution has permeated science and philosophy, and the view that the world is immutable has been refuted.

The idea that all of reality is interrelated is also being substantiated. Modifications in the climate bring about changes in the plant and animal kingdoms. Magnetic storms on the Sun not only disrupt radio communication, but they have an impact on the weather as well, while atmospheric pressure effects people's health. Scientists are not alone in writing about the universal relationship of things and phenomena in their scientific treatises; writers and poets discuss it in their works. In his short novel *A Sound of Thunder* American science-fiction writer Ray Bradbury tells about the

link which exists between different epochs, and about the dependence of society's culture and even political system on the destruction of a single butterfly or mouse. The author is, of course, hyperbolising, but while reading this terrifying story, one is apt to believe that such a connection could exist. And life confirms that, too. Indeed, the destruction or weakening of just one of the links in nature influences the subsequent development, not only of nature, but of society as well.

Robert Steigerwald, a Marxist philosopher from the Federal Republic of Germany, cites an example of the universal connection among things and phenomena. He discussed the discovery of DDT, an extremely effective insecticide. Its application facilitated the extermination of insects but it also destroyed birds' food, and the spring became silent. Birds and bees were killed by DDT, so fewer floscules were pollinated, and there were less fruit and berries... Precipitation introduced DDT into surface water, then into rivers and seas, and finally into our food. It accumulated in people's stomachs. As it is impossible to remove DDT from living organisms scientists came to the conclusion that the application of DDT should be minimised.

However, the connection between phenomena is not always apparent. Sometimes we cannot even see it. The great thinker, poet and mathe-

matician Omar Khayyam wrote in one of his poems:

What we see all around is a lie, no more.
There's a long way to go to the bottom of things.
Don't take what you see for the truth of the world,
For the secret of things can't be seen by the eye... [1]

The world is not just changing and moving; it is a single whole, and everything in it is indissolubly interconnected. Science has proven the conjecture made by ancient philosophers that nothing is created out of nothing and nothing disappears without a trace. Atoms are formed from elementary particles, and then molecules are built from them. Macrobodies are also linked with one another; plants and animals form species, classes and families, the Sun is connected with the Earth, our Galaxy with others, etc. Thus, when studying the world, we see it in its interrelationships, unity and change.

How Does Evolution Function?

Philosophers distinguished objects by their quantity and quality. Democritus, for example, said that there are atoms and a void. Atoms differ

[1] Omar Khayyam, *Rubaiyat*, Moscow, 1972, p. 13 (in Russian).

in their form and weight (i. e., in quantity), and this is the only difference between animate and inanimate objects. Even the soul, he said, consists of atoms, which are round in form and light. Pythagoras was one of the first philosophers to pose the question of quantitative relationships in nature; he held the number to be the basic principle of all things in existence.

Scientists, however, have long recognised the relationship between quantity and quality. This was known to Arab alchemists, for example, who elaborated the theory of element transformation. Thus, one alchemist by the name of Geber (Jabir ibn-Khayana) prepared sulphuric and nitric acids and their salts. The category of quality was first analysed by Aristotle, who defined it as a specific distinction of essence.

Every man knows that quantitative changes lead to the appearance of a new quality in an object or phenomenon. We grow up, i. e., pass from childhood to adolescence, and then to maturity and old age. This process (the passing from one state into another) occurs without our noticing it, and the dividing line between childhood and adolescence can not always be found. The continuity of quantitative changes not only does not explain the appearance of the new in the course of natural and social processes, but even makes it more difficult to understand. The notion of the new is necessarily linked to development as

a leap-like qualitative transformation.

The ancient Greeks guessed this; they suggested specific mental arguments – sorites, in which the inevitability of qualitative leap-like transformations in nature and human life, which interrupt quantitative continuity, is logically substantiated. For example, the "Heap" sorites poses the question of how a whole heap arises, being formed out of separate grains of sand. A single grain of sand is not a heap, nor are two grains, nor three, four or five... The adding of one grain of sand to the others does not make a heap either. How does it appear then? At which particular moment? The "Bald" sorites considers the same type of process in reverse: how does a man become bald, if the decrease in the quantity of his hair by one, two, etc., hairs does not amount to an appearance of a bald spot? Yet heaps are being formed, and men are going bald today, as in ancient times. These phenomena can only be understood and explained through an analysis of the interconnection between quantitative and qualitative changes. In both cases, a quantitative accumulation changes into a qualitative distinction. Here is yet another, humorous example which Hegel provided: You can spend a grosch, or a thaler, and this is of no consequence at all; but this "of no consequence" makes your purse empty, and that constitutes an essential qualitative difference.

There are different kinds of quantitative changes: they can be either slow and imperceptible (as is, for example, the change from childhood to adolescence), or they can be accelerated. Quantitative changes are known as evolutionary development. *Evolution* is a smooth, gradual, slow kind of development. Qualitative development is *revolutionary*, it involves an eradication of the past, radical changes in social relations, culture, technology, world-outlook, etc. Examples of this kind of development are social revolutions and scientific discoveries.

Some scientists and philosophers, however, think that there are only quantitative changes in nature and society, thus professing a metaphysical view of development, which renders quantitative relations absolute, holding them to be the most important. For example, Anaxagoras said that the human seed contains in invisibly minute form the hair, nails, vessels, muscles and bones, which combine, grow and become visible during the course of development. Similar views, though in a somewhat modified form, also found their way into biology, and later, into sociology. Thus, social-Darwinists draw a parallel between the theory of biological evolution and the historical process. They reduce society's development to evolution, rejecting revolutionary change, and this has practical consequences. Evolutionism in politics signifies propaganda for reformism and

right-wing opportunism. Adherents of this theory regard the changeover from capitalism to socialism as a smooth, gradual process. Hence they advocate cooperation between workers and capitalists, and exaggerate the importance of government reforms and constitutional amendments, etc., which leads them to overt or covert betrayal of revolution.

Another extreme is the rendering of qualitative changes absolute, whereby development is interpreted as an exclusively qualitative change. Some bourgeois scientists transfer the theory of cataclysms created by the French naturalist Georges Cuvier to the field of philosophy. Cuvier thought that evolution is the passing from a calm state to cataclysms. Though Cuvier's views were subsequently disproved by science, they were used to interpret social processes and served as the basis for the political activities of anarchists and all kinds of political adventurists.

Views similar to those examined above are metaphysical, as they are based on the recognition of either qualitative or quantitative changes alone. In fact, however, development is a union of the quantitative and the qualitative, in which quantitative changes pave the way for leaps, or qualitative changes, the birth of the new, a radical turning point in evolution. The outstanding American journalist John Reed convincingly demonstrated this in his book *Ten Days That Shook*

the World. He described how the Great October Socialist Revolution occurred and how the events, which astounded the world and which for many people came as a complete surprise, had actually grown out of the long preceding period of class struggle waged by the Russian proletariat.

To wind up we must note that leaps occur in different ways and are not all alike: they may for example, amount, to the transformation of a metal into a liquid at a certain temperature or of water into steam, or to the scientific and technological revolution. Leaps can take many millennia – one example is the succession of geological eras; or they can take place in a historically brief period – here an example is provided by the building of socialism in the USSR, which was accomplished in two dozen years. Social and cultural revolutions have also recently taken place in many countries of Europe, Asia and Latin America.

The theory of transition from quantity to quality gives materialist dialectics a specific revolutionary character. It explains the fundamental essence of social progress, and facilitates an understanding of how evolutionary changes naturally bring about revolution, which crowns the evolutionary development of a society or country at a given stage.

Now that we have seen that movement occurs

by way of transition from quantitative changes to qualitative ones, we may well ask: What is the source of movement?

Does Movement Have a Beginning?

There were philosophers far back in hoary antiquity who supposed that opposing principles, or forces which cause self-movement, internal motion, and the replacement of one state by another, operate in the world. Each object, they said, is made up of opposite sides, which cannot exist without one another, since they presuppose one another, while at the same time excluding one another, i. e., being diametrically opposed: such are life and death, love and hatred, good and evil, fire and ice, day and night, man and woman, etc. The interaction of the opposite sides, these contradictions introduce disorder into the world, bring about changes, and thus are a source of development. Conjectures about the existence of opposites in the world were expressed by the philosophers of ancient China, India, Greece, and the Middle East.

Ancient Chinese philosophers such as Lao-Ji spoke of the movement of the universal primary principle, calling it "tao". The dialectic of the "tao" is manifest in that it has a great many contradictory properties: the "tao" is empty and in-

finite, it is lonely and unchangeable. The great "tao" is omnipresent, it acts everywhere and knows no boundaries. The book *Dao Duo Jing* contains an idea of the transition, the transformation of the "tao" into its opposite: the ugly serves to preserve the perfect, the curved turns into the straight, the empty becomes filled, and the old is replaced by the new. While striving for little, you can achieve much, and while striving for much, you may meet with failure. There is misfortune contained in happiness, and vice versa. Similar views were voiced by Heraclitus: "All is one in us – the living and the dead, the vigilant and the sleeping, the young and the old. For the former disappears in the latter, and the latter – in the former." [1] Oriental sages spoke of the struggle between two principles: the light and good (Ormuzda) on the one hand, and the forces of evil and darkness (Akhraman) on the other. These views were subsequently developed. The Italian philosopher Giordano Bruno, for example, maintained that one opposition is the beginning of the other, that destruction is emergence, and emergence – destruction, and that love is hatred and hatred – love. So he drew the following conclusion: whoever wishes to penetrate nature's innermost secrets, should observe the

[1] *An Anthology of World Philosophy*, p. 276 (in Russian).

minimum and the maximum of contradictions and oppositions. Rabindranath Tagore, whose poems are rightfully called philosophical papers, wrote that life is good in all its forms, for one thing stems from another, and is needed by another. He rejected retreating from life's contradictions into passivity, and appreciated the great diversity of things and phenomena:

Resin, viscous and heavy, endeavours to ooze out
in fragrance,
Which would like to be locked forever in resinous
form.
And melody calls for movement and searches
a cadence,
While rhythm pushes on into melody back to transform.
Vagueness wants to acquire both form and definite
facets,
Whereas form fades in fog and dissolves in amorphous
dream.
Things unbounded long to be squeezed in
straitjackets,
With the limits eroded afresh by the boundless
stream.
Who hath laid for eternity laws of the primeval
quarrel –
Death engenders creation, quiescence foreshadows
a tumult?
When restrained, all and everything seeks to escape
any corral,

Where as liberty looks for abode and a final result. [1]

Everyday life, science and political struggles all testify to the fact that reality is full of contradictions; but recognising this fact does not suffice for fathoming reality: one must get to the root of relations between the opposites existent in nature. Not only philosophers, but writers and poets, too, have been aware of this fact. Thus, Abdul-Kadir-khan, an Afghan poet of the 17th century, wrote:

Evil suffers from good, and kindness suffers from evil;
Evil angrily condemns what kindness justifies...[2]

Opposites are interrelated. Heraclitus said: "All is one – the divisible and indivisible, the born and unborn, logos and eternity, father and son..."[3] The link between opposites is close and unbreakable, and they do not exist outside it. Examples are action and counteraction in mechanics, plus and minus in mathematics, or combination and dissociation in chemistry and biology.

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[1] Rabindranath Tagore, *Lyrics*, Khudozhestvennaya Literatura Publishers, Moscow, 1967, p. 36 (in Russian).

[2] *From Afghan Songs and Poems*, Moscow, 1956, p. 56 (in Russian).

[3] *Materialists of Ancient Greece*, Politizdat, Moscow, 1955, p. 45 (in Russian).

Contradiction, however, is not just the unity of opposites. Confrontation between opposites is struggle; it is through this struggle that development takes place, struggle is the essence of the relationship between opposites. For instance, in society the struggle of opposites assumes the form of class struggle, and in nature – of interaction (e.g., action and counteraction, attraction and repulsion, etc.). The great German poet and philosopher Johann Wolfgang Goethe maintained that life itself is contradictory, that it is a struggle between good and evil, love and hatred, joy and suffering.

Every contradiction has its own history: it appears, grows (is exacerbated) and is then resolved. Social contradictions may be irreconcilable; in such cases they are called antagonistic. Such are the contradictions between the bourgeoisie and the proletariat, wage labour and capital, socialism and capitalism.

Metaphysicians reject the unity of opposites, holding that each exists by itself. This view is unscientific, for the destruction of one results in the destruction of the other. Those who recognise the unity of opposites but reject the struggle between them, also occupy a metaphysical position. In politics, this results in a softening of actually existent contradictions, and in reconciliation. For example, apologists of capitalism often announce that it has "good" and "bad" sides, and that, if its

"good" sides are developed and "bad" ones eradicated, a society "of the common good" can be achieved. Sometimes they begin to assert that the position of workers is improving, since monopoly, profits are "trickling down". However, the working people are well aware of the fact that all they now possess was gained in the course of a bitter struggle with the exploiters, was "wrested" from the capitalists, and is by no means a "gift" from monopolies. There cannot be any reconciliation while monopolies hold sway and one man is exploited by another.

In conclusion it can be said that we are constantly faced with contradictions in life, in reality. They are the primary substance and source of development. Hence the importance of knowing them, for this knowledge makes man's activities effective. And hence the question: How are contradictions reflected in thinking?

Dialectics and Eclectics

In order to fully understand this question we must take the following into account: our thinking is only correct if it is not contradictory. Indeed, opposing opinions should not be voiced at one and the same time with respect to one and the same thing. By allowing contradictions in thinking, we violate the laws of correct thinking. For

example, it is impossible to say about one and the same person that he is alive and dead simultaneously. Men do die, of course, but if a man is alive, we ascribe to him that property alone, in spite of the fact that several years hence he will die. And then we shall say: the man in question is dead.

However, we have established the fact that phenomena in the world are contradictory. Beginning in the 17th century, a debate raged within optics over the nature of light: was it uninterrupted and wave-like and so subject to the laws of waves, or was it interrupted, corpuscular and so subject to the laws of particles? Two opposing theories of light were created: the wave and the corpuscular. There were many disputes over which of the two theories was correct; arguments were put forward in support of both. The English scientist Isaac Newton staged many experiments to prove that light has an interrupted, discrete nature and is a flow of particles, corpuscules, while the Dutch scientist Christian Huygens based his conclusion that light is a wave-like motion of an uninterrupted medium on the findings of optical diffraction and interference. It would seem that only one of these conclusions could be true; the evolution of science, however, brought into bold relief the fact that this "strange" phenomenon is of a contradictory, dialectical nature. It was later established that light

is simultaneously the motion of waves and particles. In the 19th century it was proved that waves are characteristic not only of visible light, but also of electricity, magnetism, and several other processes. Light, electricity and magnetism were proved to be oscillations of a single magnetic field. At the turn of the century, an avalanche of discoveries was made, and it was proved beyond doubt that an uninterrupted magnetic field is at the same time an interrupted, discrete and corpuscular, phenomenon.

Thus, more was known about visible light and invisible radio waves, X-rays, electricity, magnetism, heat radiation and absorption, energy in general, the photoeffect, etc., due, first, to the investigation and interpretation of their intrinsically contradictory nature, and second, to their study as a unity of opposites of the discrete and the uninterrupted, of quanta and waves. A similar situation arose in nuclear physics, in the study of electrons and other elementary particles. Their nature also proved to be contradictory, discrete and wave-like all at the same time, so quantum and wave mechanics emerged and were then united, despite the fact that conceptions of the electron as a particle and a wave seemed fundamentally irreconcilable. Hence, if an object or phenomenon is contradictory, it must be reflected as such in our thinking, too. Life is also contradictory, and one must have an open mind to under-

stand reality. The dialectic of life must be reflected in that of our thinking, in the dialectic of concepts.

Some philosophers, however, erroneously treated the openness of mind by arbitrarily combining incompatible views and theories. Such philosophers were called *eclectics*. Eclecticism is an inconsistent and unprincipled combination of ideas typical of different schools; it is noted for the fact that it tries to combine that which cannot be combined, and that it is unable to see the real links, which serve to turn an object into a unity.

If first we say, "Matter gives birth to the mind", and then assert, "The mind exists on its own, it is independent of nature", and even insist that the two propositions are compatible, we will be called eclectics. In the case at hand eclecticism manifests itself in a mechanical combining of fundamentally different views, which are presumably of equal value, i. e., of materialism and idealism. Modern bourgeois ideologists try to substitute eclecticism for dialectics. This is clearly seen, for example, in the eclectic theory of "convergence", according to which the bourgeois and the socialist system can be fused into one. Certain politicians try to make use of eclecticism in politics, too, and not only in theory. Wishing to merge that which is irreconcilable, they speak of "freedom" and "equal opportunity" under capitalism, intentionally burying in

silence the fact that both freedom and equal opportunity are only enjoyed by the upper strata of society, while all sorts of restrictions, qualifications are the lot of the "coloured" people in America – whether the issue is entering an educational institution, finding a job, receiving medical assistance, etc. Bourgeois ideologists and politicians profit by eclecticism in advertising, propaganda, the mass media – radio, the press, television, cinema – and try to rely on fashions, customs, traditions, and other features characteristic of man's psyche in artfully substituting certain notions for others in strict conformity with set goals.

Let us consider yet another important feature of the dialectic. We all know that the dialectic does not recognise anything to be given once and for all, does not regard anything as finite or eternal. Everything is constantly changing and is incessantly moving and being renewed. The process whereby certain things and phenomena replace one another has no end. But what is the direction of that movement, of development itself?

Negation of the Negation

The history of nature and of society both testify to the fact that development is connected with the dying away of the old and the emergence of the new. New geological structures are formed in the

Earth's crust, and new, more perfect forms replace old forms in the plant and animal kingdoms. Cells are renewed in living organisms: old ones decay and new ones come into being. Having traversed a long road from the primordial horde through slavery, serfdom and wage labour, mankind has come to a society in which all people are equals. Not only nature and society, but man's mind, too, undergoes changes: world outlook, strivings and emotions are also modified. The peoples of Asia, Africa, and Latin America are awakening to a new life. Rabindranath Tagore wrote:

Arise, ye hoary Orient!
Swing wide your gates, and penetrate the world! [1]

Replacement of the old by the new, that is, the invincibility of the new, is an important feature of the evolution of nature, society and thinking. The dialectic sees the signs of inevitable doom (negation) in all things and phenomena; nothing can escape it except the very process of emergence and destruction, an unceasing movement from the lower to the higher. Negation, i. e., replacement of the old by the new, occurs everywhere. Here the question can be asked: Does the world

[1] Rabindranath Tagore, op.cit., pp. 13–14.

approach its end, if everything grows old and decays? No, it does not, since the nascent new possesses, as a rule, greater opportunities for subsequent development. The emergence of socialism, for example, which is linked to the decay of capitalism, opens wider vistas for the development of production and man himself. And this is why the new is invincible.

But if the new appears by way of annihilating the old, through its negation, then we must investigate its essence. Sometimes, a simple destruction of this or that phenomenon, which leads to its death and cessation of development, is understood under negation. For example, if a seed of a plant has been ground, it will not sprout, so no new plant can spring forth from it. If flowers are trampled, or if forests and orchards are cut down, this is tantamount to destruction. We know of quite few examples where negation is in fact annihilation. Heretics were burned at the stake by order of the "holy" inquisition. Differently-minded people are severely dealt with in our day, too: Martin Luther King who fought for the rights of the poor and oppressed was killed, and Chilean patriots are buried alive and killed in the dungeons, while fighters against apartheid in the Republic of South Africa are shot at. History saw the collapse of entire civilisations and peoples. Spanish conquistadores, for example, completely destroyed the Incaic and Aztecan states and

wiped their culture off the face of the Earth. Fascists burned Guernica and Lidiçe to the ground; nuclear bombs were exploded over Hiroshima and Nagasaki. The Second World War took a toll of 50 million lives. We also remember the tragedy of Kampuchea, where towns and temples were destroyed and over one million people annihilated.

However, the reduction of negation to annihilation alone is typical of metaphysicians. Of course, there are such forms of negation, too. Yet there is also negation which does not contradict evolution, but conditions it. This is the way dialecticians treat the issue of negation. In describing the positive role negation plays, we can gain a correct understanding of the character, laws and direction of evolution.

Is It a Circle, a Straight Line, or a Spiral?

The notion that changes which occur in the world take place in a definite direction emerged in ancient times. Many thinkers considered history a sequence of events occurring on the same plane. They thought that development proceeds in a linear way, from birth to maturity, old age and death, and then everything is repeated anew. Sometimes motion was regarded as a change

within a closed circle, an endless circuit, where everything returns to its own starting-point again and again. The ancient Greek mathematician and philosopher Pythagoras and his disciples created a theory, according to which every 7,600,000 years all things completely returned to their own past state. Plato and Aristotle also thought that society's development occurs in a circuit, passing through recurring stages. The ancient Chinese philosopher Dong Zhong Shu maintained that history repeats itself in cycles, for both the heavens and the "tao" are unchangeable. The 17th century Italian thinker Giovanni Battista Vico suggested a special theory of the circuit, according to which society develops in cycles, each cycle ending in a crisis and decay of society and a new cycle beginning again with the most primitive forms.

Other views of social development were also current; for example, it was asserted that society had been in a constant state of regression since the ancient "Golden Age". Among those sharing this view were the ancient Greek philosophers Hesiod and Seneca; they understood motion to be retrogression. Similar theories, which interpret motion as a progression from the higher to the lower, are being proposed today as well. For example, James Hopwood Jeans, an English astronomer, wrote in his book, *The Universe Around Us*, that all of life, society and even the universe are going to

their doom. There are periods in history, of course, when reactionary forces gain the upper hand and regress can be observed, such as German fascism in the past and the pro-fascist regimes of our day which have tried and are now trying to reverse the course of history. But they are no more than moribund or decaying social forms, and their success is but temporary. In the end, the new will irrevocably replace the old.

Dialectical negation, or negation of the negation, is not just annihilation of the old, regression or motion in a circle. It is the kind of annihilation of the old which is conducive to the appearance of the new. For example, the communal form of land ownership is typical of all peoples in the early stages of social development. In the exploitative period, during the existence of a class-antagonistic social system it is negated by private ownership of land as a means of production. The proletarian, socialist revolution once again returns land to society, to the working people. This public property precludes the further alienation of land whereby it is turned into private property; it should provide the highest levels of labour productivity, nature conservation and the multiplication of natural wealth. Negation of the negation means great social progress. The new does not simply cast away the old. Emerging on its foundations, it retains the positive features of the old and continues development on a

higher plane. Higher organisms, for example, while negating lower ones, retain their cellular structure; a new social system, while negating the old one, retains its productive forces and achievements in science and culture. Rudagi, poet and founder of Central Asian literature, wrote:

It's always been: the new soon grows old,
The newest still replaces it again.[1]

The views of Hegel, who maintained that the new develops from the old by negating it, were of the greatest importance for understanding dialectical negation (negation of the negation), which is an element in the development of the new, contains in itself a germ of the new, etc. The new is that which is more perfect and viable. It may be weak at first, but will do away with the old as it develops. Every phenomenon contains shoots of the new, or that which will replace the present. Hegel, it is true, attributed development to the idea (the Spirit, or Reason). His theory was idealistic, yet it contained many "grains of the rational", i. e., much that was correct. The classics of Marxism discerned these "grains of the rational" in Hegel's idealism and drew a conclusion from his dialectical doctrine that he could not: "Everything which exists deserves destruc-

[1] Rudagi, *Verses*, Stalinabad, 1949, p. 103 (in Russian).

tion." Development which occurs as a dialectical negation (negation of the negation) moves forward, or progresses: it goes from the lower to the higher, from the simple to the complex. In nature, a transition from the inorganic world to the organic is observed: progress in this case is a complexification of structural forms which leads to the emergence of life on Earth; this has been made possible due to an optimal combination of temperature and atmospheric conditions on our globe, and not on Mars or Venus. Ideas of progress have penetrated the theory of the animal world comparatively recently; the accumulated empirical data enabled scientists to draw the conclusion that the evolution of animate nature proceeds from the simple to the complex. In this, of great significance was the theory elaborated by Jean Lamarck, as well as the evolutionary theory of Charles Darwin.

What is dialectical progressive development? It can be described as movement in a spiral. It goes upwards, not in a straight line, but in a curved one, as if recurring again and again. Examples of development which proceeds in a complicated curved line can be cited from inanimate nature, from biology and human history. "Yet I prefer a free hand-drawn spiral, the turns of which are not too precisely executed. History begins its course slowly from an invisible point, languidly making its turns around it, but its cir-

cles become ever larger, the flight becomes ever swifter and more lively, until at last history shoots like a flaming comet from star to star, often skimming its old paths, often intersecting them, and with every turn it approaches closer to infinity." [1] The spiral form makes clear the fact that every loop repeats, as it were, the lower one, while an increase in the spiral's radius and a widening of the loops point to the expansion of the volume and acceleration of the rate of development, and to the fact that it is becoming more and more complex.

The primitive-communal system existed over dozens of millennia. The slave-owning system which replaced it – just a few millennia. The feudal system developed still more quickly: in Europe, for example, it existed about one and a half millennia. There is every reason to believe that the capitalist system will exist for an even shorter length of time. The 20th century has already seen about two-thirds of mankind break away from it. A transition to a new social system, the highest of all – classless communist society – was initiated by the Great October Socialist Revolution. We live in the epoch of socialist and national liberation revolutions, when the colonial system is being

[1] Frederick Engels, "Retrograde Signs of the Times", in: Karl Marx, Frederick Engels, *Collected Works*, Vol. 2, 1975, p. 48.

abolished and ever new peoples are taking the road of socialism; this is an age of the triumph of socialism and communism on a global scale.

So, dialectical negation is development from the old to the new, in which the old is not simply rejected but retains its best elements in the new. The new, in its turn, having developed, becomes old, too, so the negation itself is negated by a nascent phenomenon. And thus it goes on and on *ad infinitum*. The constant struggle of the new with the old is a law of development; the invincibility of the new is another law.

At this point a question may arise: what should be understood by the "new"? It has been long known that there is nothing new under the Sun, that the new is a completely forgotten old, that everything comes full circle, etc. But as a rule it is conservatives who preach such platitudes, people who guard the existing order, or metaphysically-minded thinkers and dogmatists. Dialectics, by contrast to metaphysics, first of all emphasises the most important aspect of development – the negation of the old by the new, thus bringing to the fore the qualitative distinction of the new and its dialectical opposition to the old. It should be borne in mind that the old (conservative and even reactionary) often tries to pass itself off as the new, although it is not in essence. But not all is new that is proclaimed to be new. Sometimes, a school of philosophy springs up which proclaims

itself to be new, but which in fact reiterates old maxims, merely masked behind "new" terminology. In the West, they often speak of some "new" way to socialism, while actually suggesting a road of reform which cannot lead to it.

Dialectics testifies to continuity in development by connecting the present with the past and the future, and by finding in the old shoots of the new. Yet dialectics cannot be reduced to the doctrine of universal laws of development of nature and society; it is also a method of knowledge which helps in the search for truth. To specify the role of dialectics as a method of cognition, let us consider the concept of "method".

Methodology as the Soul of Science

Man's activities pursue various goals. Naturally, not everyone can imagine, either constantly or occassionally, the distant results of his own activity, but the nearest goals, which form the basis of man's concrete actions, are clear and easy to comprehend. In the process of cognition man abides by the rules which enable him to understand reality and find solutions to the tasks life gives him. These rules are essentially a summary of experience and knowledge. In science, for example, such rules amount to ways of obtaining

new knowledge, in economics they are an aggregate of measures aimed at fulfilling the tasks of production, in education – that which links the teacher's and pupils' activities, etc. Man in his actions draws on a certain body of knowledge; at the same time, during his practical activities he corrects and develops this knowledge, and acquires new knowledge as well. There is an internal connection between knowledge and activities, which is effected with the help of certain rules. Methodology is a set of established rules based on experience or scientific knowledge; it makes certain demands on the researcher which can be expressed in a system of definite methods, rules, and laws.

In the initial stage, primitive methods used to acquire knowledge were applied spontaneously in practical activities, but as early as ancient times attempts were made to summarise the experience gained in the application of cognitive methods – in the works of Democritus and Plato. Aristotle, for one, elaborated the method of deduction, by which new knowledge could be obtained by applying logic to that which had been previously known. A substantial contribution to the elaboration of cognitive methods was made by Francis Bacon, creator of the method of induction; this method made it possible to obtain general knowledge from particular knowledge gained through experience and observation. In

characterising the role methodology plays in scientific cognition, Bacon drew a parallel with a lantern which illuminates the dark road for a wayfarer. René Descartes held a different opinion concerning methods of cognition, saying that all knowledge should be based on precise proofs and should follow from a single genuine principle. Philosophy should be a no less precise science than mathematics, and clarity and obviousness of knowledge should be the criterion of its authenticity. The above-mentioned theories of cognitive methods have one defect in common: the philosophers who created them were trying to turn a certain method, which had been successfully applied to gain concrete scientific knowledge, into a general, universal methodology. Immanuel Kant made an attempt to overcome this defect by suggesting a new universal philosophical method, in which the decisive role belonged to thought. However, his attempt proved unsuccessful, since it was based on idealism. Somewhat later this task was accomplished by Hegel.

Idealism reduces method to arbitrarily established rules (constructs), which meet certain requirements. The principle of usefulness may be cited by way of an example. But usefulness is not an absolute property, it is connected with the interests of certain people, social groups and classes. Therefore, that which is useful for one, may be harmful for another. For a capitalist, banker and

landowner private property and exploitation of wage labour is useful, while the peasant and the worker fight against exploitation. For capitalists it is useful to produce and sell armaments, for they provide huge profits, while the working people fight against the arms race and for detente, and demand peace.

The scientific solution to the problem of methodology was provided in the classics of Marxism-Leninism, which showed that methods of cognition are not just a set of arbitrary procedures and rules elaborated by philosophers and scientists in contemplation, in isolation from material activities, from the object. The road to knowledge is correct, or genuine, only if the methodology applied is *objective* in content, i. e., corresponds to the real world and human experience. The materialist method is based on practice. Before he began to act, man thought about the methods he would use, and results he would obtain through his actions. These modes of practical action were historically stored (memorised) in human consciousness. Activities which are based on a correctly elaborated methodology lead to the set goal. That is why such great attention is paid, both in scientific knowledge, in politics and production, to the elaboration, substantiation and choice of dependable methods. In medicine there are methods of diagnosis and treatment; in mathematics, there are numerous methods of cal-

culus; in pedagogy – methods of education and upbringing; in engineering – methods of constructing buildings and bridges, of designing machines, etc. Methods applied to the study of social phenomena are determined by the specifics of social life and its laws. A sociologist, for example, uses the methods of concrete sociological research, such as surveys, questionnaires and tests; he applies comparative analysis, computer calculations made according to particular methods, etc.

The philosophical doctrine of methods of activity and cognition is called *methodology*.

The methods applied in different sciences are connected with one another, and this is a characteristic feature of modern scientific knowledge. Of course, there are particular methods used, for example, in geology, geography and archaeology, which are used only in these sciences. On the other hand, chemical, physical and mathematical methods are applied in other sciences, too – astronomy, biology, archaeology, linguistics, and the art theory. Mathematical methods are especially widely used. In science, there is not only a trend to separate one field of knowledge from another, to differentiate knowledge, but also to integrate the sciences. The exchange of methods, which testifies to integration of scientific knowledge, reflects scientists' determination to create a single scientific picture of the world, a common

view of it.

Alongside concrete scientific methods, there are, understandably, general ones, since people not only have to tackle particular scientific and social problems in the course of their activities, but they also have to make decisions of a more general, global nature. To solve these vitally important problems, special methods, a special methodology are required. Philosophy, which serves as a foundation of world outlook and basically determines man's attitude towards the world, other people and society, also provides general rules man should be guided by in his life and activities to achieve the goals he has set for himself.

How do philosophical methods differ from special scientific methods, and what role do they play in cognition? Philosophical methods are universal, i. e., they can be applied to all fields of knowledge. They are not a substitute for concrete scientific ones, but act through them and guide man to the truth in any field of knowledge. They serve as a means of investigating objects insofar as they reveal in them manifestations of universal laws of development. Therefore, the principles of dialectics, for example, the principle of evolution (historism) operate in all fields of knowledge such as the evolutionary doctrine in biology, various theories of the origin and development of galaxies, the dialectical-materialist theory of the

evolution of human society in history. This also applies to other important tenets of dialectics – the theory of contradictions as a source of development, that of negation of the negation as the principle of continuity in development, invincibility of the new, etc. Contemporary science – physics, chemistry, biology, etc.– makes use of universal philosophical concepts, such as causality, regularity, space, time, accident, necessity, etc.

The role materialism plays as a philosophical methodology substantiating the objective reality of phenomena in the world is also of great importance. Materialism directs science towards revealing the natural links and actual causes underlying phenomena. Let us take psychology as an example. Erroneous views of the psyche have always existed; they continue to persist even now, and this cannot but tell on the development of knowledge. The view of psychic activity as a manifestation of the soul, and attempts to prove that the soul has its abode in the heart, blood, or the lungs of man, etc., kept the investigation of the psyche at a pre-scientific level. Materialism, by contrast, which regards the psyche as a function of the brain, has led researchers to analyse psychic phenomena from the standpoint of their natural-causal dependence.

Materialism also plays a significant role in comprehending the roots of knowledge and the

criterion of their veracity. For the first time ever, materialism correctly explained the history of society and showed that it is a law-governed rather than chaotic process.

Materialism can fulfil its role as a consistent scientific methodology if it relies on dialectics. The dialectical-materialist method considers all phenomena in the world in terms of their mutual interconnection and constant development. Man can only know the world and himself if he studies all phenomena in motion. Dialectical-materialist methodology sees self-development as an internal source of evolution. The significance of materialist dialectics is that it provides an instrument for cognition and transformation of the world by shaping theoretical thinking.

Dialectics as the Algebra of Revolution

People have always dreamed of improving life, eliminating poverty and suffering, injustice and arbitrary rule. They have made attempts to change their status: the slaves rose up against their owners (history knows of many slave uprisings besides that of the legendary Spartacus), peasants staged actions against landowners, and workers destroyed machines at factories and plants. Human history is one of struggle between the poor and the rich, between the oppressed and

the oppressors. Many ages passed, but things remained the same in many respects: the minority continued to hold sway over the majority. Social systems replaced one another, yet the working people's poverty and lack of rights, and exploitation of man by man persisted. The first opportunity to work a radical change in society's structure has only come in our epoch together with the emergence of the working class, the most organised and politically conscious of the exploited classes. The working class of Britain, France and Germany began to demand its rights as early as the 19th century, but its actions were at first of a spontaneous nature. Philosophers of the past made attempts to explain the causes of social inequality. They thought that people's views were of cardinal significance in social life. Therefore, they held, it is only by changing man's consciousness, his thoughts and views that it is possible to change an unjust system. In the same way as a doctor treats his patients, society can be "cured" and improved through enlightenment. Philosopher-Enlighteners tried to convince the rich to give their wealth to the poor believing that social evil could be alleviated in this way. Naturally, all their attempts ended in failure.

Marx and Engels relied on the achievements of philosophical thought, science and the experience of the international revolutionary movement to create a philosophy which reflected the interests

of the working masses. Marxist philosophy did not emerge on the outskirts of philosophy; it was a continuation of the most progressive doctrines of the past. Marx and Engels thought that the principal task of philosophy was to substantiate probable ways of restructuring the world, to act and engage in practical revolutionary struggle rather than to merely explain the world. In their opinion, philosophy is called upon to serve as a weapon in transforming the world. This is a characteristic feature of Marxist philosophy; this is the essence of its revolutionary nature. Not without reason did the Russian revolutionary democrat Alexander Herzen say that dialectics is the algebra of revolution.

Marxist philosophy does not try to hide its *class character*. In everyday life and even in politics, people holding different views can, of course, agree on certain issues, for example, the issues of war and peace, environment protection, outer space, the World Ocean, the Earth's mineral wealth, etc., are of paramount importance to the whole of mankind today.

But there are different kinds of agreement. There can be no agreement in the field of ideology and philosophical views: no compromise is possible. Since its inception and up to the present time, philosophy has reflected and continues to reflect the interests and needs of certain social forces. Rather often, it is true, creators of various

philosophical doctrines tried to pass their views off as reflections of general human interests; but that was only camouflage. Unlike all previous doctrines, Marxist philosophy is a theory which substantiates the *world outlook and ideology of the working class* and working masses it leads. It recognises and even openly declares that philosophy is linked to the class struggle. "As philosophy," Marx wrote, "finds its *material* weapons in the proletariat, so the proletariat finds its *spiritual* weapons in philosophy." [1]

[1] Karl Marx, "Contribution to the Critique of Hegel's Philosophy of Law. Introduction", in: Karl Marx, Frederick Engels, *Collected Works*, Vol. 3, Progress Publishers, Moscow, 1975, p. 187.

IV. HOW MAN COMES TO KNOW THE WORLD

Two Ways of Approaching Knowledge

Every moment of his life man is engaged in trying to learn something new about the world around him, to fathom its secrets. Firdousi, a classic writer of Persian and Tajik literature, wrote:

To unriddle the world,
one must take every chance;
Pay no heed to the obstacles,
climb and – advance! [1]

There is a special discipline – gnosiology, or epistemology, i. e., the *theory of knowledge* – which studies issues involved in the cognition of the world, the methods of revealing truth and the relationship between man's knowledge

[1] *The Anthology of Tajik Poetry*, Moscow, 1951, p. 118 (in Russian).

and activities. This discipline is an essential component of philosophy.

To examine the specific features of man's cognitive activity, we must again turn to philosophy's basic question, to its second aspect, which deals with establishing the relationship between human knowledge and the surrounding world, and with whether man can cognise this world. Engels thus formulated this question: "...In what relation do our thoughts about the world surrounding us stand to this world itself? Is our thinking capable of the cognition of the real world? Are we able in our ideas and notions of the real world to produce a correct reflection of reality?"[1]. In other words, it is a question concerning the content of man's concepts and ideas – is it the real world, or may it be something else? These aspects of the fundamental issue of philosophy are interconnected. Materialists believe that consciousness is a natural property of matter, an outcome of its natural development. Hence consciousness not only helps man to survive and adapt himself to the conditions of his existence, but to cognise the surrounding world as well. This is known as cognitive (epistemological) optimism. Ancient philosophers, e. g., Heraclitus, Democritus and

[1] Frederick Engels, "Ludwig Feuerbach and the End of Classical German Philosophy", in: Karl Marx and Frederick Engels, *Selected Works* in three volumes, Vol. 3, p. 346.

Epicurus, thought that man was capable of comprehending the world. Later these views were shared by the philosophers of the Renaissance and modern times. From the point of view of dialectical materialism, man not only cognises the world, but also modifies or transforms it in the course of his activities in accordance with his requirements and goals. The world is being transformed because people are coming to know its properties and laws. This is especially evident today, for it would be impossible to create sophisticated technology or alter nature if man had no scientific knowledge. Idealists approach the question whether man may be capable of cognising the world differently. Some, as we have already mentioned, do not deny that the world can be known. Subjective idealists, for example, George Berkeley and David Hume, maintain that it is senseless to raise the issue at all. Indeed, how can one speak about knowledge if he either rejects the objective existence of the real world or holds that it is impossible to prove it?

Doubts as to whether the world can be cognised were also expressed by philosophers of ancient Greece who were called sceptics. The word "sceptic" has two meanings. In current usage it is applied to a person who does not believe in anything in particular and nurtures doubts about everything in general. In philosophy, *scepticism* refers to doubt about the ability to

cognise the world and attempts to prove that it is impossible to obtain truthful knowledge about it. For the most part, sceptics based their arguments on the fact that man's sensual impressions depend on his state – on the state of his senses and on his moods. They maintained that sensations are deceptive and do not allow man to truly know any thing; man can only perceive things as they seem to him. Ancient thinkers argued that one and the same thing will appear quite different to various organisms and man. For example, sea water, whether clear or muddy, is a nourishing and curative medium for fishes, while in the latter case (if it is muddy) it is of no use and may even be harmful for man. Horses, dogs and people take pleasure in quite different things, too. Sceptics maintained that people appraise the worth of objects and things depending on their moods, their state of health and their habits; therefore, there are as many opinions as there are people: man himself is the measure of all things. These are a sceptic's words: "I feel that each of us is a measure of both that which is existent and that which is non-existent."

Moreover, not only man's sensations, but his mind, too, is deceptive: any idea can be refuted. We assert that people are good; yet we should not be mistaken if we say that they are evil. Hence the sceptics' conclusion: We can with equal confidence pronounce opposite opinions about things;

therefore, we should not try to understand them, because in so doing we may disturb our spiritual balance.

Arguing that the mind is ineffectual, scepticism sometimes leads man to turn to mysticism and religion in his quest for knowledge. For example, Al Ghazali, an Arabian philosopher, asserts that it is impossible to perceive truth through thinking. It is only mystical intuition, illumination from above that can provide man with genuine knowledge by dissolving his soul in God.

However, scepticism has played a certain positive role in the history of knowledge, because doubts and a critical examination of old ways prompted a search for the new. Doubt served as a stimulus to pondering and to the revelation of truth. It is indicative that Karl Marx, the great founder of dialectical materialist philosophy who critically re-evaluated all the philosophical theories that had existed prior to him, held as his favourite motto: "*De omnibus dubitandum*", meaning "Throw doubt upon everything".[1]

Scepticism quite logically produced *agnosticism*, its extreme form, which sought to find an intermediate stand in the struggle between materialism and idealism. There is no attempt to reveal the nature of the world, for this is believed to be

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[1] *Marx and Engels Through the Eyes of Their Contemporaries*, Progress Publishers, Moscow, 1972, p. 179.

an unresolvable question. Rather, all attention is focussed on cognition. The ancient Greek philosopher Gorgias held consistent agnostic views. He asserted that "1) Nothing exists. Nothing is. 2) Assuming that Being is, it cannot be known. 3) Even if it is knowable, no communication of what is known is possible." [1]

Much more often, however, we are faced with an agnosticism which is not that consistent. Some agnostics maintain that man cannot know more than he learns through his senses, others reduce cognition to that which man sensually experiences, and still others assert that it is possible to know a phenomenon but not its essence. Omar Khayyam wrote ironically about such a view:

Wise men have plunged into a long debate
To find which way will sooner lead to truth.
But I'm afraid they'll heed a voice one day:
"For this, you fools, you're just a bit uncouth!" [2]

David Hume, an English agnostic philosopher, held that man has at his disposal only his sensual impressions, and that he does not and cannot know where they come from. It may be that

[1] V. I. Lenin, "Conspectus of Hegel's Book *Lectures on the History of Philosophy*", *Collected Works*, Vol. 38, Progress Publishers, Moscow, 1976, p. 271.

[2] Omar Khayyam, *Verses*, Dushanbe, Irfon Publishers, 1970, p. 84 (in Russian).

things are behind them, as materialists assert, or God, as idealists claim. According to Hume, man, due to his natural disposition, trusts his senses and supposes that the world exists objectively. But nothing beyond sensual impressions (images) can be perceived by the human mind. Indeed, if experience is the only source of knowledge, then there cannot be any guarantee that knowledge, which has been gained through experience, is authentic. Therefore, according to Hume, the only correct position a scientist can assume is to doubt absolutely everything. "Thus the observation of human blindness and weakness is the result of all philosophy,"[1] he wrote. Immanuel Kant remarked that Hume had grounded his ship of knowledge on the shoal of scepticism and left it to decay there.

Yet Kant himself continued the agnostic trend. He maintained that the world exists independently of our consciousness, outside us, as a "thing-in-itself", and that it influences man by producing sensual impressions in him: things are "given" us in our senses. However, neither sensual impressions nor thinking provides knowledge about things themselves, since there is a gap between the image of a thing (or our perception of it through our sense organs) and the thing

[1] David Hume, *An Enquiry Concerning Human Understanding*, Gateway Editions, Inc., Chicago, 1956, p. 30.

itself, and the human mind is powerless to overcome this gap. Kant logically came to diminishing the role of science, saying that natural science would never be able to reveal the inner content of things. Hence his other erroneous conclusion: it is possible to pass from an image to a thing, not for the mind but for belief. In order to make room for belief, Kant restricted the sphere of knowledge. Hegel criticised Kant's view that only the external side of objects is accessible to man, saying that Kant reminded one of a Franciscan monk who does not wish to step into the water until he has learned to swim. Kant's philosophical stand is contradictory: he recognises the real existence of the world, but comes to idealism in the final analysis, i. e., to the negation of its objective nature. Agnosticism and idealism have been interrelated.

Agnosticism is alive even today, its most extreme and clear expression being *irrationalism*, which restricts the possibilities of human knowledge by opposing it to belief and intuition. Modern day irrationalists do not believe in the power of the human mind. They pessimistically view the world as irrational, and negate science, philosophy and social progress. For example, the mood of despondency and fear which is typical of adherents of the "philosophy of life" and "philosophy of existence", is a result, in their opinion, of man's hopeless position in the world. Some ir-

rationalist philosophers, however, propound the idea of force and willpower. These views have naturally served as one of the sources for the formulation of the ideology and practice of fascism.

The question may be asked: How is it that philosophical theories which deny that it is possible to comprehend the world exist in this age of science and technology? The roots of agnosticism and irrationalism are, first of all, found in social condition and in the classes whose interests these philosophical trends express. It is well known that the bourgeoisie today is a reactionary class which has lost its belief in progress and human reason. Scientific achievements are being used by bourgeois ideologists in their own selfish interests. Meanwhile, these same ideologists continue to cast doubt upon the possibility of cognising the world. Science, which serves the cause of progress, predicts the triumph of communism and collapse of capitalism. Such a prospect is naturally not to the taste of the monopolists. Therefore certain philosophers are proposing all kinds of theories which impugn man's cognitive abilities and the omnipotence of science as a whole with respect to knowledge. These views are epitomised in agnosticism and irrationalism.

We are by no means trying to associate agnosticism with social conditions alone; its sources and roots are to be found in objective difficulties involved in cognition. Indeed, the search for truth

is challenged with exceptional difficulties. Marx wrote in his book, *Capital*: "There is no royal road to science, and only those who do not dread the fatiguing climb of its steep paths have a chance of gaining its luminous summits." [1] The scientist may meet all sorts of obstacles during this ascent, some of which may seem insurmountable. If he exaggerates the difficulties he faces, the scientist not merely retreats himself, but also diminishes or even renounces rational knowledge.

Materialists assume a different position. They recognise the real existence of the world and the secondary nature of consciousness as a property of highly organised matter to reflect that world. This thesis serves as basis for concluding that the world is cognisable. How can this be proved? Materialists hold that cognition begins with the external objects acting on man's sense organs (those of vision, hearing, smelling, tactile organs, etc.), as a result of which, sensations emerge in man (visual, auditory, tactile, etc.), which are reflections or images of the things themselves. They comprise the base for the thinking process which enables man to cognise internal properties and relations inaccessible for immediate perception by the sense organs. For example, Francis

[1] Karl Marx, *Capital*, Vol. I, Progress Publishers, Moscow, 1984, p. 30.

Bacon, an outstanding English materialist philosopher of the epoch of primary capitalist accumulation, compares the eye with a mirror in an attempt to reveal the similarity between sensations and sensual impressions, and external influences. Moreover, not only the human eye, but the mind, too, resembles a mirror. That is why human ideas, not only sensations, are similar to external objects and consequently capable of being understood. Another English materialist philosopher, John Locke, in his *Essay Concerning Human Understanding*, proceeded from the fact that we can only obtain knowledge of the existence of a thing through our sensations, which are, in his opinion, windows through which the light of reality reaches us. Denis Diderot, an outstanding French materialist philosopher, brilliantly defended the thesis that the world could be cognised. He said that man is like a piano which produces sounds as a result of an external action on its keys.

So we have characterised in short the two approaches to the question of whether the world can be known. We have also established that many philosophers answer this question in the negative.

How can agnosticism be refuted?

To Know Is to Act

To overcome agnosticism, one must discover what is the basis upon which knowledge coincides with objective reality. Daily life is the most decisive refutation of agnosticism, and of idealism as a whole. Indeed, if people could not comprehend the objects and phenomena surrounding them, they could not utilise, modify and reproduce them. The ineffectiveness of agnosticism in all its manifestations is also proved by the materialist theory of knowledge, which takes as its point of departure the theory of reflection. This is what Lenin said on this subject: "...Things exist outside us. Our perceptions and ideas are their images. Verification of these images, differentiation between true and false images, is given by practice." [1] And further on: "The standpoint of life, of practice, should be first and fundamental in the theory of knowledge." [2] *Cognition is impossible without practice.*

It is in the course of people's material, concrete activities that reality is being modified. By these activities we mean, first of all, those forms of labour which produce food and housing, as well as work implements, for example, the labour of a

[1] V. I. Lenin, "Materialism and Empirio-Criticism", *Collected Works*, Vol. 14, p. 110.

[2] Ibid., p. 142.

worker who builds machines, of a stonemason who erects houses, and of a peasant who grows wheat. In his practical activities man not only changes objects, but is transformed himself as well by accumulating experience and knowledge. Production experience leads to the birth of natural sciences. We have already mentioned above that it was the practical need of shipping that gave rise to astronomy, and that geometry appeared because of the needs of farming. Arythmetics helped Egyptians and Babylonians to calculate areas and volumes, and Egyptian scribes to keep accounts of wages, bread and beer. But practical activities not only help to modify nature, they also bring about changes in social life, including class struggle and revolution, national liberation movements, etc. Thus the class struggle waged by the proletariat was a precondition for the appearance of Marxist theory.

Cognition is a mental activity, which is distinct from practical activities though it is connected with it. During his labour activities, man changes nature in accordance with his requirements: he extracts oil and coal, plants forests, tills the land, etc. To do all this, he must have knowledge about pertinent objects and phenomena. Cognition is the mental mastering of reality in the form of knowledge. In obtaining knowledge and acquiring culture by way of learning and investigation, man turns into a creator who not only transforms

reality, but himself, as well. He becomes a subject of knowledge, a bearer of social, mass knowledge. If primary knowledge is not separated from practice but intermingles with it, in time the accumulation of knowledge makes it (knowledge) relatively independent, and it begins to arise from the knowledge that was acquired earlier. The object of knowledge is now not the entire world, nature and society, but only that which is accessible to human cognition at the current stage of history. The object of cognition depends on the material possibilities as well as on the level of accumulated knowledge and on social needs. Understandably, ancient philosophers could not understand the structure of the atom; in Newton's time, it was impossible to elaborate the theory of relativity, and the tasks involved in gene technology can only be tackled today. The emergence of Marxism is an excellent example of how science complies with the requirements of human history. However, man does not just study nature in its primordial state. Many objects of knowledge are being created in the course of human activities: thus new strains of grains and new animal breeds, etc., have been evolved by selective breading.

Consequently, cognition is the process of achieving that knowledge whose immediate aim is to arrive at truth, and whose final goal is successful practical activity.

The Theories of a "Tabula Rasa" and "Innate Ideas"

Quite a few theories of cognition have been proposed throughout man's history. As we have already discussed, this cognition process occurs in the course of man's interaction with the surrounding world. However, it is not sufficient just to recognise this tenet. Cognition is a process of various forms, levels and stages, in which sensual impressions and thinking have a different role to play. It is important for us to discover their functions. In the history of knowledge, there is no unanimity concerning the role of the sensual and the rational in knowledge. Different decisions have been suggested, one of which is connected with empiricism, and the other, rationalism.

It was noticed long ago that cognition involves sensual impressions (images) – sensations, perceptions and notions – and thinking (rational knowledge) – concepts and judgements. Scientists and philosophers differ as to what they consider the major, the basis of cognition. Some, including materialists Francis Bacon and John Locke, and idealists George Berkeley and David Hume, maintained that sensual impressions or experiences were of paramount significance and that knowledge of the world, particularly scientific knowledge, wholly depended on these things.

This view is known as *empiricism*. Empirics believe that sensual impressions are the only source of knowledge. "I perceive, therefore I know," was their motto. They did not deny the role of the mind (thinking) in cognition, but thought that it could not add anything new in principle to knowledge. Most typical is the stand taken by John Locke, who held that man's soul is like a *tabula rasa*. At the moment of birth, it contains no ideas and only gradually comes to be filled as external objects act upon the child's sense organs. First, simple ideas emerge (such as sensual impressions of heat, cold, light, darkness, form and outline, motion and rest), and later, more complex ones. However, complex ideas are nothing more than combinations of sensual impressions effected by the mind, so essentially they do not contain anything new. The basic thesis of empiricism as formulated by Locke, is that there is nothing in the intellect which is not contained in sensations. Much earlier, Democritus attached great importance to sensual impressions. He recognised the priority of senses over the mind, saying: Pitiful mind, having taken away our proofs, you now try to refute us by drawing upon them. Your victory is therefore at the same time your defeat.

Other philosophers, on the contrary, asserted that the mind, or thinking, was the source of knowledge, while that provided by the senses was not authentic. This trend in philosophy is known

as *rationalism*. Its more notable representatives are the materialist Baruch Spinoza and the idealists Gottfried Leibnitz, Immanuel Kant and Georg Hegel. All of them maintained that cognition is possible due to the activity of human reason, which is capable of penetrating the essence of things, while our senses present a false picture of the world. The ancient Greek philosopher Zeno, convinced of the deceptive nature of sensual cognition, said that if we drop a single grain to the ground we shall not hear any sound, but if a sack of grain is thrown down, a noise is bound to be heard; our reason tells us that it is either one thing or the other: either one falling grain also produces a noise, or the sack of grain does not produce it. So our knowledge must not be based on senses but on reason. The rationalists explained the appearance of new ideas by the existence of "innate ideas" in man. The ancient Chinese philosopher Hsün Tzu asserted, for example, that the ability to understand things was innate in man, while the possibility of being understood was a law with things. In the ancient Hinduist philosophy reflected in the *Upanishad*, knowledge was divided into two parts: the lower and the higher. The former was considered to be fragmented and accidental, and therefore not authentic. The latter was provided by reason, or the mind which arrived at it by mystical intuition. Such views were shared by the Arab philoso-

pher, physician and politician ibn Tufail (Abubacer), who said that the path of reason is only accessible to the select, and the Arab thinker ibn Bajjah, who linked the higher knowledge with the activities of the mind. Much later, the German rationalist philosopher Gottfried Leibnitz contraposed the image of a block of marble, in whose veins one can trace the outline of a future statue, to that of the *tabula rasa* suggested by empiricism. He also supplemented the thesis of empiricism, which states that there is nothing in the intellect which is not contained in the senses, with the words, "except the intellect itself". Sensual experience is only understood as an impetus to "innate ideas", for sometimes new knowledge has been obtained on the basis of the mind (thinking) alone, without drawing on experience. It was in this way, for example, that René Descartes discovered the law of momentum conservation, crucially important for the further evolution of physics.

Some modern idealist philosophers also share the ideas of rationalism; they maintain that theory must be formulated by passing sensual experience. The English philosopher Karl Popper noted that in the history of science, it was always theory, and not experiment, an idea rather than observation, that laid the road to new knowledge. The rationalists are right when they boast of the power of the human mind, but they are wrong

when they absolutise its role and separate thinking from sensual experience.

What Should Man Believe– His Senses or His Mind?

Who is right then in this controversy – empirics or rationalists? The senses have often deceived man, both in everyday life and in cognition. In observing the movement of the Sun in the sky, people decided that the Sun circles the Earth. Therefore, when Nicolaus Copernicus proved that it was vice versa, they were shocked. But the mind has also deceived man, leading him to identify the visible with the real. Using his own theory as his basis, Georg Hegel, for example, asserted that there could not be any planet between Mars and Jupiter; yet, soon after he had published his work to this effect, the astronomer Guseppe Piazzi discovered a planet at the indicated place which he called Ceres.

How is the issue to be resolved then? There are different ways to approach it. Here is one: the ancient historian Plutarch told the story of how one day Alexander the Great was shown an entangled knot. As legend has it, this knot was tied by the king of Phrygia Gordius. The man who could untie the knot would become ruler of the whole of Asia. Alexander did not know how to

untie the knot, but he coped with the task by cutting it with his sword. The same is true of cognition: the issue of the relationship between sensation and the mind is something like the Gordian knot. And the decision involves admitting that cognition begins with immediate sensual impressions. Let us cite an example: a baby can discern certain colours; it reacts to sounds and motion; later it begins to perceive the form, size and volume of things, even though it has no thoughts yet, not even the most primitive ones. This demonstrates that sensual impressions are in the final analysis the foundation and source of knowledge. However, man's sensual experience does not act on its own in this process, but only in connection with collective socio-historical experience and knowledge. Man is not isolated either in labour or in cognition. He cannot be likened to Robinson Crusoe. However, strictly speaking, even Crusoe was not absolutely cut off from society, since he was drawing on the experience and knowledge he had acquired while living among people. Besides, he made use of the things and work implements he had managed to fish out of the sea after the shipwreck, and applied them in setting up his primitive economy.

Senses Are Windows into the World

Let us discuss the way the process of cognition occurs. It starts immediately from contemplation, from sensual impressions (images), from that which we see. We can see, hear and sense by touching objects, using our sense organs. The ears, eyes, nose, mouth and skin of man enable him to come in contact with objects. We distinguish colours (red or blue), form and size (a circle, triangle, or tree), hear sounds (the rustle of leaves, a bird's song), feel (hard, smooth or rough surface), temperature (hot or cold), and taste (bitter, sweet, or sour).

Sensations are the source of our knowledge, they provide us with information about certain properties, qualities and features of objects. But in reality we do not come in contact with separate aspects of things and phenomena but with whole objects. We see, for example, a green field, a blue sky, tall trees, distant stars, houses... we hear the noise of the falling rain and the crash of thunder. *Perception* is a sensual impression (image) of an object as a whole which reflects its form and size, its position in space, etc. The sense organs are extremely keen, yet they have their own limitations and cannot reveal to us all the properties of objects. We cannot see things in infrared and ultraviolet light rays, or atoms and molecules;

neither can we hear ultrasound (though moths can see in the infrared light; bats hear ultrasound and use it for orientation in space, and termites even sense the Earth's magnetic field). Since the times of Aristotle it has been known that man has five systems, five channels of sensual contact with the world: vision, hearing, smell and touch, and taste. Hegel noticed that it is precisely these five senses that are reasonably necessary to man. Vision is oriented toward light, i. e., the space which has become physical, according to Hegel, and hearing toward sound, i. e., the time which has become physical, etc. Contemporary scientific classification is more specific, more differentiated. It distinguishes, for example, sensations of hunger, thirst, pain, heat, cold, equilibrium, shifting in space, etc. Still, the five senses Aristotle mentioned have remained basic ones. Science maintains that a living organism, must stay in constant sensual contact with the medium it exists in. Any interruption in the flow of light, sound and other signals may have a dangerous effect. For example, man who has been completely isolated from video and audio perceptions shows signs of psychic disorder. This has been established by observation, checked experimentally and can easily be explained in theoretical terms. Man is a product and part of nature, so he cannot exist outside an unbreakable link with the surrounding world and cognitive activities. And sen-

sations are precisely that which connect us with the world.

We may ask: what is the reason for the restricted or, rather, selective nature of the sense organs? It depends on the nature and manner of existence of the living organism. The sense organs perceive that which is vitally important for the organism in question, that which is necessary in order for it to orientate itself in the world. For example, a bee clearly perceives the forms which resemble a flower, and barely distinguishes geometrical figures such as a triangle, square, or rectangle. Man's system of sense organs has taken shape historically. The materialist Ludwig Feuerbach once noted that man has precisely the number of senses which is necessary for him to correctly perceive the world.[1] Sensual impressions provide man with initial knowledge about the world which is indispensable for him to live and engage in practical activities. At the same time, they serve to express man's attitude towards the world. The perception of a flower, a smell, taste or sound cause certain feelings in man which are alien to animals, i. e., emotions. Visual impressions, which form the basis for man's activities and his orientation in the world, can also be con-

[1] See V. I. Lenin, "Conspectus of Feuerbach's Book *Lectures on the Essence of Religion*", *Collected Works*, Vol. 38, p. 71.

nected with the aesthetic appreciation of a beautiful landscape, or an object of art – painting, sculpture, architecture, etc.

Tactile sensations have a special role to play in sensual knowledge. This was first noticed by the French materialist philosopher Etienne Bonnot de Condillac, who created an image of a statue endowed with various senses. The simplest among them, the sense of smell, shapes attention, gives pleasure and suffering; later taste, hearing and vision develop. And the main sense, the "teacher" of all other senses, according to Condillac, is that of touch, because it mediates the activity of all other senses and imbues impressions with an imaginative nature, thus giving man a knowledge of the world. This thought was later corroborated experimentally. A man who regains his sight after an operation has no vision of objects proper – he can only perceive colour splashes. It is only in combination with tactile impressions, after the hand has "educated" or "taught" the eye, that he acquires the ability to visualise objects.

Our sensual impressions (sensations and perceptions) are connected with thinking, they are of a conscious nature. For example, ancient philosophers imagined that the world consisted of atoms, which nobody could perceive through the senses. Atoms were depicted in various ways: as small, variegated forms with thorns and hooks which

enabled them to stick together, as a sort of a billiard ball, or as something similar to the solar system, etc. A visual image of the atom depended on the level of knowledge about it. Thus, its model which resembles a planetary system was a result of the development of modern physics. While contemplating the starry sky, people could see light dots moving across it. They thought that the Earth was swimming in the ocean like a flat cake, and that the stars were openings in the firmament. Based on their sensual experience, people tried to create a picture of the world.

The *concept*, or *idea*, is a more complex form of sensual cognition. It is an impression about an object which is not immediately perceived. For example, there are images of people in our mind with whom we were once acquainted, or towns we have visited or lived in previously. These are concepts, ideas; they emerge due to the function of our memory. Indeed, there can be quite different ideas about one and the same object in different people. Ideas are influenced by man's knowledge, his life experience, type of activities, needs, and feelings, they give us information about the general properties of concrete objects and phenomena. These concepts do not contain information about all of their features: man abstracts himself from many of them. They provide a deeper and more general picture of the world than sensations and perceptions do, and are

closer to thinking. The latter helps create imaginary concepts, including scientific ones. Such concepts are also widely applied in the arts. Some of them are fantastic – for example, the image of a mermaid, centaur, sphynx, etc. We have said earlier that emotions are windows into the world. But do our sensual impressions always provide us with correct information about the world? Or are they deceptive? This is a problem which has interested philosophers even in ancient times. Some of them thought that sensations gave us correct information and authentic knowledge, and that the world around us really is as we perceive it. Other philosophers doubted it. Indeed, sometimes it seems that our sense organs offer us a wrong picture of the world. We perceive one and the same objects differently depending on our mood and state of health. Yet the content of a sensual image is unchangeable. Illusions are also dependent on the conditions under which a perceived phenomenon exists. Thus, though the size of an object is not changed, it seems to us either larger or smaller than it really is, depending on the distance from which we are looking at it. It would be a mistake, however, to see only the negative side of illusions. Sometimes they help us to learn more about certain properties of the world. Thus, a stick immersed in water seems to be broken, and this effect shows us that light is refracted differently in water and air. This difference in properties is

imprinted in our perceptions. A certain limitation of perceptions has a positive side about it, too.

People can see, hear and sense in general within a certain range, which is sufficient to find one's bearings in the world. When the limited nature of the sense organs becomes an obstacle, certain "amplifiers" are used. Man creates various devices and applies them in his activities: he observes the sky through a telescope, which brings the planets "closer" to him; an electronic microscope allows him to see the invisible; and a laser ray helps him perform the most sophisticated operations. With the assistance of various devices man can perceive the soundless and invisible, i. e., ultrasounds and infrared and ultraviolet rays.

Man's activities, too, are of great importance in widening the scope of sensations: thus, a painter distinguishes between a great range of colour shades, a musician's hearing is very acute, and a food or wire connoisseur's senses of taste and smell are exceptionally keen. Opportunities for the development of the sense organs' perceptibility are restricted in man, at least at a historically definite stage of activities. Still, this does not put up a barrier in the cognition of the world, for man is endowed with mind and reason in addition to his senses, which are a historically formed result of the long evolution of nature.

Man's sensual images (sensation, perception, concept or idea) are in the final count the source of knowledge. It is with them that the world's cognition begins, and it is they that comprise the basis for the inception of thinking, which is a higher form of the world's knowledge.

From Senses to the Mind

Man's sensual experience is rich and diverse, yet it provides information only about isolated objects and phenomena, since generalisations are limited in sensual impressions. Sensual impressions reflect only external features of objects and phenomena, without penetrating deeper into them; therefore, they cannot give a genuine knowledge of them. The objects' internal features, their essence, are not revealed to us in sensual cognition. And the primary aim of cognition consists in discovering the inner nature (essence) of objects and phenomena. It is only the knowledge of the essence that can guide man in his practical activities.

Thus, sensations are the only source which give us information about the external world, while the mind, i. e., reason or thinking, which serves to cognise the internal properties and their linkage, merges on their basis. We should add that the formation of thinking on the basis of sensual expe-

rience is conditioned by man's activity, particularly, by labour. Let us try to characterise thinking.

Fathoming the secrets of human reason, we find ourselves in the world of abstractions or generalised thoughts. The limited, incomplete nature of sensual impressions consists, as we already know, in their visuality. Perception gives us information about objects or phenomena which act upon us directly, immediately. For example, we see a certain tree – a palm, a pine or a birch, i. e., we do not visualise a tree in general, but just the given, specific tree. Ideas also reproduce the sensual-visual features of objects: one can imagine (recollect) a lake which he has seen some time ago or has been told about. So ideas themselves are of a sensual visual nature. We abstract ourselves from many features in them, yet they do not cease to be visual. When we imagine an apple, we can "cast away" some of its properties such as colour, smell and taste, etc., and only leave the contours of the object. Still it remains a visual image. It is not everything inherent in objects and phenomena that can be seen, heard, felt and expressed in sensual images. We can see electric light, for example, but cannot imagine electrical current as a flow of moving electrons; we can see bodies fall, but not the law of gravity: to cognise that, we need thinking, mind, or reason.

Thinking provides us with knowledge about the major, basic (essential) properties and features of objects. In thinking, man abstracts himself from the sensual-visual properties or features and forms abstractions – "a tree", "house", "motion". The process of abstraction consists in casting away the external or inessential on the basis of practical activities; it is cognition by way of thinking. Thinking helps us to understand laws – i. e., the essential, necessary and recurrent ties and relations in nature and society, for example, the law of gravity, the laws of the movement of gases, the law of value, etc. Man uses his knowledge of laws in his activities. Having comprehended the laws of reality, man learned how to build bridges and steam engines, airplanes and space rockets.

How Ideas Emerge

A *concept* or idea is the basic and simplest form of thinking. It is form which serves man to express the general, essential properties of an object: motion, speed, satellite, metal, man, animal, etc. The idea of a plant, for example, emphasises only that which is inherent in all plants. Or take the idea of man. It does not contain detailed data on the race, age, place of residence, trade, sex, family status, personal characteristics, habits, etc., of an individual man. Plato

defined man as a two-legged featherless animal. Legend has it that one day a disciple of Plato brought to the lessons a plucked cockerel and laid it on his teacher's table, saying: "This is man, according to Plato." Other ideas about man were also discussed: for example, that he is an animal endowed with reason and speech. It was Marx who really singled man out from the animal kingdom by pointing out his ability to produce implements of labour. Marx's concept of man emphasises those features which are characteristic of (essential in) all people, i. e., an ability to work, think and speak. The process of creating ideas takes place in the course of abstracting from the concrete, and the ideas themselves are abstractions.

Man's activities are the basis on which ideas are formed. Before the idea of a triangle, circle, or square appeared, people had come into contact, in the course of their practical activities, with a great many objects of different sizes and forms. While measuring and comparing them, i. e., while interacting with them, people noticed their different features and properties. The significance of practical activity consists precisely in the fact that it leads us to a comprehension of the main feature. It may seem that an idea (abstraction) is more limited than an immediate sensual impression, but this is not so. Even the most primitive idea is deeper than sensual impressions, and the

knowledge it provides is more complete and authentic. Thus, the idea of motion is associated with various forms of movement, and this is more essential than the mere observation of the movement of a machine, horse, man, etc. Even so, the question may arise as to whether ideas or abstractions reflect real phenomena. Let us take the concept of "fruit" by way of example. It denotes a concrete apple, a given banana, or an orange. These things all exist in reality and can be expressed in thinking with the help of the corresponding concept – an apple, an orange, or a banana. But the fact is that not only concrete but more abstract ideas, too – in our example, the concept of "fruit" – also serve to reflect real properties: these ideas express that which is common to various kinds of fruit. Ideas reflect the changing world and practical activity and are therefore themselves undergoing changes and developing. Thus, new concepts arise as a result, such as an airplane, a cosmonaut, etc. Physics, for example, reveals new properties of microparticles and their unusual properties, which are reflected in their names – "strange", "charmed", etc.

The formation of concepts, and thinking as a whole, is closely associated with speech or language. Concepts (ideas) are expressed in language by separate words or whole phrases. Language cannot exist without thinking. And though

it first of all serves to denote objects, it is also a means of communication among people. To begin with, man indicated phenomena by uttering various sounds, later, by graphical representations. Language, however, does not only denote, but also expresses thoughts. Jonathan Swift, in his famous book *Gulliver's Travels*, ridicules those scientists who thought that words are only substitutes for objects. The followers of these views came to an agreement that words should be abolished and replaced with objects. To this end, each of them carried a bag full of various objects with him, and tried to communicate with other people by taking out and showing them certain things; it is no wonder that all their attempts to communicate in such a way failed. In actual fact, sounds or graphical images are bearers of certain ideas.

In speech, we do not only denote objects, but also point out their properties with the help of words. Thus, calling a watch by that word, we indicate that it is associated with "watching", and in the final analysis, with time. In other cases, this abstracting function may be expressed less clearly. While calling certain instruments either a microscope or compass, we fix their essential features and the role they play in our life (helping us to observe microorganisms, orient ourselves in space, etc.). Designating objects by words, naming them, we are connecting our sensual expe-

rience with knowledge: for example, a concrete house – and man's abode in general; a birch or pine tree – and a tree in general; a tiger or bear – and an animal, a predator, etc. Consequently, the word generalises sensual experience, summarising the experience gained by different people, and so promotes new knowledge.

Concepts are a form of thinking. Its other forms are judgements and deductions. A *judgement* is that linkage of concepts where one is characterised through another; an idea with the help of which something is asserted or negated. For example, man is a creator of history; it is impossible to construct a *perpetuum mobile*. Concepts and judgements are interconnected. The latter consists of the former; therefore to think means to pronounce judgements. Here is judgement expressed by a poet: "Kindly words are like a rose, evil ones – like cruel blows." Judgements serve to develop thinking. For example, primitive man learned to produce fire (heat) by friction. Ages passed before the judgement was pronounced that friction is a source of heat. Another substantial stretch of time elapsed and then scientists discovered that not only friction, but mechanical motion in general is accompanied by a discharge of heat. At last, in the mid-19th century, the conclusion was made that the interaction of heat and motion is universal, and a law was formulated that motion does not disappear

but is transformed from one of its forms into another. This demonstrates the progress of knowledge, the advance of thinking from a single judgement to a more general one, and from that, to the universal.

A chain of judgements makes up a new form of thinking – *deduction*, in which new knowledge is deduced on the basis of already accumulated knowledge and experience. Here is the chain of thought typical of Aristotle: all men are mortal. Socrates is a man. Consequently, he will die. Or take another example: Louis Pasteur, a French chemist and bacteriologist, who was searching for the cause of anthrax. One day he noticed that the grass at one area of the pasture was lighter in colour that elsewhere. It was explained to him that a sheep which had died of anthrax had been buried there. Pasteur thoroughly studied the ground and noticed many traces of earthworms, so he suggested that it was earthworms that brought the spores of anthrax bacteria to the surface and were the carriers of the infection. In this way, a correct deduction was made, i. e., some new knowledge was achieved by way of thinking. The most important property of thinking consists in its ability to pass from the unknown to the known, i. e., to cognise the unknown.

Cognition and Creativity

When discussing the process of cognition, its levels and forms, we drew attention to the fact that it is characterised by man's ability to penetrate the secrets of the world, achieve new knowledge, and on this basis transform the world. This is the essence of the creative nature of people's activities, of their efforts both in the field of knowledge and in other spheres of work.

What is creative activity?

It is often identified with the creation of something new. The study of creative acts is complex because new knowledge often appears unexpectedly, by way of "revelation", a sudden penetration of the essence. This has led to the contraposition of the two sides of creativity: the conscious, which is determined by thinking, and the subconscious, not directly governed by thinking but by deeper, hidden processes – intuition and imagination. This also has led to the absolutisation (exaggeration) of the subconscious, i. e., to the contraposition of intuition to thinking, and, in the final analysis, to an idealist interpretation of creativity and denigration of the role of consciousness in creative activities.

It is also a mistake to interpret creativity as a trial-and-error process, the mechanical selection

of probable solutions by casting away traditional ways of achieving the new.

To resolve the question about the essence of creativity, one must assume a dialectical-materialist approach which considers the recognition of the objective existence of nature, society and man, who is engaged in transforming that world in the course of his practical activities, of utmost importance. Marxism proceeds from the premise that material activity is primary; all basic types of creativity are derived from it and determined by it. Such an approach enables one to overcome the idealist interpretation of creativity as a free and arbitrary human activity. Creativity is basically a *conscious* process. In a broad sense, it is people's activities involved in creating a new, socially-significant product. In a narrow sense, it should be understood as a process involved in discovery or invention. Creativity reveals the unity of the two sides: man's efforts connected with the transformation of the world in conformity with his requirements and goals, and the social value of the product he has created, of the world of culture. Man himself is also undergoing change in the process of his creative activity, and his abilities are developing as well.

One of the forms of creativity is scientific cognition of the world; its role has increased immensely in this age of science and technology. An outstanding public figure and statesman, Jawaharlal

Nehru, wrote: "Yet I am convinced that the methods and approach of science have revolutionized human life more than anything else in the long course of history..."[1] Creativity in science is first of all the formation of new knowledge, the explanation of a new set of phenomena, a discovery. To achieve this creativity, information should be constantly accumulated and analysed, and new ideas set forth, in spite of the fact that, as the American physicist Richard Feynman aptly remarked, "A new idea is extremely difficult to think of."[2] As a rule, scientific creativity is represented as a steady advance, which does not occur as a straight line, but as a process including leaps and intuition.

The most important link in scientific cognition is a scientific problem; without posing a problem there can be no creative activity or discovery.

Creativity Begins with Posing a Problem

People are faced with problems all through their lives. These problems may be practical,

[1] Jawaharlal Nehru, *The Discovery of India*, Asia Publishing House, Bombay, 1964, p. 32.

[2] Richard Feynman, *The Character of Physical Law*, British Broadcasting Corporation, Cox & Wyman Ltd., London, 1965, p. 172.

theoretical, scientific, political or ethical. Sometimes a problem is defined as knowledge about non-knowledge, because it expresses the contradiction between the knowledge people possess and their need for more knowledge. This makes problems a mediator (a form of link) between practical activity and cognition. A scientific problem is often described as the theoretical organisation of the needs and requirements involved in practical activities, which serve as a basis for the formulation of these problems. The fact that sometimes parallel (and often simultaneous) discoveries are made demonstrates that there is a link between scientific requirements and needs, on the one hand, and those of practical activities, on the other: thus, the electric bulb was invented by Thomas Edison and Pavel Yablochkov; the telephone by Alexander Bell and Elisha Gray; the law of conservation of energy was simultaneously and independently formulated by Julius Mayer, James Joule, and Herman Helmholtz, etc. Practical activity can also be engaged in filling a social order. For example, Napoleon Bonaparte offered bonuses for anyone who found a substitute for cane sugar and indigo dye when the continent was blockaded. As a result, the chemist Gustav Kirchhoff discovered grape sugar.

The qualification should be made, however, that though scientific problems are dependent on

a society's concrete needs, in particular, on its immediate requirements, this dependence is of a relative nature, for the emergence of problems was also conditioned by the needs involved in the development of knowledge itself. In the final analysis, however, a scientific problem, no matter how far removed from life or practice it may seem, is closely related to practical activity, which requires knowledge for its own development and itself prepares conditions needed to resolve and verify problems. It was no coincidence that it was Britain, a country where stock-breeding was well developed and artificial selection applied, that gave the world Charles Darwin, the founder of theoretical biology.

A problem is not simply a question; it is also the method used in seeking to resolve it. The search for an answer may involve the simple accumulation and summarisation of data, using the "trial and error" method; but scientific prevision, "lucky guesses" or "strokes of luck" which crown the researcher's meticulous, painstaking work are not precluded either. This can be illustrated by many examples from the history of science. Louis Pasteur once remarked that nature reveals its secrets only to educated minds. Luck, as a rule, only accompanies those who are working hard to solve their problems. Thus, the German chemist Friedrich Auguste Kekule von Stradonitz put in many years of tedious work into

creating the structure of a benzol molecule. At first he tried to build it on the principle of open bonds, like his predecessors; but this method contradicted the obvious facts. Then one day Kekule rode in an omnibus past cages of monkeys which were being taken to the Zoo. The monkeys formed a circle, clinging to one another by their tails and hands, and the scientist was struck with an idea that this could be an image of the molecule structure. So it was a "stroke of luck" that helped him to make his discovery.

Methodological principles are an extremely important factor in helping to advance knowledge from the unknown to the known. Scientific philosophical principles are a firm foundation for the scientist attempting to solve scientific problems. Ignoring these principles has often led scientists into an impasse. To cite an example, Ernst Mach, a notable subjective idealist philosopher, continued to reject the atom hypothesis and propound his own philosophical conjectures at the stage when science was on the threshold of discovering the complicated structure of the atom (late 19th-early 20th centuries). This was quite logical for Mach, for whom the only reality was the aggregate of sensations. However, such a position is incompatible with the recognition of objective external phenomena. But it was only due to pressure from scientists convinced of the world's objective nature and man's ability to understand

it that Mach was finally forced to renounce his absurd views.

Scientific research, which offers a choice of basic philosophical principles and means of investigation is the most important stage in solving scientific problems. A scientist holding Marxist positions bases his research on the principle of recognition of the primary nature of matter and the secondary nature of consciousness, man's ability to comprehend the world and its development, practical activity, etc. Concrete scientific principles, which can prove to be either correct or false, are also applied in the course of research. For example, the German engineer Ernst Werner Siemens argued it was impossible to use in aviation apparatus heavier than air; and Hermann Ludwig Helmholtz even "proved" this hypothesis in mathematical terms. However, the development of aviation proved the falsity of their conclusions.

Scientific research is based on the experience and knowledge which are at the disposal of an investigator. But it is impossible to obtain new knowledge by only drawing on old knowledge. To learn something new, it is necessary to go beyond the boundaries of old knowledge. Such a transfer, a revision of old knowledge, is a painstaking process. The new blazes its path in a struggle against the old—and this refers to science, art and politics alike. Thinking is charac-

terised by a certain measure of stability and reluctance to reconsider views, not only in the ignorant but in great minds, too. The history of science is filled with striking examples of this: Gottfried Leibnitz, a philosopher and mathematician, argued against Newton's law of gravity; Copernicus's ideas were rejected by Francis Bacon and the famous astronomer Tycho Brahe; and Albert Einstein, the creator of the theory of relativity, met opposition on the part of many scientists. There is even a sort of theory current among scientists that a scientific idea, which is new in principle, passes through three stages: first it is attacked and declared absurd; then opinions begin to be voiced to the effect that it may be true after all, but not very significant; and finally, its genuine significance is recognised and all its former opponents contend for the honour of its discovery.

Looking for the New

Creative research results in discovery, which is a new, genuine knowledge, a revelation of formerly unknown facts, properties or regularities of the material world or spiritual culture. Discovery is the summation of a creative process, which is characterised by a certain result, a new advance in the scientific cognition of nature and society. A search for the new is the entire process of cogni-

tion, beginning with the conception (preparation), then passing through the stage of the accumulation of material, and at last leading up to the discovery itself and its verification. The preparatory stage consits in collecting and systematising material, and it may take considerable time. For example, Darwin spent many years compiling and systematising facts, before he published his life's work, *On the Origin of Species by Means of Natural Selection*. The systematisation of material involves, above all, a thorough outline of the future investigation, the choice of certain principles to be relied upon, and the search for methods to be applied. In the opinion of many researchers, the accumulation of material – incubation – requires a great deal of the brain, senses and will-power, and presupposes an ability to go against accepted maxims. Thus, mathematicians Jules Henri Poincaré and Hendrik Antoon Lorentz drew close to the discovery of the theory of relativity, but failed to overcome the traditional views based on the principles of classical physics, which they held to be inviolable. There is a clever anecdote about the way scientific discoveries are generally made. What's new in science, it is said, is found this way: everybody knows that it is impossible, and then an ignoramus appears who is unaware of this, and so makes a discovery. A very important idea is contained in this anecdote: one should try to avoid the trodden paths in thinking

and blaze his own road.

Scientific discoveries can be either fundamental or non-fundamental. The former exerts a considerable influence on concepts about the world and modifies our world outlook. Knowledge itself lays down new principles: suffice it to recall the discoveries made by Galileo, Copernicus, Newton, Darwin, Marx, and Einstein. Non-fundamental discoveries are those obtained on the basis of already known principles which were established earlier. This type of discovery occurs much more often, yet the choice of ways and means of research in this case, too, is a creative process. This type of discovery includes, for example, the birth of molecular biology, deciphering of ancient manuscripts, and discovery of planets. The planet Neptune was discovered in this way by the French astronomer Urbain-Jean-Joseph le Verrier. When compiling a chart of the planets' movement, he noticed that Uranus deviated from its orbit. He suggested that the deviation may be due to the influence of an unknown planet and calculated its probable orbit and position. He wrote about his hypothesis to the Berlin astronomer Johann G. Halle, and the latter, after thoroughly investigating the relevant section of the sky, discovered a formerly unknown planet, which was named Neptune.

"Revelation" and Its Secrets

A discovery may be made suddenly, at a moment's notice. Like a "revelation", it is an unexpected reward in a prolonged investigation. It is said that discoveries come into a scientist's mind complete and perfect. Such discoveries are often associated with intuition; hence the idea of intuition is a certain mystical activity which underlies the nature of a creative process. Today scientific literature offers synonyms for the term such as, for example, quick perception, imagination and sound judgement. The human mind is remarkable in the fact that, while working on a problem, man does not consider all probable variants of its solution, but automatically casts off some of them from the very outset. This ability to associate the unknown with the known is often accomplished intuitively, but it largely depends on man's experience, on his ability to combine, connect or associate different spheres of knowledge.

What is interesting about intuition is that this form of knowledge relies on the link between the probable content that has been singled out during the creative process and other knowledge, which is taken as authentic. The "revelation", or "insight" evidently takes place when all the elements of a research process come together to form a link

which was not known before, thus presenting a new, graphically complete picture. The unique nature of this process is revealed by the fact that the solution to the problem, the new knowledge, is achieved by the investigator before the means of proving its veracity in logical terms have been found. Moreover, this knowledge does not follow from the existent, established system of knowledge, but sometimes even opposes it. The solution to a problem, the way out of a problematic situation emerges as a "leap" accomplished on the basis of a synthesis, an alloy of sensual experience and logical thinking.

Louis Victor de Broglie, an outstanding historian of science and mathematics, writes, for example: "Science, which is essentially rational in its principles and methods, can make its most remarkable conquests only by way of dangerous and unexpected leaps of mind when abilities, freed from the heavy burden of logical thinking, come into play, such as imagination, intuition, gift of penetration." [1]

Intuition is a part of man's insufficiently studied but still unquestionably rational abilities. The crux of the matter is that here the process of logical motion is contracted, the logic operates

[1] Louis de Broglie, *Sur les sentiers de la science*, Editions Albin Michel, Paris, 1960, p. 354.

"latently", as it were, and many of its stages are absent.

Quite often, intuition manifests itself as an unconscious act, for the process of resolving complicated tasks involved in thinking goes on secretly, as it were, and it is only the final result that is fixed in the mind. Yet intuition does not merely "introduce" the final result into consciousness; its operation is much deeper and more diversified – it possesses a special property to clarify the significance of the properties and relationships of objects even before they manifest themselves. Therefore a creative act includes the consequent "rationalisation" of the process when the already found solution is being proved and substantiated.

So, while presenting itself in the form of the illogical, intuition is but a moment in man's thinking. The idea and intuition are the two properties of the human mind which are not mutually exclusive, but always dialectically complement each other.

To Imagine Is to Transform

Let us consider one more aspect of the manifestation of creativity in cognition, e. g., *imagination*. The ability to imagine things and phenomena is inherent in people; neither everyday activities, nor creativity are possible without it. That has

been noted by many poets, scientists, philosophers and statesmen. Francis Bacon wrote, for example, that imagination as an attribute of the creative process possesses the gift of re-creating and thinking up all kinds of the most improbable combinations of things or separating objects which are actually inseparable. Albert Einstein maintained that, "Imagination is more important than knowledge. For knowledge is limited, whereas imagination embraces the entire world, stimulating progress, giving birth to evolution. It is, strictly speaking, a real factor in scientific research." [1] Lenin also drew our attention to this fact, writing: "This quality is extremely valuable; it is wrong to think that only poets need imagination... It is needed even in mathematics; it would have been impossible to discover the differential and integral calculus without imagination:" [2]

What is imagination then?

It is man's faculty to transform a previous experience and create new ideas and images, linking up the existent with the absent.

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[1] Albert Einstein, *Cosmic Religion*, Covici Friede Publishers, New York, 1931, p. 97.

[2] V. I. Lenin "Eleventh Congress of the R.C.P.(B.), March 27–April 2, 1922. Closing Speech on the Political Report of the Central Committee of the R.C.P.(B.), March 28", *Collected Works*, Vol. 33, Progress Publishers, Moscow, 1976, p. 318.

Imagination is capable of transforming the world. It is based on social practice, while sensations and practical life serve to mediate it.

Imagination is one of the ways of linking the sensual and the rational in cognition. It is a sort of an alloy of the two, the sensual forming the basis or the material of which images are built, while thinking plays the leading role in the process, outlining its programme so to speak. Imagined objects and phenomena take part in the formation of new ideas. Sensations, in their turn, also have an impact on thinking, producing newer and newer images.

The heuristic potential of imagination is also manifest in its socially significant funcion which provides for the continuity of the present, the past and the future. We can "re-create" in our imagination and re-live anew the past, linking it up with the present. So we can speak about a modern interpretation of classical works, and try to find analogies in history to current events and phenomena. By drawing on imagination, we can "think up" the past and bring it to the present, as if re-living it once again. Imagination also allows us to re-create the past on the basis of vestiges (relics), by reviving all sorts of historical, ethnic, cultural, etc., memorials, events and facts.

The introduction of the past into the present can only be accomplished in imagination, in emotions. Man thinks himself to be in a different

epoch, as if returning again to that which has already passed, and "re-creates" that which he has not witnessed. A return to the past (retrospection) is associated with the creation of a certain concrete historical background which accompanied a certain man's life, a fact or an event. Imagination changes, transforms that background and, as a result, social time presents itself to us as reality.

However, imagination not only serves to connect the present with the past. It also helps to envisage the future as a developmental trend, for the future is an image of a goal and activities, an ideal anticipation of being, an outline of actions to come. The meaning of human life is found in its projection into the future. But imagination introduces its own specifics into the perception of time: it can "contract" itself and become a moment; or vice versa, it can slow down and be dragged on for a whole "age". Imagination can also introduce elements of illusion or nonreality into the perception of time, placing objects into linkages and relations that have no direct analogy in reality.

Imagination penetrates all types of human activities and fulfils different functions, the most important of which is its cognitive function and that which helps man to reveal the new. The latter is closely connected with the former; and both these functions are extremely important

in creative quests which are indispensable to anticipation; to the construction of a model of an ideal plan of action. The prognostic function is no less important. It is by way of imagination that an idea breaks the boundaries of the existent, overcomes the barriers of knowledge and reaches out into the unknown. Imagination encourages the further process of cognition, helping to find a way out of the cognitive impasse. It also carries out esthetic functions, since the process of creativity requires relaxation, inspiration and esthetic pleasure. Imagination fulfils a certain controlling function, too: it corrects activities, facilitating a truthful reflection of reality.

The Unusual in the Habitual

While discussing the process involved in cognition, a few words should be said about the role played by *hypotheses* – suggestions or scientific assumptions – which are conducive to the formulation of theories. Many scientific discoveries emerged from guesses. The hypothesis is unique in that it is of a conjectural and probable character. Like the evolution of knowledge as a whole, a hypothesis is formed in answer to man's requirements and goals.

What role do hypotheses play in cognition? Scientists suggest various hypotheses in order to somewhat elucidate the goals of research, to syn-

thesise old and new knowledge by means of suggested ideas. The more closely the hypothesis is linked together with real facts which serve to corroborate it, the greater its cognitive role. A scientific hypothesis must first of all explain an entire range of the facts, the whole aggregate of the given phenomena, while not contradicting, as far as possible, the data established earlier. However, if such a contradiction is inevitable, the author of the hypothesis should have good reason to consider the previously established data as insufficiently authenticated.

The very way in which a hypothesis is constructed is important. Its most simple variety relies on observation: together with the summarisation of material collected, it served as the basis for Darwin to propose his hypothesis about evolution. Another way to arrive at a hypothesis is through analogy. Scientists in the field of cybernetics, for example; try to transfer their knowledge about the animal kingdom to technology; a special science related to this kind of knowledge – bionics – has even branched off. Many machines have been built based on analogies with animals: the wing of a bird helped man to create an airplane, the body of a dolphin suggested the shape of a submarine, etc. By drawing analogies, man can see the unusual in the habitual; for example, he can discern the lines of a suspension bridge in a spiderweb

hanging between the bushes; and the tunnels made in the wooden parts of ships by bivalve mollusks lead him to invent a tunnelling shield in the form of a cylinder, which moves like the mollusk, etc.

Man verifies the correctness of a hypothesis, or the fact that it must be true, in practical activity, while its logical proof lies in the correspondence of the ideas contained in it to the existing knowledge. The German historian Heinrich Schliemann was convinced that Homer's *Iliad* was based on real fact, that the Troyan War had actually taken place, and that the city of Troy should be looked for. The excavation of the hills he designated proved the correctness of his hypothesis – ancient Troy was actually found. In this way, proof and verification turn a hypothesis into a qualitatively new knowledge, into a scientific theory, which is the summit, the highest form of knowledge, i. e., knowledge about essential relationships, or laws of reality.

A hypothesis must be verifiable in principle, even though it may be impossible to verify it immediately.

Unverifiable hypotheses are as a rule outside the sphere of science. A hypothesis may be verified in principle based on the scientific principle that man is capable of understanding the world. Without this cognition, science would have been impossible.

An hypothesis must not only be applicable to a given fact or phenomenon; a genuinely scientific hypothesis should concern a whole range of other phenomena, and is capable of expanding and developing.

Another important feature of an hypothesis is its fundamental clarity, the absence of arbitrary assumptions, illogical restrictions and reservations. Such fundamental simplicity is a result of the objective nature of the explanation of complicated processes, which are actually based on something that is objectively common and therefore given to generalisation. Scientists see such simplicity as esthetic perfection, as the beauty of a scientific hypothesis and as the manifestation of the rational requirement that theoretical thinking explain as wide a range of phenomena as possible in the simplest possible terms.

In Search of Truth

Thus, knowledge is inherently connected with people's activities. The aim of cognition is the achievement of *truth* and, on its basis, fulfilling the new tasks facing humanity.

What is truth? Legend holds it that Pontius Pilate asked this question of Jesus Christ, who had been arrested, for inciting disturbances by his assertion that he knew the higher truth about the meaning of life. In asking this question, Pilate

threw doubt upon the existence of truth in general and upon the possibility of achieving it.

The concept of truth is polysemantic and is often used in its different meanings. People speak of a true friend, true beauty, a true poet, etc. What is always stressed in all of these phrases is the significance of this phenomenon, thing or action. Yet all of them are derivatives of the word "truth". In its philosophical sense, the word expresses a certain relation between the content of knowledge and the external world. The word "truth" serves to denote a correct, authentic reflection of reality in thinking. Truth is not a property possessed by things themselves, but their authentic reflection in man's mind. Ancient philosophers associated truth with correct knowledge, which corresponded to reality, its opposite being delusion, or false knowledge, which distorted reality. Aristotle wrote in one of his treatises: "A man thinks truly if he thinks that what is separated is separated and what is united is united..." And further: "Now it is not because we think truly of your being white that you are white, but it is because you are white that we speak truly in saying that you are white".[1] As we see, in this case true knowledge is characterised as

[1] *Aristotle's Metaphysics*, Indiana University Press, Bloomington and London, 1966, p. 158.

corresponding to reality. But though Aristotle's understanding of truth is correct and materialistically directed at comprehending truth, his definition of it proves to be incomplete; it is so broad and vague that idealists and even agnosticists may also agree with it by interpreting the concepts of "correspondence" and "reality" in their own way.

The question of truth is closely associated with the general philosophical stand a scientist takes, with the way in which he answers philosophy's fundamental question. In the issue of truth, the opposing nature of science and religion is manifested very clearly: for science the search for truth is one of the most important tasks, while religion turns to belief, sometimes quite openly contraposing it to truth.

The opposing nature of materialism and idealism is also apparent in this connection. Not all shades of idealism and agnosticism refuse to recognise truth, but they interpret it in an extremely subjective way, not associating it with recognition of the actual existence of the surrounding world and man's ability to cognise it correctly and reflect it in his mind. Some idealists see truth as a result of an agreement concluded by people. The French mathematician Jules Henri Poincaré was one of the first to interpret truth in such a way. In his opinion, fundamental tenets of scientific theories (with the exception of arithme-

tic) are not truths but conventionalities; the only absolute demand they have to comply with is their uncontradictory nature. The same conclusion stems from interpreting truth as generally significant knowledge. Indeed, false knowledge can also be of general significance – for example, the theories of heat and ether, reactionary political theories (geopolitics, neo-Malthusianism, all sort of racialist concepts, etc.). Sometimes that which is useful is proclaimed as true. However, we have already shown that far from all of that which is useful can be regarded as true.

Those Seeking Truth May Be Deluded

The foregoing leads us to the correct answer to the question we have asked ourselves. Truth is characterised by a correspondence between our knowledge and reality, which exists objectively and independently of man's mind and will. Consistent, scientific-dialectical materialism specifies the concept of truth by stating that it is objective. Lenin interpreted objective truth as knowledge whose content does not depend either on an individual or on humanity.[1] The question may be

[1] See V. I. Lenin, "Materialism and Empirio-Criticism", *Collected Works*, Vol. 14, p. 122.

asked: How can truth be independent of man if he can comprehend it? Truth does not belong to the external world but emerges as a result of man's activities. For example, exploitation in a capitalist society is objective reality. Yet prior to Marx its essence was not seen by the people, so their views as to why the capitalists were wealthy and the workers lived in poverty were false. Marx's discovery of the essence of capitalist exploitation brought our knowledge into conformity with objective reality, thus making it objective truth.

The concept of objective truth contains in itself knowledge about the objective world, i. e., our ideas and our thinking provide us with correct, true (corresponding to the objective world) knowledge. But objective truth is achieved in the process of cognition based on man's practical activities. Therefore, it would not be justifiable to say that truth is something which exists outside man, outside his consciousness. The connection between truth and people's activities expresses its dynamic nature. The achievement of truth is a painstaking process, because it is not formulated in one step, but only gradually. Therefore, any truth is limited and relative. To what extent can we approach that which is the subject of our study? This is the sphere of the relationship between absolute and relative truth.

The world around us is rich and diverse, it is

eternal and infinite. Therefore our knowledge about the world at each stage of historical development is limited and relative. Relative truth is an incomplete, partial and approximate correspondence between our knowledge and reality. The knowledge underlying relative truth can be subsequently made more specific and precise. Ancient thinkers sometimes set forth incredible conjectures concerning a complicated internal composition of phenomena or processes while observing only their external aspect. Their knowledge, however, was but the starting-point of science. As both practice and science advance, the people are gradually coming to know truth. For example, Democritus just guessed that the world consists of atoms, but the physicist Niels Bohr actually discovered the structure of the atom.

Objective truth is not only relative, limited in historical terms and incomplete; it is at the same time absolute. Absolute truth is complete, exhaustive and veritable knowledge. The absolute character of truth, related to its objectiveness, is shown in that the propositions formulated at a certain stage of scientific development cannot be subsequently refuted as science advances. The unity of the absolute and the relative in objective truth lies in the fact that it is knowledge which is simultaneously characterised by incompleteness and objectiveness. Absolute truth may also be

characterised as exhaustive knowledge about the infinite world. Mankind, of course, cannot possess such knowledge at each stage of its evolution; it is attainable only in the process of the infinite development of man, his practical activities and the process of cognition. Hence, the law of the evolution of knowledge consists in its progress from the relative to the absolute. Absolute truth is made up of an innumerable multitude of relative truths.

Dogmatism is characterised by a unilateral approach to truth. Dogmatists regard truth as absolute and merely ignore its relative nature. There are eternal truths, of course, and numerous examples of this can be cited. As a rule, these are certain facts or situations, such as, for example: Wakayama is a Japanese city; Hariana is a state in India; Napoleon Bonaparte died in 1821, etc. Yet scientific knowledge is not reducible to this kind of truth; these are trivial facts, i. e., devoid of originality. Science is by no means a sum total of "eternal truths".

Relativism, as distinct from dogmatism, exaggerates the relative nature of our knowledge. The relative nature of any truth was already noticed by ancient philosophers, who said that each man has his own truth. While proclaiming that truth is relative, relativism proceeds from the actual situation: everything in the world is changing. However, real phenomena are comparatively

stable. A lack of understanding of the unity of changeability and stability leads to extreme forms of relativism. If everything is moving and liable to change, then we live in the world where no unchangeable truths can exist, so our knowledge must be purely conventional.

What do scientists think about this? Niels Bohr suggested the following principle of correspondence in physics: previous theories and laws that have been confirmed in practice remain true in the future for the field of knowledge they have been formulated in. They are not renounced completely by new theories, but are included in them as particular cases. For example, Einstein's theory of relativity followed the classical physics of Galileo and Newton. Prior to Einstein, the laws discovered by Newton were regarded as universal, but we are now aware that their operation is restricted. Non-Euclidean geometry, whose principles Lobachevsky studied, rejects a number of postulates of Euclidean geometry – the postulate of parallels, of the "rectilinear" nature of space, etc. Yet it does not negate Euclidean geometry as a whole, and includes certain basis Euclidean tenets and axioms. One more example: the *Manifesto of the Communist Party*, the first programme document of Marxism, states that man's entire history is one of class struggles. Subsequently Engels provided a footnote to that phrase, for scientific data had proved that a pre-class society

had once existed where there could not have been a class struggle.

The doctrine of truth requires recognition of its concrete nature, which first of all presupposes taking a precise account of all conditions under which the object of cognition exists, and a singling out of its basic, essential properties, connections and development trends. Here is a simple illustration: we can claim that rain is useful or that it is harmful. Which of the two assertions is correct? The issue cannot be resolved in one way or the other without taking into account concrete conditions: rain is undoubtedly useful after sowing or during the growing season; but at the same time it is harmful during harvesting.

The concrete nature of truth is still more important when resolving complicated issues. Prior to the imperialist stage of capitalism, socialism could win in all developed capitalist countries simultaneously; but in the age of imperialism, it could only triumph in the single, weakest link. The same is true of the issue of war. There are just and unjust wars depending on their political content. Marxism regards as just those wars that are waged by peoples to attain liberation from social and political oppression, to defend their state independence or fight imperialist aggression; and it holds as unjust those wars that are waged by the exploiter classes with the aim of suppressing the liberation struggle of oppressed classes or nations,

capturing foreign territories and enslaving other peoples.

How can genuine truth be distinguished from delusion? Marxism provides us with the following answer: the authenticity of our knowledge is established and confirmed only in practice. Only in practical activity can we draw a line between genuine and false knowledge. Naturally, the results of our activities directly depend on the correspondence between our knowledge and the object to which our activity is directed. If our knowledge is true and correctly reflects reality, then our purposeful activity will be successful and we shall attain the required result. False ideas will produce a different effect: for example, it proved to be impossible to invent a perpetuum mobile since it contradicted objective laws.

The history of science is full of instances where people suffered enormously, and even died in the name of achieving truth. The Italian philosopher Giordano Bruno and the Spanish theologian and physician Michael Servetus were burned at the stake by the Inquisition for their love of truth. The Danish astronomer Tycho Brahe was also persecuted.

Scientists have risked their lives in searching for truth: Pliny the Elder died when observing the eruption of Vesuvius, and Francis Bacon was killed during one of the experiments he himself has staged. Progressive scientists, political and

public figures, champions of peace and justice were all persecuted while trying to bring the light of truth to the people: Patrice Lumumba, Salvador Allende, and Martin Luther King all died this way. Writing about science, Marx quoted Dante Alighieri:

Here must all distrust be left;
All cowardice must here be dead. [1]

These lines may serve as an inspiration to all those who seek truth and actively defend it.

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[1] Dante, *The Divine Comedy*, Illustrated Modern Library, Inc., 1944, p. 22. Cited in Karl Marx: *A Contribution to the Critique of Political Economy*, Progress Publishers, Moscow, 1977, p. 23.

V. PHILOSOPHY AND SOCIAL LIFE

Philosophy is linked by thousands of threads to the most diverse phenomena of society's life. Its emergence, the struggle between its two trends, the difference of views concerning man's cognitive activities and the source of all changes underway in the world – all are underlied by social causes. In its turn, philosophy also has an impact on political struggle and scientific progress, on religious movements and artistic creativity, on individual men and the entire epoch.

To find out the principle according to which philosophy and society are interacting, it is necessary to trace the social functions of philosophy, the role it is playing in society, to reveal the specific way in which social reality is reflected

in philosophical consciousness, and to bring to light the dependence of the evolution of philosophical problems on the stage of society's development.

To be regarded as scientific, philosophy must correctly explain both the past and the present – certain philosophers in the past even considered this the sole function of philosophy. Hegel, for example, wrote that a philosopher can understand that which has already taken place, that which belongs to the past. Philosophy with its precepts always emerges after the event has already occurred.

Modern bourgeois philosophers do not wish to accept even this curtailed interpretation of philosophy's powers and purposes. Indeed, a correct interpretation of that which exists would expose the irreconcilable contradictions gnawing at the foundations of the capitalist world from the inside: one of the most important requirements made of philosophy – to be scientific – conflicts with the class interests of bourgeois ideologists.

A scientific theory must not, however, only explain that which has already taken place; it should also be capable of *foreseeing* the future, too. A genuinely scientific philosophy is required to be able to do that as well. One of Hegel's disciples thus clarified his teacher's concept about the purpose of philosophy: "Philosophy is like a cockerel ushering in the new dawn of the world's youth."

Since the new world or future society can only emerge on the ruins of the old world, it is only the most advanced class that is interested in creating a scientific philosophical theory of society.

Therefore, a genuinely scientific philosophy, which combines the possibility of a correct explanation of the past and a prognostication of the future, at the same time expresses the interests of the advanced, progressive social strata, those of the working class above all.

Marxism does not try to conceal its class nature, but "includes partisanship, so to speak, and enjoins the direct and open adoption of the standpoint of a definite social group in any assessment of events".[1] The proletariat sees philosophy as its theoretical "weapon". So philosophy becomes a theoretical foundation of society's *transformation*. Dialectical and historical materialism, the philosophy of Marxism-Leninism, is precisely this type of philosophy. "Marx's philosophy," Lenin wrote, "is a consummate philosophical materialism which has provided mankind, and especially the working class, with powerful instruments of knowledge."[2]

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[1] V. I. Lenin, "The Economic Content of Narodism and the Criticism of It in Mr. Struve's Book", *Collected Works*, Vol. 1, Progress Publishers, Moscow, 1977, p. 401.

[2] V. I. Lenin, "The Three Sources and Three Component Parts of Marxism", *Collected Works*, Vol. 19, p. 25.

The emergence of Marxism itself can serve as an example of the close link between philosophy and social life. It appeared on the mainroad of world civilisation and has been prepared by the entire previous evolution of society. It was formulated on the basis of socio-economic, political, philosophical, theoretical and scientific conditions; also of great importance were the personal qualities of Karl Marx and Frederick Engels.

What kind of epoch was it that gave birth to Marxist philosophy? Marxism took shape in the mid-1840s when capitalism was being established in Europe. Bourgeois revolutions had already shaken the Netherlands, Britain and France. The working class had played a great role in them, but not yet as an independent political force. It fought alongside its sworn enemy – the bourgeoisie – against the feudal lords, the enemies of the bourgeoisie. After feudalism was abolished, capitalism established and labour productivity rose, the contradictory nature of bourgeois progress became increasingly evident; it was epitomised in the accumulation of wealth on one pole and of poverty on the other. Though at that time capitalism was still growing, overproduction crises began to occur and unemployment rose. Small farmers were ruined, swelling the ranks of the working class. The exploitation of the workers and their family members, including children, was not restricted by legislation. But the proletar-

iat is not only a "suffering" class, it is also a "fighting" one. According to Lenin, "it is ... the disgraceful economic condition of the proletariat that drives it irresistibly forward and compels it to fight for its ultimate emancipation".[1] The proletariat was growing both in numbers and in qualitative terms, and the bourgeoisie was compelled to draw on its support to attain its own selfish interests in the struggle against feudalism. But the experience of participation in the political struggles proved useful to the proletariat itself, too.

In the first half of the 19th century, the proletariat emerged as an independent political force. The most powerful working-class actions were the uprisings of the Lyons weavers in France in 1831 and 1834, of the Silesian weavers in Germany in 1844, and of the Chartists in England in the 1830s-1850s. Chartism was the first genuinely mass and politically distinct action ever staged by the proletariat. Lenin said it was preparation for Marxism, the penultimate word to it. The first workers' party took shape within that movement, and political demands were formulated.

It was no accident that Marxism appeared in Germany. There, in the motherland of Marx and Engels, class contradictions were particularly acute; Germany was on the eve of a bourgeois

[1] V. I. Lenin, "Frederick Engels", *Collected Works*, Vol. 2, p. 22.

revolution. The proletariat was quite numerous, and it was already coming out with its own class demands. Conditions were unfolding that would be conducive to the proletariat's class struggle gaining momentum in the course of the impending bourgeois revolution – no such conditions had ever existed in the previous bourgeois revolutions. All these features made Germany the cradle of Marxism, which had been prepared historically by the development of capitalism and class struggles in *all* European countries.

So we have ascertained that the working class began political struggles not in one, but in all the countries in which capitalism was being established. However, the proletariat had no clear programme of struggle, and that was the most important reason why it failed. The absence of such a programme detracted from the workers' organisational level, and sometimes even led to divergences of opinion on issues of principle among the participants in the actions. The need for a revolutionary theory was great. So the emergent Marxist philosophy met the interests of the proletariat's revolutionary movement.

However, philosophy could not have attained a new and higher stage were it not for the fact that the development of science as a whole left a wealth of material suitable for philosophical generalisations. Discoveries, which had been made in natural science by the mid-19th century

created a firm basis for the interpretation of nature that came to be known as dialectical-materialist.

Major changes had also occurred by that time in the social sciences. Progressive-minded bourgeois theoreticians concentrated on material processes underway in society, on problems involved in society's division into classes and the class struggle, and readily criticised the bourgeois system. Two English political economists, Adam Smith and David Ricardo, founded a labour theory of value. The ideas promulgated by Utopian Socialists Claude Saint-Simon, Charles Fourier and Robert Owen were also important for the formation of Marxist philosophy. Though they did not see real ways to a future society and rejected the road of revolutionary change, their devastating criticism of capitalism and conjectures about a society of the future were seriously studied by the founders of Marxism.

The most important precondition for the development of Marxist theory was German classical philosophy, which at that time represented the best of philosophical thinking, particularly Hegel's dialectics and Feuerbach's materialism. Hegel elaborated his dialectics on an idealist basis. He did not prove but merely "brilliantly guessed" the dialectics of things in the dialectics of ideas. The dialectical method of cognition inevitably contradicted Hegel's idealist system, so

his philosophy had narrow limits. Feuerbach, on the other hand, provided a brilliant critique of Hegel's philosophy from materialist positions but could not fuse dialectics and materialism into a single whole, thus he failed to apply his materialism to social phenomena.

So we see that the entire previous evolution of human knowledge paved the way for Marxist philosophy. The formulation of this new philosophical theory required not just a mastering and combination, but a fundamental critical reconsideration of all that had been created up to that time by the human mind. Let us again turn to Lenin. "The genius of Marx", he wrote, "consists precisely in his having furnished answers to questions already raised by the foremost minds of mankind." [1]

Marxism was created by Karl Marx (1818-1883) and Frederick Engels (1820-1895); their names will forever be linked together in world history. They were not proletarian by birth; so how did it happen that they, the offspring of the privileged strata of German society (Marx's father was a famous lawyer and Engels's—a textile factory owner), voiced the working-class interests?

In the period of sharpening class struggles,

[1] V. I. Lenin, "The Three Sources and Three Component Parts of Marxism", *Collected Works*, Vol. 19, p. 23.

bourgeois society begins to disintegrate, and a small part of the ruling class renounces it, siding with the revolutionary class, to whom the future belongs. Far from everyone is capable of making such change; it requires tremendous will-power and courage, as well as an ability to overcome the world outlook of the class one belongs to by birth.

By the time they became corroborators and close friends (1844), both Marx and Engels had already become aware of the historical role to be played by the proletariat; they had not been novices in political struggle either, and had studied and critically reworked the philosophical and scientific achievements of their time.

There are two major stages in the formulation of Marxist philosophy. The first stage includes the period when the philosophical ideas of Marx and Engels were taking shape, and when they passed from idealist and revolutionary-democratic positions to those of dialectical and historical materialism and scientific communism. This stage ended by 1844. At the second stage, or the period of mature Marxism, the basic propositions of dialectical and historical materialism were elaborated.

Marx and Engels traversed a difficult path before they succeeded in creating the doctrine which became a turning-point in philosophy. From the outset they were revolutionary democrats and fought for the interests of the broad

masses. Both of them respected classical German philosophy in their youth, especially Hegel's philosophy of objective idealism. They sided with the left-wing supporters of Hegel's philosophy (Young Hegelians) who tried to draw from it revolutionary and atheistic conclusions. However, they soon became convinced that idealism is incompatible with an atheistic and revolutionary philosophical approach. So they became interested in the materialist philosophy of Feuerbach. In 1845-1846, however, they published their joint work *German Ideology*, which criticised not only Hegel's idealism, but Feuerbach's anthropological, contemplative materialism as well.

While elaborating a new, proletarian world outlook, Marx and Engels also led practical revolutionary activities to help set up a proletarian party. In 1847 they established such a party under the name of the League of Communists, and wrote a programme for it – the *Manifesto of the Communist Party* – which consummated the formulation of Marxist philosophy and represented a revolution in philosophical thought. What are the basic features of this new revolutionary philosophy?

Marx and Engels were the first to prove the need for fusing dialectics and materialism into a single whole. Prior to the emergence of Marxism, dialectics was largely developed on an idealist basis, and materialism was metaphysical. The

creation of *dialectical materialism* paved the way to a consistent materialist interpretation of nature, society, and man himself in their historical evolution.

All pre-Marxian philosophers, both materialists and idealists, had one thing in common – they approached social phenomena from idealistic positions, regarding history as a gradual embodiment of man's ideas, wishes and will. Marx and Engels were the first to apply materialism in explaining social phenomena. Idealism was driven from its last refuge, human history. Marxist philosophy, erected on a solid foundation of dialectical materialism, now included a new component – *historical materialism*. Marx's "*historical materialism*", Lenin wrote, "was a great achievement in scientific thinking. The chaos and arbitrariness that had previously reigned in views on history and politics were replaced by a strikingly integral and harmonious scientific theory..." [1]

The formulation of dialectical and historical materialism determined other features of the revolution wrought in philosophy. The interpretation of the subject and functions of philosophy, as well as its linkage to science, practice and revolutionary struggle, underwent a change.

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[1] V. I. Lenin, "The Three Sources and Three Component Parts of Marxism", *Collected Works*, Vol. 19, p. 25.

Philosophy in its old sense, as opposed to other sciences, practical activities and revolutionary struggle, was no more. Not a single predecessor of Marx and Engels could consistently substantiate the connection existing between philosophy and social life, or reveal the social conditions required for it to emerge, or the social functions it is destined to carry out. All previous philosophy was contemplative. As Baruch Spinoza put it, a philosopher must not cry or laugh, but just understand, i. e., be able to explain all existent things and phenomena. Marxist philosophy, too, explains that which exists, but it also teaches how to see sprouts of the new in the old, how to discern major trends in development and, hence, prospects of modifying that development. "The philosophers have only *interpreted* the world in various ways; the point is to *change* it", Marx said.[1] So philosophy openly recognised its social conditioning and social purpose. The "weapon of criticism", which is essentially what philosophy is, is a necessary prerequisite for the criticism of the weapon, i. e., a revolutionary transformation of society.

Philosophy's place in the system of sciences also

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

undergoes a change. Pre-Marxian thinkers claimed that philosophy had a special role in the search to understand the world; they regarded it as the "science of sciences". Philosophy must not treat scientific achievements with contempt, since it relies on them and sums up the data they provide to reveal the most general laws of nature, society and thinking. In fulfilling the function of a general world outlook, philosophy discovers opportunities to better understand the world and sets forth a doctrine on method. In other words, *world outlook and methodological functions are organically fused in scientific philosophy.*

As a rule, pre-Marxian philosophers believed that their philosophy gave an absolute, complete and final knowledge of the world. Marx and Engels proved that, by force of its organic, openly recognised link with practice, social life and specific sciences, Marxist philosophy presupposes the constant development and enrichment of its basic tenets. Marxism is not a dogma; it is a guide to action. So its *creative* nature is its distinctive feature.

The development of philosophy in Lenin's works reveals Marxism's creative character and its close link with social practices. Lenin wrote: "We do not regard Marx's theory as something completed and inviolable; on the contrary, we are convinced that it has only laid the foundation stone of the science which socialists *must* develop

in all directions if they wish to keep pace with life." [1]

The new epoch, new socio-economic and political conditions, and the development of science, philosophy and culture as a whole needed new philosophical generalisations. Lenin developed Marxist philosophy in the age of the collapse of capitalism which was entering its last stage, the transition to socialism and social revolutions. In the early 20th century the centre of the revolutionary movement shifted to Russia, where at that time economic, political and spiritual contradictions were exacerbated to an extreme, and the country which was then the "weak link" in the chain of imperialism. During this era of heightened contradictions, Marxism was fiercely attacked, and attempts were launched to "improve" it by modifying the teachings of Marx and Engels with various bourgeois concepts. There were also significant shifts taking place in biology: the old concepts about the structure of matter were debunked, and the need arose for working out new methodological criteria for advancing science.

Under these conditions it was not only necessary to defend Marxism, but also to elaborate on dialectical and historical materialism, taking into

[1] V. I. Lenin, "Our Programme", *Collected Works*, Vol. 4, Progress Publishers, Moscow, 1977, pp. 211–12.

account practical needs, the revolutionary struggle and development of natural and social sciences. Lenin's ideas set forth in his *Materialism and Empirio-Criticism, Philosophical Notebooks*, "On the Importance of Militant Materialism", *The State and Revolution*, etc., provided answers to the vital questions of the time. Lenin enriched the Marxist theory of matter and its basic properties, promoted the theory of knowledge and made substantial contributions to the Marxist teaching on classes, the class struggle, revolution, the state, the role played by the masses and individuals in history and on the communist formation. He also suggested ways for fighting distortions in Marxist theory and formulated the principles of criticism of bourgeois ideology and revisionism. His detailed principle of partisanship in philosophy is of great significance as well.

Marxist-Leninist philosophy is being developed now by the collective effort of the CPSU and other communist parties, which are guided in their activities by its principles. At the current stage of its development, Marxist-Leninist philosophy is faced with many problems and is seeking to resolve them all. Among them are the philosophical foundations of the theory of developed socialism, a socialist way of life, the relationship between the international and the national, etc. Marxism-Leninism is also successfully rebuffing the mounting attacks of its ideological adver-

saries.

Marxist-Leninist philosophy is an international phenomenon. It is a generalisation of the experience gained in revolutionary struggles by all the working people in all the countries. The theory of Marx, Engels and Lenin is omnipotent because it is true. As history marches on, Marxist philosophy will score ever new successes. Today the words Lenin uttered on the eve of the Great October Socialist Revolution have been completely borne out: "But a still greater triumph awaits Marxism, as the doctrine of the proletariat, in the coming period of history".[1]

[1] V. I. Lenin, "The Historical Destiny of the Doctrine of Karl Marx", *Collected Works*, Vol. 18, Progress Publishers, Moscow, 1973, p. 585.

GLOSSARY

ABSTRACTION – ignoring certain properties of objects or relationships between them while concentrating on a single property or relation.

AGNOSTICISM – a doctrine which partially or entirely rejects the possibility of knowing the world.

ATHEISM – a system of philosophical and scientific views, which rejects belief in spirits, gods and the beyond, and renounces all types of religion.

CLASSES, SOCIAL – large groups of people differing from each other by place they occupy in a historically determined system of social production and by their relation to the means of production.

CONTRADICTION, DIALECTICAL – an internal source of any motion, development. The theory of contradictions is the nucleus of dialectics.

DEISM – belief in the existence of God as an impersonal prime cause of the world. Having created the world, God left it to its own resources.

DIALECTICAL MATERIALISM – a scientific world outlook, a component of Marxism-Leninism, the universal method of cognition of the laws governing the development of nature, society and thought.

DIALECTICS – science of the development of nature, the society and thought which examines things and phenomena from all aspects. The opposite of metaphysics.

DOGMATISM – a way of thinking based on unalterable concepts and formulas regardless of the requirements of concrete conditions, science and practice.

DUALISM – a doctrine which regards matter and mind as two independent principles.

ECLECTICISM – deliberate confusion of different, and sometimes even opposite, philosophical views.

EXISTENTIALISM – a subjective-idealist trend in contemporary bourgeois philosophy, whose exponents contrapose man to society, and philosophical knowledge to science.

FATALISM – a doctrine according to which all processes in the world were initially predetermined by a supreme power, destiny, or fate.

FUNDAMENTAL, OR BASIC QUESTION OF PHILOSOPHY – concerns the relationship between consciousness and being, thinking and matter, nature. Consists of two aspects – the ontological and the gnosiological (epistemological).

GNOSIOLOGY (EPISTEMOLOGY) – a doctrine about knowledge, the second aspect of philosophy's fundamental question.

HISTORICAL MATERIALISM – a component part of Marxism-Leninism and simultaneously a general sociological theory, a science about general and special laws guiding the function and development of society. It is essentially the application of principles inherent in dialectical materialism to the sphere of social phenomena.

HUMANISM – a historically-changing system of views based on respect for the dignity of man as an individual, his right to unrestricted development and happiness. It holds that man's welfare is the only criterion for assessing social phenomena.

HYLOZOISM – a teaching that all matter is animate.

IDEALISM – a philosophical trend diametrically opposed to materialism in its approach to philosophy's fundamental question. It proceeds from the principle that the spiritual is primary. One is to distinguish between subjective and objective idealism, the former construes the world on the basis of individual consciousness, and the latter holds that the basis of reality is an immaterial spirit, some kind of superindividual mind or God.

IDEOLOGY – a system of philosophical, political, religious, ethical and esthetic views which in the final analysis expresses the interests of social classes.

LAW – an inner, essential, stable, recurrent and necessary interconnection of phenomena. The cognition of objective laws is the major purpose of all sciences.

MARXISM-LENINISM – a scientific system of philosophical, economic and socio-political views, created by Marx and Engels and creatively developed by Lenin. Marxism appeared in the mid-19th century and expresses the fundamental interests of the working class.

MATERIALISM – a major philosophical trend which opposes idealism. Materialism asserts that matter is primary and the spiritual, secondary. There are spontaneous, metaphysical and vulgar varieties of materialism. Its higher form is dialectical and historical materialism, a consistent materialist view of nature, society and man, and a component of Marxism-Leninism.

MATTER – objective reality which exists outside and independent of consciousness and is reflected by it.

METAPHYSICS – an unscientific method of thinking which is opposed to dialectics. Metaphysics regards things and phenomena as immutable and independent of one another.

METHOD – a means of investigating phenomena, aimed at attaining truth. Marxist philosophy applies a dialectical method.

METHODOLOGY – a doctrine on the method of scientific cognition and the transformation of the world.

MONISM – a doctrine which holds that the underlying principle of all existence is one source: matter or spirit.

OBJECTIVE – independent of human consciousness.

ONTOLOGY – the doctrine about being in general, the first aspect of philosophy's fundamental question.

PARTISANSHIP IN PHILOSOPHY – an objective, socio-class orientation of philosophy, a linkage between the struggle of major philosophical trends and that of progressive and reactionary social forces.

PLURALISM – a doctrine according to which the world is based on a set of disconnected entities, the opposite of monism.

POSITIVISM – a subjective-idealist trend in bourgeois philosophy, which sets as its aim the creation of a scientific philosophy that would be "above" the struggle between materialism and idealism. Positivism has passed through several stages.

Today it is represented by Rudolf Carnap, Bertrand Russel, Hans Reichenbach, and others.

PRAGMATISM – a subjective-idealist trend in contemporary bourgeois philosophy based on the principle of identifying truth with usefulness; the latter is treated as satisfaction of an individual's subjective interests. Exponents of pragmatism today include Charles Pierce, William James, and George Dewey.

REFLECTION – an intrinsic property of things to reproduce in their own structure the specifics of other things as a result of mutual interaction. Reflection is observed in animate and inanimate nature, as well as in society, its higher form being consciousness.

RELATIVISM – an idealist theory of relativity, conventionality and subjectivity of human knowledge.

SCEPTICISM – a doctrine which questions the possibility of knowledge of objective reality. Consistent scepticism differs but little from agnosticism.

SOLIPSISM – a subjective-idealist theory, according to which only the Self exists, while the objective world exists exclusively in the mind of the individual.

SOPHISTRY – the deliberate application of sophisms, i. e., superficially plausible, specious arguments, in disputes or in reasoning.

SUBJECTIVE – dependent on human consciousness.

TRUTH – the correct reflection of reality in thought, which is verified in the final analysis by practice.

VOLUNTARISM – an idealist trend in philosophy which regards will as the prime basis of all that exists in the world.

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