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Edited by

T. J. BLAKELEY



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PREFACE

The Soviet philosophical scene has experienced remarkable growth since the innovations of the 50's and the renovations of the 60's. This volume of *Sovietica* is intended by the editors as a finger on the pulse of the Marxist-Leninist *corpus philosophicum* as we enter the 1970's.

Published in the years between 1960 and 1970, the *Filosofskaja enciklopedija* (*FE*) has replaced the *Kratkij filosofskij slovar'* (Short Philosophic Dictionary: 1939, 1941, 1951 and 1954) and the *Filosofskij slovar'* (Philosophic Dictionary: 1963). It is an impressive work – 2994 pages in five volumes (I, 1960, 504 pp.; II, 1962, 575 pp.; III, 1964, 584 pp.; IV, 1967, 591 pp.; V, 1970, 740 pp.), with the editors and authors representing all the contemporary Soviet philosophers of note. The *FE* has been extensively reviewed in *Kommunist* (1972, 5, 119–127) and in *Studies in Soviet Thought* [beginning with *SST* 12 (1972) 4].

Restrictions of space have forced us to omit much that was originally to be included. The same limitations have obliged us to deviate from the initial methodological rule which was 'to include only complete, unabridged articles' – in order to avoid distortion by selection. Only two articles have been shortened: only the basic portion of 'science' has been included; we have dropped 'natural science', 'sciences on man and society', and 'classification of sciences' (a total of thirteen pages in Russian) – this last with regret and with apologies to Professor Kedrov. Secondly, we have omitted all the derivative forms of 'psychology' ('child psychology', 'psychology of labor', 'engineering psychology', 'space psychology', 'war psychology', 'comparative psychology', 'psychology of creativity' – a total of three pages in Russian). In all cases, we have omitted the bibliographies which follow each article.

The articles in this volume have been chosen with an eye to giving the reader an idea of the current state of the mainstream of contemporary Soviet philosophy. Therefore, we have not included any horrendous hack-work. On the other hand, we have left out much of the very sophisticated Soviet work on logic, information theory, etc.

The translation has pursued informativeness rather than rigid reproduction of sentences. The transcription is that of *SST*. Wherever possible, quotations have been rendered from existing translations (for example, from Tucker's *Marx-Engels Reader*, Norton).

Where we have had to do our own version of e.g., Lenin, the reference remains to the Russian (e.g., *Soč.*, t. 21, s. 35). A list of abbreviations follows. We would like to thank Ms. Kathleen Wright for her editorial assistance. Professors Richard T. DeGeorge and George L. Kline were kind enough to offer helpful suggestions for revising the translations.

ABBREVIATIONS

<i>CW</i>	Lenin, <i>Selected Works</i> in two volumes, Moscow, 1947.
diamat	dialectical materialism
histomat	historical materialism
s.	<i>stranicy</i> (pages)
<i>Soč.</i>	collected works
<i>SW</i>	Lenin, <i>Selected Works</i> in three volumes, Moscow, 1967.
t.	<i>tom</i> (volume)
<i>Works</i>	Lenin, <i>Collected Works</i> , in 46 volumes, Moscow, 1941–1967 (= <i>Soč.</i> in English).

THE BASIC QUESTION OF PHILOSOPHY

The basic question of philosophy is the question about the relationship of thought to being. "Philosophers fall into two large camps depending on how they answer this question" (Marx & Engels, *Soč.* 2, t. 21, s. 283) – the camp of *materialism* and the camp of idealism. Lenin developed the materialist answer to the basic question relative to history as follows: "Since materialism in general explains consciousness as the outcome of being, and not conversely, then materialism as applied to the social life of mankind has to explain *social* consciousness as the outcome of social being." (*Soč.* 4, vol. 1, p. 12).

When formulating the basic question Engels showed that it has another aspect, namely, the question about the intelligibility (knowability) of the world (cf. *Theory of Knowledge*). Depending on their answer to this question, philosophers fall into those who recognize and those who deny the basic intelligibility of the world (cf. *Agnosticism*). In his development of the basic question Lenin formulated the thesis on the social and epistemological roots of the false answer to the basic question. This thesis intends to discover the theoretical causes of an incorrect answer to the basic question or to its other aspect by one or another philosophic school and also to explain the concrete social ground for the generation of both agnosticism and idealism.

The basic question is directly or indirectly connected with problems of science. This connection becomes particularly apparent in times of crisis in science. The basic question is very important for methodology since its answer determines one's views not only on philosophy and world-view but also on problems of science, politics, ethics, art, education, law, etc. In *sociology*, the answer to it determines how one approaches problems of human history and its motive forces and of relating definite and indefinite structural elements of *society*.

The basic question serves as methodological ground for the introduction of the principle of *partisanship* into the consideration of scientific theories, into philosophy and into world-view in general. In other words,

answering the basic question of philosophy which provides a foundation for a scientific theory makes it possible to locate the place of this theory in the general line of the fight of conflicting world-views which runs through the history not only of science but also of the whole spiritual life of society (cf. *Materialism*).

In any science, one can distinguish certain fundamental questions which are essential at each stage of development. For example, in contemporary biology there are questions about the nature of viruses, the essence of anabiosis, the transmission of genetic information, etc. But, neither in biology nor in physics nor in any other science is there one question which determines all the others. For philosophy there has always been just one single basic question. The answer to it is a premiss, resulting from a choice in terms of one's world-view. The concrete forms of the answers to the basic question have varied over history. Nevertheless, it is certain that there has been an invariant in the question.

The essence and meaning of the basic question for the development of philosophy become clear in the investigation of the problems which depend on the answer thereto (e.g., problems of the material, of the ideal, of truth). Investigation of these problems leads to distinguishing two different, though interconnected, aspects of the relations of thought to being and consciousness to matter. The first aspect is ontological, where one asks about the emergence of consciousness as a property or function of matter (materialism) or takes consciousness as existing in the form of a spiritual substance (idealism). The second aspect is epistemological, where one sees the results of knowledge in terms of their source, abstracting from the conditions and modes of the material existence of knowledge and its process. These aspects are involved both in answering the basic question and in dealing with its other side. In the materialist answer to the basic question matter and consciousness are ontologically relative to each other and epistemologically mutually exclusive of each other. (cf. Lenin, *Works*, v. 14, p. 146-7 and 246).

The other side of the basic question stresses the epistemological aspect of the relationship of thought to being, which develops a doctrine on the paths, methods and modes of knowing the world. But, even here one can distinguish the ontological aspect in the form of a concrete, scientific grounding of the intelligibility of the world (e.g., from the viewpoint of the fundamental properties of matter: causality, necessity, the general

property of reflection, the psychophysiological properties and mechanisms of sensation and logical knowledge). Out of this interconnection of all sides and aspects of the basic question one can draw this conclusion: there is no ontology without epistemology.

An awareness of the importance of the basic epistemological question has been historically conditioned by different world-views and ideological questions. The question 'What is the relation of man to the world around him?' is the broadest question of *world-view* and is broader than the basic question. Within the world-view as a system of views, there is a certain theoretical core which at some moment becomes a philosophy. At the center of *ideology* stands the relation of man to social life, concretized in the form of definite tasks or goals of life. In pre-Marxist philosophy it was often this that was identified as the basic question. Thus, Hegel thought the main question of philosophy to be about human happiness. Rousseau thought it dealt with human inequality and ways of overcoming it. For Bacon it had to do with extending human power over nature by means of inventions. In Marxist thought the most important questions of ideology are quite distinct from the basic question.

The basic question is not always carefully formulated. If it is asked in the form of an alternative, then it can leave itself open to different answers. It seems that Plato originated the habit of counterposing philosophical systems to each other. This appears in the *Timaeus*: "But the whole Heaven or universe or whatever one calls it... has to be investigated... as to whether it always existed, or comes from some source." (Tim., 28, B).

A formulation of the basic question can be derived from some verses of Lucretius (cf. *De rerum natura*, V; 1207–12, I, 112–117). The basic question is found in Lactantius who called it "first by nature", in Berkeley (cf. "Three Dialogues..."), and in other idealists. The direct formulation was provided by the French materialists of the 18th Century.

Hegel's formulation can be taken to be the first classical version, although he distinguished 'realism' from idealism. In Feuerbach's *Lectures on the Essence of Religion* he notes that "the whole history of philosophy has revolved around the question... on the relation of the spiritual to the sensual". However, neither one of them designated the basic question as the most basic of all philosophical questions. Engels was the first to do this in *Ludwig Feuerbach*. The answer to the basic question determines

the character of a philosophic system and the meaning of the questions it considers (e.g., questions on the immortality of the soul, the creation of the world, etc.); it affects the view of knowledge, of social life and of the process of philosophical development which a certain philosophical approach can attain.

In contemporary bourgeois philosophy there is a tendency to eliminate the two basic parties in philosophy and to constitute a third force by recognizing philosophical neutrality and by declaring the basic question to be a 'pseudo-problem' (Russell, Schlick, Carnap, Wittgenstein). To a certain extent this is not limited to neopositivism but extends to existentialism, pragmatism, and neo-Thomism. Such an approach is unsatisfactory since the basic question is a dilemma which has to be solved by every philosophic system. The problem does not lie in the basic question but in the answer to it. It is only after the solution of the dilemma that one can take up the questions (and/or pseudo-questions) which arise. Therefore, the third path is not the elimination of the basic question but an idealist answer to it by the party of the center "... oscillating between materialism and idealism" (cf. Lenin, *Works*, v. 14, p. 130). Sometimes one hears it said that the asking of the basic question is not enough to make it the central concern of contemporary philosophy, which has more important problems, e.g., the question of *man*. Such a view is unacceptable. No matter how philosophical problems change in form, they always reduce to the question of *truth*, i.e., to the basic premisses of all thinking and, therefore, to the basic question. The question of man, in particular can be considered on the basis of either an idealist (e.g., *existentialist*) or a materialist answer to the basic question, since the latter determines how one takes up the question of man.

A. SPIRKIN

DIALECTICAL MATERIALISM

I. THE OBJECT OF DIALECTICAL MATERIALISM

Dialectical materialism, the philosophy of Marxism, is the world-view of the working class. As the basically scientific and uniquely true philosophy, diamat currently constitutes the progressive world-view of all of progressive humanity. Diamat is the science which studies the relationship of knowledge to the objective, material world, as well as the most general laws of the movement and development of nature, society and thought. The philosophy of Marxism is called diamat because it represents the organic unity of *materialism* and the *dialectic*. It is called *materialist* because it begins with the recognition of matter as the unique basis of the world, while it sees consciousness as a property of highly organized matter, as a function of the brain, as a reflection of the objective world. It is called *dialectical* because it recognizes the general *interconnection* of objects and phenomena in the world, as well as the *movement* and *development* of the world as the result of the internal *contradictions* at work therein.

Diamat reflects the most general laws of being and knowledge in a system of categories. It is a complete system of philosophical knowledge – a *world-view*. Since, at the same time, this world-view correctly reflects the laws of the development of being and knowledge – with a definite orientation toward concrete scientific research and transformatory revolutionary practice – Marxist philosophy reveals itself as a scientific *method* for knowing and changing the world. All the basic theses of Marxist philosophy – those of materialism as well as those of the dialectic – form, when taken together, the scientific world-view and are constitutive parts of the sole philosophical method for investigation and revolutionary transformation of the world. The world-view is not just materialism but also the dialectic: the method is not just the dialectic but also materialism. The Marxist-Leninist dialectic is inconceivable without the materialist understanding of nature, society and knowledge. Outside of a consequent materialism, there is no scientific dialectic which

is essentially counterposed to idealism. A consequently dialectical understanding of the materiality of the world is, for example, incompatible with the idealist assertion that the motive forces of the world's development are to be found outside of the world. The scientific dialectic detects these forces within the material world itself, in the form of the intrinsically contradictory nature of things; the movement and development of matter are seen as its *self-movement* and *self-development*. On the basis of the data of science and of social practice, a consequently materialistic solution to the basic question of philosophy also inevitably leads to a *dialectical* explanation of the process of knowledge. As secondary to matter, consciousness is a property of highly organized matter, arising at a certain stage in its development and being perfected through the material practice of people.

Metaphysical materialism suffers from inconsistency and bias. It always has led and leads in the end to the need to postulate an immaterial source of movement, i.e., to idealism. Any idealism is basically metaphysical since it separates from matter and absolutizes such properties of highly organized matter as consciousness, thought, etc. Typical of metaphysics is a stress on dualism and an exaggeration of some aspect of things and phenomena of the world – their permanence, changeability, relative independence, etc. This leads to an epistemological rift between the general and the particular and between the property and its bearer – both of which are sources of idealism.

II. THE ORIGINS OF DIAMAT

Marxism as a whole and diamat as its constituent part arose in the 1840's, when the proletariat emerged on the historical scene as a new political force. The formation of diamat was a predictable phenomenon, conditioned by social-economic factors and by the whole previous development of science and philosophy. The emergence of diamat was the scientific answer to questions posed by the whole course of the development of social practice and by the internal logic of the development of human knowledge. The establishment of Marxism was prepared by the Lyon riots, the Chartist movement and the Silesian uprising. The proletariat's class-war for its social emancipation and for Communism obviously demanded knowledge of the laws of social development. But,

the resolution of all the tasks facing man was impossible without the materialist dialectic and the materialist conception of history.

The founders of diamat – Marx and Engels – thoroughly analyzed social reality, critically assessed and assimilated all that had been accomplished in philosophy and in the natural and social sciences, thus establishing a qualitatively new world-view. This world-view of the working class is the philosophical ground of the theory of scientific Communism and of the workers' revolutionary practice. Diamat was developed in fierce battle with various forms of bourgeois world-view.

The basic theses of diamat were developed by Marx and Engels in works such as: *The Holy Family* (1844; published in 1845); *Theses on Feuerbach* (1845; published in 1888); *The German Ideology* (1845–6; published in 1932); *The Poverty of Philosophy* (1847); *Manifesto of the Communist Party* (1847–8); *Critique of Political Economy* (1858–9); *Capital* (vol. 1, 1867; vol. 2, 1885; vol. 3, 1894); *Anti-Dühring* (1876–8); *The Origins of the Family, Private Property and the State* (1884); *Ludwig Feuerbach and the End of Classical German Philosophy* (1886); *Dialectic of Nature* (1873–83, 1885–6; published in 1925), etc. Many important theses of diamat were also developed in their manuscripts and letters.

The immediate conceptual sources for the doctrines of Marxism are to be found in the philosophic, economic and political ideas current at the end of the 18th Century and the beginning of the 19th Century. Marx and Engels creatively transformed the idealist dialectic of Hegel and the materialism of Feuerbach – the latter representing the stage to which materialism had then progressed. They discovered in the idealist dialectic of Hegel the revolutionary aspect, namely, the idea of development and of contradiction as its moving force. Using the data of science, practice and social life, Marx and Engels showed the primacy of matter and of material relations and the secondary character of consciousness and ideal relations.

The ideas of the classical political economists (Smith, Ricardo, etc.), the works of the utopian socialists (Saint-Simon, Fourier, Owen, etc.), and the French historians of the Restoration (Thierry, Guizot, Migne) were important in the formation of Marxism. The development of diamat was tightly bound up with the discovery and elaboration of the laws of social development through the generalization of historical experience – especially that of the revolutions of 1848–49.

The scientific advances of that time played a large part in the formation of diamat. Idealist presuppositions kept classical German philosophy from answering the questions asked by science. Metaphysical materialism was equally impotent. The processes occurring in science were spontaneously dialectical and their explanation required an elaboration of the materialist dialectic. Marx and Engels used the vast arsenal of scientific fact to uncover the interconnections between whole ranges of scientific activity – between mathematics, mechanics, physics, chemistry, biology, social sciences, epistemology – and to present nature and society as a single, massive process, subject to general developmental laws, while thought appears as a reflection of this process on the basis of practice.

The dialectical laws which Hegel had discovered and then mystified were rediscovered by Marx and Engels in social and natural actuality: “... in nature the same dialectical laws of motion assert themselves in the maze of innumerable changes as dominate the seemingly accidental events in history” (Engels, *Anti-Dühring*, Chicago, Kerr, 1935, p. 8).

Since diamat is the generalization of the developmental history of social practice and scientific knowledge, its emergence represents a basic revolution in the history of human thought. The salient traits of this revolutionary move by Marx and Engels are: the establishment of the proletariat’s world-view; the extension of materialism to the understanding of the history of society; the materialistic grounding of the role of social practice; the achievement of the unity of theory and practice; the organic uniting and creative elaboration of materialism and the dialectic as expressed in the establishment of diamat. “The application of the materialist dialectic to the reworking of the whole of political economy and on this basis its application to history, science, philosophy, politics and the tactics of the working class – this is what interested Marx and Engels most of all; this is where they made their essential contribution; and this was their step forward in the history of revolutionary thought.” (Lenin, *Soč.* 4, t. 19, s. 503).

The greatest accomplishment of human thought is the elaboration of historical materialism. It alone makes possible the scientific explanation of the role of social practice in knowledge. The introduction of the criterion of practice into epistemology can happen only when accompanied by a scientific explanation of the premisses for the basic objective conditions of human history. Marx and Engels showed that

people begin their history not with a theoretical relationship to reality but with practical activity on it; i.e., theoretical activity is derived from practical activity. Since it is the keystone of the materialist conception of history, social practice becomes the ground of epistemology. On the basis of its discovery of the role of social practice in the formation of knowledge, Marxism can go further than its predecessors in comprehending the dependence of thought on being and, therefore, in solving the problem of the active character of knowing. "Theory itself becomes a material force when it has seized the masses." (Tucker p. 18)

Marxism overcomes the limitations of previous materialisms, where being only appeared as object, leaving the subject totally in the clutches of idealism. Idealism absolutized the active role of the subject, seeing it as constituting the world. Marxism views social being not only in the form of the object – standing over against man – but also in the form of the subject, i.e., as the concrete, historical and practical activity of man. Such an understanding of practice puts epistemology on a scientific footing and replaces the abstract approach with the materialist view of human relations as purely natural. (cf. Marx and Engels, *Soč.* 2, t. 3, s. 3).

In the teachings of metaphysical materialism the world appeared as split into two spheres, nature and society. Marxism revealed the tremendous role of human society in the transformation of nature. Feuerbach "did not notice that the sensuous world around him is not eternally given and constant but the product of industry and the social situation..." (Marx & Engels, *ibid.*, s. 42).

The scientific response to the question on the interconnection of thought and being on the basis of social practice, where their unity is realized, established the epistemological premisses for the method of *diamat*. "My own dialectical method is not only fundamentally different from the Hegelian dialectical method, but is its direct opposite. For Hegel, the thought process (which he actually transforms into an independent subject, giving to it the name of 'idea') is the demiurge (creator) of the real; and for him the real is only the outward manifestation of the idea. In my view, on the other hand, the ideal is nothing other than the material when it has been transposed and translated inside the human head." (Marx, *Capital*, Everyman, p. 873).

Marxism asked anew the question about the intelligibility of the world. While objective idealism 'deduced' the intelligibility out of the identity

of thought and being, Marxism derives the knowability of the world from the *unity* of being and consciousness, *viz.* from social practice, whence this unity comes and where it is actualized. Man knows the world in transforming it. "Man must prove the truth, that is, the reality and power, the this-sidedness of his thinking in practice." (Tucker, p. 108).

Knowledge which is grounded in the transformation of reality gains enormous power which is reflected in new transformations. Marxism puts forward social practice as the keystone of the theory and history of knowledge. Marx showed that it is in the course of the changing of objects in social labor that the subject and his knowledge are formed. Marxism thereby conceives the process of knowledge as a social and historical development.

Marxism was the first to ground theoretically and to accomplish practically the unity of theory and practice. By deriving theory from practice, the former was made subject to the revolutionary transformation of the world. This is the sense of the famous eleventh thesis on Feuerbach: "The philosophers have only *interpreted* the world, in various ways; the point, however, is to *change* it." (Tucker, p. 109).

Transformation of the world presupposes the prediction of objective trends in its development and knowledge of its laws. Strictly scientific prediction of the future of human orientation thereto are characteristic traits of Marxist philosophy. Marxism, therefore, appears today not as a historical given but as the starting point of a progressive process where at a certain stage the proletariat takes on the role of a revolutionary transformer of society, and that of a creator and bearer of Communist relations of production.

The main difference between the philosophy of Marxism and all previous philosophical systems lies in the fact that its ideas penetrate the working masses and are actualized by them; it develops on the basis of the historical practice of the masses. The world is changed by the revolutionary practice of the masses, inspired by Marxist ideas. "Just as philosophy finds its *material* weapons in the proletariat, so the proletariat finds its *intellectual* weapons in philosophy." (Tucker, p. 23).

Marxist philosophy reflects the situation of the working class, i.e., its material and spiritual interests and its historical tasks; it is an emancipatory world-view. It was this new doctrine, based on knowledge of social life and its development, that guided the working class in the revolu-

tionary transformation of society and in the establishment of a new, Communist society. The necessity of revolutionary practice flowed from the revolutionary essence of a theory which itself was the scientific generalization of revolutionary practice. Marxist philosophy is intertwined with revolutionary activity and its creators are the ideologists and political leaders of the proletariat.

After the deaths of Marx and Engels, much was done to spread and defend diamat by their followers in various countries: Franz Mehring in Germany; Paul Lafargue in France; Antonio Labriola in Italy; and George Plekhanov in Russia, who brilliantly criticized idealism and philosophic revisionism. Lenin considered Plekhanov's works to be the best presentation of Marxism at the turn of the century. Lenin himself has a special place in the history of the creative development of Marxist philosophy.

III. THE LENINIST STAGE IN THE DEVELOPMENT OF DIAMAT

At the turn of this century, capitalism entered its highest and final phase – the era of imperialism and proletarian revolution. With the development of an industrial proletariat in Russia, the country was driven toward a bourgeois-democratic revolution. Under these conditions, the center of the world revolutionary movement shifted from Western Europe to Russia and the hero of the Russian proletariat, Lenin, became the hero of the international proletariat, as well as the founder of Leninism which is the Marxism of the contemporary scene. This new, Leninist stage in the development of diamat is marked principally by the universal generalization of the revolutionary practice of the proletariat in the era of imperialism and of the socialist revolution. Diamat received further grounding and development in the works of Lenin through his generalization of the most recent accomplishments of science. The basic theses of diamat were presented by Lenin in: 'What is "Friends of the People" and how do they Oppose Social Democracy?' (1894); 'The Economic Content of Narodničestvo and its Critique by Struve' (1894–5); *The Development of Capitalism in Russia* (1896–99); *Materialism and Empirio-Criticism* (1908; published in 1909); *Philosophical Notebooks* (1914–16; published 1929–30); 'Karl Marx' (1913); *State and Revolution* (1917); 'The Infantile Disorder of "Leftism" in Communism' (1920); 'Once more on the Trade-

Unions' (1921); 'On the Importance of Militant Materialism' (1922), etc.

The defence of diamat against revisionism, the exposure of bourgeois ideology and the creative development of diamat – all of these were tightly bound up with Lenin's elaboration of the theory of socialist revolution, the doctrine of dictatorship of the proletariat, of the revolutionary party, of the union of the working class with the peasantry, of the socialist state, of the construction of socialism and of the transition from socialism to Communism.

Lenin's elaboration of diamat was organically involved with an application of the dialectical method to the concrete analysis of the achievements of science. Lenin revealed the philosophic content of the revolution in physics and simultaneously further developed Engels' assertion that metaphysics and idealism exercise a braking effect on modern science. Generalizing the latest accomplishment of science from the viewpoint of diamat, Lenin was able to explain the causes of the crisis in physics and to point to the way of overcoming it. "The basic materialist spirit of physics, as of all modern science, will overcome all crises, but only by the indispensable replacement of metaphysical materialism by dialectical materialism." (Lenin, *Works*, v. 14, p. 306).

Of essential methodological importance are Lenin's theses on the inexhaustibility of the atom and on the unlimitedness of the knowledge of matter (from above and from below). By developing diamat in conceptual conflict with reactionary idealist philosophies, Lenin was able to deepen the understanding of the basic categories of the materialist dialectic (e.g., matter and the forms of its movement; space and time; causality; freedom and necessity; possibility and actuality; form and content, etc.).

Using his generalizations of the achievements of science, philosophy and social practice, Lenin formulated a definition of matter which brings together its epistemological and ontological aspects. Lenin wrote that "the *sole* 'property' of matter with whose recognition philosophical materialism is bound up is the property of *being an objective reality*, of existing outside the mind." (Lenin, *Works*, v. 14, pp. 260–261). "Matter is a philosophical category denoting the objective reality which is given to man by his sensations, and which is copied, photographed and reflected by our sensations, while existing independently of them." (*ibid.*, p. 130).

Such an understanding of matter is not connected with any specific and historically transitory conception of the structure and transitional

forms of matter; it is inevitably bound up with all the concrete forms of the movement of matter, including the social (cf. *Society*). This definition contains both the counterposition and the unity of matter and consciousness. Lenin's definition sums up the materialist solution to the basic question of philosophy and the dialectical understanding of the development of matter and consciousness. Lenin stressed that matter existed before the appearance of consciousness and possessed a property which was only analogous to sensation, i.e., reflection. This led Lenin to assert that between inorganic and organic nature there is no insuperable barrier and, therefore, the emergence of life from the non-living is no paradox.

Lenin further developed the notion of the law of the unity and conflict of contraries as a basic law of the objective world and of knowledge, and as the heart and core of the dialectic. He formulated important theses on the two conceptions of development (increase and decrease; inversion; bifurcation and interlacing of opposites, etc.).

Lenin carried out a systematic elaboration of the basic problems of epistemology. He used the most recent results of science to support the materialist answer to the basic question of philosophy and he advanced the doctrine on the intelligibility of the world further along its way. He exposed the philosophical content of the erroneous *theory of hieroglyphs*. Stressing that sensation and consciousness are images of matter in motion, Lenin showed that the image necessarily presupposes both the reality of what is reflected and a correspondence between the reflection and the reflected, while the hieroglyph not only ignores resemblance between sign and designatum but also presupposes the possibility that signs of symbols 'indicate imaginary objects'. (*ibid.*, p. 234).

Lenin creatively developed the Marxist doctrine on the role of social practice in the theory of knowledge, stressing that "The standpoint of life, of practice, should be first and fundamental in the theory of knowledge." (*ibid.*, p. 142). Lenin highly prized revolutionary theory as a summation of human practice.

In his analysis of the basic stages of human knowledge, Lenin considered practice to be the basis of the whole process of knowledge and to be the criterion of truth. On this basis he showed that knowledge passes from living contemplation to abstract thought and thence to practice; i.e., that human consciousness is *active* because it not only reflects the world but also, as a component of human practice, takes part in its revolutionary

transformation. Lenin provided a complete analysis of the dialectic of the individual, the particular, and the general both in the objective world and in knowledge. Using the case of capitalism in Russia, he concretized the Marxist method of ascent from the abstract to the concrete. In his elaboration of a theory of knowledge, Lenin always paid special attention to the dialectic of the transition from inanimate matter to matter endowed with sensation, from sensation to thought, to the interpenetration of concepts and to their plasticity which extends to their contradictoriness. All the time, Lenin was fighting *relativism* and sophistry which turn the dialectic into its opposite.

In the course of his critique of Machism as subjective idealism and absolute relativism, Lenin formulated his doctrine on objective, relative and absolute truth and showed their dialectical interconnection. A central position in Lenin's doctrine about truth is occupied by the problem of *concrete* truth. Lenin taught that "the very core and living soul of Marxism is the concrete analysis of the concrete situation". (Lenin, *Soč.* 4, t. 31, s. 143).

The dialectical approach to knowledge consists above all in the historical approach thereto. In his elaboration of epistemology Lenin paid particular attention to the need for a historical approach to knowledge, and for a study of the forms of thought in conjunction with their content – which is why he formulated the basic thesis on the unity of the dialectic, logic and theory of knowledge. Along the way, he defined the basic principles of dialectical logic and showed the way to an investigation of the problems of the historical sequencing of conceptual categories. In a few words he drew up the program for the development of dialectical logic and epistemology: the history of philosophy, the history of the sciences, the history of infantile mental development, the history of animal psychology, linguistics, physiology and psychology – all of these make up dialectic and epistemology. (cf. *Philosophical Notebooks*, p. 301). Repeatedly and forcefully, Lenin stressed the need for a critical study and a dialectical elaboration of the history of human thought, science and technology. According to Lenin, the historical method forms the very heart of dialectic. "The whole spirit of Marxism and its whole system require that each thesis be regarded (a) historically, (b) in connection with others, (c) in conjunction with the concrete experience of history." (*Soč.*, t. 35, s. 200).

Lenin thought it necessary not to forget the basic historical connections, to search out how certain phenomena came to be, how they went through the main stages of development and where they are now. This applies to any object of knowledge, including knowledge itself which is understood through its stages. All the basic theses of diamat received creative treatment at the hands of Lenin.

In the development of the Marxist-Leninist world-view, as a whole, and in that of diamat, in particular, a large part has been played by the decrees and publications of the congresses, plena, etc., of the CPSU. This is particularly true of the *Declaration* of the 20th Party Congress. With its inauguration of the accelerated construction of Communism in the U.S.S.R., the 21st Party Congress contributed mightily to the development of diamat. Among the theoretical theses contained in Krushchev's speech, we find: the necessary transition of socialism into Communism (i.e., the objective and law-bound character of this process); the final victory of socialism in the U.S.S.R.; the material-technological base of Communism; the paths of development and of the convergence of the two forms of socialist property; the disappearance of essential differences between mental and physical labor; the gradual development of socialist legality and Communist self-control; the extension of the law of planned, proportional development to the socialist world-system; the lack of the fatal necessity of war under current conditions, etc.

Marxist philosophers in socialist and other countries are currently developing diamat on the basis of the data of science and of social practice. This development of diamat is, in effect, the work of the whole international working movement.

IV. MATTER AND CONSCIOUSNESS

Diamat begins with the recognition of the primacy of matter and the derived character of consciousness. The world is *matter* in motion. Matter's being has an absolute character. Matter cannot be created or destroyed; it is eternal and infinite. Throughout the constant changes of relative properties and existential forms, the universal existential forms, like motion, space, and time remain. The world is the various *forms of the motion of matter*, infinite in space and time.

The world appears as infinitely variable: organic and inorganic na-

ture; mechanical, physical and chemical phenomena; the life of plants and animals; the life of society; man and his consciousness. However, underneath all this variety, the world is *one*, since everything that is found in it is one or another form, type or species of matter in motion. In the world there is not nor can there be anything but various states, properties, relations, etc., of matter. It is matter that forms the unity of the whole of what is.

The data of contemporary science show that the various processes (mechanical, physical, chemical, biological and social) going on in the world are not fixed and mutually exclusive. They can all be transformed into others; i.e., they are interrelated, interconnected, etc.

The material unity of the world is evidenced in the fact that all objects and processes in the world are subject to certain general laws, which appear somewhat as endless threads which bind all into one whole. The unity of the world would be impossible if any phenomena fell outside the range of the general laws.

The unity of the world also consists in the fact that the psyche (consciousness) does not belong to some transcendent world but to the material world itself, being a special property of highly organized matter. Consciousness (the psyche) appears as a higher and qualitatively new link in a series of properties of the material world.

The material world has its own history, in the course of which the planet Earth saw the transition from inorganic to organic (in the form of the plant and animal worlds) and, finally, to man and society. Matter, existing before the appearance of consciousness, possessed in the 'base' some property analogous to sensation; this reflective property is at the animate level *irritability*, sensation, perception, and the elementary intellect of higher animals. With the coming to be of human society, the social forms of the motion of matter arise and their bearer, *man*, possesses consciousness and self-consciousness. Having developed to a higher stage, the world conserves its material unity. In other words, thought (consciousness) is inseparable from the matter that thinks.

The problem of the relationship of consciousness to matter is the *basic question of philosophy*, i.e., the central point for the solution of all other philosophic questions – especially those of *diamat*. This question has always been at the center of philosophic concern. A philosophical system takes its configuration from its answer to this question. The two

basically irreconcilable configurations are *materialism* and *idealism*.

According to diamat, consciousness is a function of the brain and a reflection of the objective world. Sečenov and Pavlov scientifically demonstrated that consciousness is a psychic process that is reflective in its physiological base. This means that consciousness is determined by natural and social actuality which exist outside of the brain. The process of recognition of the world and of thinking in general arises and develops in the process of man's real interaction with the world through his social relations, and serves to perfect and to regulate these relations. This means that outside of epistemology consciousness is not opposed to matter and "that the difference between the ideal and material... is not unconditional or absolute". (Lenin, *Filosofskie tetradi*, 1947, s. 88).

However, the ontological characterization of consciousness has to be understood in the light of its epistemological nature. Objects with their properties and relations are reflected in the brain, existing in the form of images, i.e., ideally. The brain is *not the source but the organ* of consciousness. In other words, it is the part of the body where an impinging object is transformed, receiving an ideal existential form. The ideal is neither a separate substance nor an epi-phenomenon of material processes in the brain, but the product of cerebral activity. It is the subjective image of the objective world.

The question of the relationship between consciousness and matter involves not only the primacy of one over the other but also the explanation of the possibility of human knowledge of the world. Some philosophers express doubts about man's ability to arrive at correct knowledge; some, the *agnostics* (i.e., sceptics) even deny this ability. Materialism accepts as basic that we know the world and that science produces ever more profound knowledge of the laws of being. Cognitive possibilities are unlimited because the very process of knowing is unlimited.

V. THE DIALECTIC OF THE COGNITIVE PROCESS

Diamat begins by asserting that knowledge is the reflection of the world in the consciousness of man, and that this reflection involves the changes of the object of knowledge in the course of social practice. Essential to diamat's *Theory of knowledge* is the materialist answer to the question of the relationship between thought and being, and the recognition of social

practice as the basis of knowledge. Practice involves the interaction of man with his environment through relationships with his fellow man in concrete, historical conditions. Under practical activity are included the productive activity of producing and reproducing material existence as well as class-war in exploitative society, scientific experimentation, etc. Practice is the basis for the formation and development of knowledge at all its stages; it is the source of knowledge; it is its basic stimulus and goal; it forms the sphere of application of knowledge and the criterion of truth and 'it defines the link of the object with what is needed by man'.

Man's practical activity is necessarily connected with his cognitive activity. In his practical activity, man can achieve his goal and transform the object according to this goal only by making the activity conform to the nature of the object. Achieving this conformity requires knowledge.

The initial stage of knowledge is sense-knowledge (cf. *Sensation, Perception, Representation*). Everything that reaches the level of theory is transformed data of sensation. Sense-knowledge is organically bound up with logical thought and is the product of history. In the process of a social production which becomes ever more complex (new relations are revealed; new objects and processes become involved, etc.) man discovers new things, properties, relations between things, between people, etc. In the course of historical development both the object and subject of perception change. "An eye becomes a *human* eye precisely when its object is a social, human object, made by man or for man. Therefore, the senses are in their very activity *theoretical*." (Marx & Engels, *Iz rannix proizvedenij*, 1956, s. 592)

The process of knowledge begins with sensation and perception, i.e., with the sense level, and rises to the level of abstract, logical *thought* which transcends the limits of sensation without ever being severed from it. The transition from sense-knowledge to the logical level is a leap from knowledge about the individual, contingent, and external to knowledge about the general, essential, and law-bound; the transition is from concrete forms of reflection to those which are free of 'sensible stuff'. In thought there is the transformation of intuition and representation into concept, and the properties and relations which were concealed in sensation are brought to consciousness.

Though they are qualitatively different stages in the process of knowledge, sense-knowledge and logical thought are intimately united in one,

continuous process of knowledge. There can be no absolute limit between sense-knowledge and logical knowledge any more than there can be between internal and external properties and relations, or between chance and necessity and other such categories.

It is through language, which is involved in all cognitive processes, that generalized knowledge (derived from social practice) is included at the sense level. Man's thought begins with and returns to sensation. The objective foundation both for the unity of and for the differences between sense-knowledge and logical knowledge is to be found in the real unity and difference in the external and internal aspects of being, in appearance and essence, in form and content, etc. Diamat rids itself of the limitations of *sensualism* and *intuitionism* – which denigrate rational knowledge – and of *rationalism* – which ignores the importance of sense-knowledge.

Human knowledge is a historical phenomenon – accumulated over generations and fixed in language which is intimately bound up with thought (cf. *Thought and language*). The individual's knowledge of the world is mediated by mankind's knowledge of the world. The thought of contemporary man is a product of history and its particularities have been accumulated over the course of social practice which is also a historical phenomenon. The practice of contemporary society obviously differs from that of a slave-holding society and their respective ways of thinking are also essentially different.

Thought – like its basis, practice – is a social phenomenon. Nature has revealed and continues to reveal its 'secrets' to the thought of man not 'one after the other' but through ever more complex forms of human social relations. It is the historicity of human knowledge and of the object of knowledge that make the historical method necessary. This method is found in dialectical unity with the logical method (cf. *Logical and historical*).

Comparison, analysis, synthesis, generalization, abstraction, induction and deduction are the necessary methods of knowledge, appearing differently at each period in the history of thought's development. All of these methods are born from man's practical operations and function in intimate unity. Where they end, thought (i.e., sensation) begins not as an agglomerate but as a differentiated unity of the various parts, which makes up concrete knowledge and is expressed in the definition of the object (cf. *Ascent from abstract to concrete*).

Thinking as a process of reflection of the world has as its result certain thoughts which are logically interconnected. Various conceptual methods and modes reflect various forms of thought (cf. *Concept, Judgement and Reasoning*). One of the tasks of epistemology is to study the formation and laws of development of the forms of thought, revealing their objective content and dialectical interconnections in the process of knowledge.

Human knowledge is the process of man's cognitive penetration into the object, and the goal of it is *truth*, i.e., correct reflection of the object. If the results of the process of knowledge constitute an adequate reflection of things, properties and relations, they will always have objective content and will be *objective truth*, which is not reality itself but the objective content of the cognitive results. In the concept, objective truth receives its most concentrated expression as the epistemological unity of consciousness and the objective world.

Human knowledge cannot all at once completely reproduce and exhaust the content of the object. Every theory is historically conditioned and thus contains not complete but *relative truth*. But, human knowledge can exist only as the thought of past, present and future generations; in this sense the cognitive possibilities are unlimited. Knowledge is the development of truth. Truth is the resultant of a historically conditioned stage in a never-ending process, made up of stages. Truth as a process can, therefore, only be the continuously accumulating stages. As historical, truth passes through certain stages and because of its ever closer approximation to complete knowledge, diamat rejects *relativism's* extreme claim about the non-objectivity of human knowledge.

Alongside its general traits, every object has unique properties and its own 'milieu'. Every social phenomenon is conditioned by a unique space and its own time. This makes necessary a concrete approach to the object of knowledge – reflected in the principle: there is no abstract truth; *truth is always concrete*. Full knowledge requires viewing the object under all of its own conditions. Implicit in this is the principle that changing objects (and all do!) cannot be reflected in rigid categories. What is more, the concreteness of truth mainly requires completeness and exhaustiveness in the study of the object, including study of the object in process of change – meaning that there has to be a deepening and constant extension of knowing. Lashing out against mistakes in this regard, Lenin wrote that "...any truth, if 'overdone' ..., if exaggerated, or if carried

beyond the limits of its actual applicability, can be reduced to an absurdity, and is even bound to become an absurdity under these conditions.” (Lenin, *SW*, vol. 3, p. 372)

The truth of the results of human knowledge is confirmed by social practice which, in turn, is the ultimate goal and basis of human knowledge. Diamat’s doctrine on the knowability of the world is one of the most important principles of the world-view and method of the working class and its party.

VI. THE DIALECTIC AS LOGIC AND THEORY OF KNOWLEDGE

The dialectic as the science on the universal forms and laws of development of the objective world is found in intimate unity with logic and the theory of knowledge. The objective ground of this unity is to be found in that of the laws of being and thought. Developed on a materialist base, the dialectic provides a scientific solution to problems which had hitherto been separated from the dialectic and isolated into the fields of logic and epistemology. Following the lead of Engels, Lenin asserts that diamat does not need a philosophy standing above the sciences. “From previous philosophy there remains ‘the science of thought and its laws – formal logic and dialectics’. Dialectics, as understood by Marx, and also in conformity with Hegel, includes what it now called the theory of knowledge, or epistemology, which, too, must regard its subject matter historically, studying and generalising the origin and development of knowledge, the transition from *non*-knowledge to knowledge.” (Lenin, *SW*, vol. 1, p. 11)

Lenin repeatedly asserted that the dialectic is also the theory of knowledge of Marxism and that the latter is a logic, i.e., ‘the science not of external forms of thought, but of the laws of development ‘of all material, natural and spiritual things’, i.e., of the development of the entire concrete content of the world and of its cognition, i.e., the sum-total, the conclusion of the History of knowledge of the world.’” (Lenin, *Works*, v. 38, pp. 92–93). It follows from the *materialist* understanding of thought (as always correlated with its object) that epistemology and dialectical logic can be developed only in connection with the study of the material world. Dialectical logic studies not thought in and of itself but the most completely generalized content of the forms and laws of

thought in their relationship to the objective world, or the basic existential forms and laws of development of the objective world in their relationship to thought. It follows from *dialectically* understood thought that the study thereof has to include the historical consideration of the content, forms and laws of thought on the basis of the development of social practice. The task of dialectical logic is to study how the dialectic of being (of nature and of society) is reflected in the dialectic of thought and how motion, development, etc., are expressed in a logic of concepts and categories. Dialectical logic is the application of all the basic theses of dialectics to thought as the scientific reflection of reality in man's consciousness. Dialectically interpreted thought requires a concrete and historical study of the content, forms and laws of thought on the basis of the development of social practice, as well as an explanation of how concepts flow from each other, how the categories are interrelated, etc. Dialectical logic reveals the whole set of relations between theory and practice in their emergence throughout the historical development of the various stages and degrees of knowledge. Dialectical logic is nothing less than the history and process of knowledge seen logically. Alongside dialectical logic, there is formal *logic* which studies laws of inference and forms of proof.

While dialectical logic is the theory of the emergence and the historical development of the logical forms of thought in unity with their content and therefore includes a disclosure of their internal contradictions, formal logic abstracts from the historical development of thought, treating it as something given and fixed in isolation from contradiction and movement. Formal logic sees contradictories as incompatible opposites; dialectical logic develops conceptual methods where the contradictions exist in the object of thought. Whereas dialectical logic studies the entire process of the development of knowledge as a whole, formal logic limits itself to a fixed stage and aspect. Therefore, it cannot replace dialectical logic but only limits it. The laws of dialectical logic and the laws of formal logic are simultaneously at work in the process of knowledge. But, the formal-logical laws are insufficient for scientific knowledge which is spontaneously or intentionally guided by the materialist dialectic.

VII. THE CATEGORIES AND LAWS OF THE DIALECTIC

The materialist dialectic is the doctrine on the most general laws of the

development both of the external world and of human consciousness. These laws are reflected and fixed in the form of a system of categories. A category is the most general and basic concept and at the same time the essential definition of the forms of being and relations of things. Categories express the universal forms of the generalization of being and knowledge. Since all categories are interconnected and gradually develop and in their development are subject to the basic laws of the dialectic, it follows that the laws of the dialectic reflect the relations between categories (as general aspects and relations of things). For example, the relationship between content and form, essence and appearance, necessity and chance, are – as regards their specific nature – manifestations of the action of the law of unity and conflict of contraries. As results of the knowledge of the objective world, categories are presuppositions and, taken as a set, they constitute the universal method of scientific research. However, it is clear that not all categories and laws play the same methodological role. Categories like causality, development, contradiction, law, are not simple universal forms of human thought but are also the basic principles of the knowledge of the world.

As results of generalization, categories express past practice and as tools of knowledge they serve present and future practice. Categories develop in conjunction with the movement of reality and the development of human knowledge. By reflecting changing reality the categories further the development and enrichment of knowledge.

If one is taking an objective view of the world as a whole, then there is no question of the gradual formation of the categories as basic and general properties and relations of things. Quality, quantity, causality, law, etc., coexisted always. Only an idealist logic could think that the categories came to be in sequence along with things and relations. Such was the procedure of Hegel on the basis of his idealist identification of thought and being and his recognition of reason as the ground of the world.

As distinct from objective idealism, *diamat* starts out from the *unity* of being and consciousness – which also requires that there be common laws for the objective world and for consciousness, but that they differ. *Diamat* rejects apriorism in the treatment of categories, such as would create an unbridgeable gap between being and thought as distinct substances. *Diamat's* analysis of the categories is based on the principles of

the Marxist-Leninist theory of reflection and of the dialectic. For diamat, the investigation and the exposition of the categories has to be based on the unity of the logical and historical methods which, in turn, expresses the objective logic of the relations of things and their development – thus developing in them the whole richness of definition in connection with all the relations they form, so that “... the course of abstract thought, moving from the simple to the complex, corresponds to the real historical process.” (Marx & Engels, *Soč.* 2, t. 12, s. 728–729).

It is the connection and interpenetration of the categories in logical form (obviously, quite conditionally with some distortions) that reflects the historical course of the development of the knowledge of the object and the logical sequence of the steps in the process of knowledge.

In the system of the materialist dialectic every category is in a more or less carefully defined historical and logical place. It is a generalized expression of the corresponding stage in the development of knowledge about the world. Lenin considered the categories to be steps or nodal points in knowledge of the world. “The history of thought from the standpoint of the development and application of the general concepts and categories of the Logic – voilà ce qu’il faut!” (Lenin, *Works*, v. 38, p. 177).

The logical course of thought reproduces the movement of the historical process of knowledge from direct perception of the properties of things to knowing with the help of thinking about regular relations. The foundation of the process of the development of categories is man’s social practice in the process of his historical development. The most abstract of the categories of thought have an ‘earthly core’. In the final analysis they grow on the terrain of social practice and are the products of the practical interrelations of people with the real world through their relations with each other at a certain stage in the development of social production. The long development of the history of society shows that the categories which arise on the basis of social practice undergo in the course of their further development enrichment, correction, confirmation by practice, etc. This is why categories as concepts expressing practice themselves undergo development.

At the foundation of the historically developing system of the materialist dialectic should be found a category which does not itself need grounding and which serves to ground all the other categories. Such is

the category of matter. This is followed by the basic existential forms of matter: *motion, space, time*. Such a sequence in the consideration of the categories is consistent both with history and with logic. The variety of the states of matter is known only through motion. Motion is the evident fact that man meets in his practical and cognitive activity. The notions of space and time arise as a result of knowing the properties and forms of matter in motion.

Matter really exists in the form of an endless variety of the forms of its appearing and man has to do with objects and phenomena which appear as objects of his activity and knowing. Investigation begins with the designation of the object and noting of its *being*, i.e., of its existence – all of which serves to reveal the object's properties and its connections with other objects. When one speaks of being one always has in mind some being or other, i.e., a really existing object. Otherwise, there would be no being to speak of. The most abstract definition of the object is namely being, i.e., the noting of the simple fact that something objectively is, independent of consciousness; but without knowing what it is. With the forward and downward progress of knowledge this something unfolds before the knowing subject a greater wealth of detail, relations, etc. Every thing presents to the practical activity of man its qualitative side, knowledge of which (very superficial at first) is an essential stage in the knowledge of the object. Knowledge of material things begins directly with sensation “and *in it* there is inevitably also *quality*...” (*ibid.* p. 319)

Quality is the specific nature of a given thing; its uniqueness; what marks it off from other things. The determinate being of a concrete object appears to the subject principally as a qualitative determinacy, serving to distinguish the object from others and at the same time to find analogies. Although the quality of an object appears only in comparing it to another object, before it appears it has to exist. Quality is bound up with the being of a given object in such a way that if it loses its quality, the object becomes other.

The process of knowledge happens in such a way that quality is known before quantity. “First of all impressions *flash by*, then *Something* emerges, – afterwards the concepts of *quality*... and *quantity* are developed.” (*ibid.*, p. 319).

For example, in order to count, one must know what one counts. When *quantity* is established, abstraction is made from quality. This is

possible because they are relatively independent of each other. A change of quantity within certain limits does not bring a change of quality. At earlier stages of development man is not fully conscious of the interconnection of the two. But, every object does represent a unity of quality and quantity, i.e., a qualitatively defined quantity. This unity constitutes *measure* and it is also knowledge of quantity and quality that brings on knowledge of *identity* and *difference*.

All objects have external aspects which are directly attained in sensation and perception, and internal aspects which are reached only indirectly through abstract thought. This difference of degree of knowledge is expressed in the categories of *external* and *internal*. The formation of these categories in the consciousness of man precedes and prepares the way for an understanding of *causality* or the relationship of cause to effect. This can be primitively conceived only as a temporal sequence. Knowledge moves “from co-existence to causality and from one form of connection and reciprocal dependence to another, deeper, more general form.” (*ibid.*, p. 222).

Without elementary notions on causal connections, one cannot plan practical activities. In the further development of human thought it will become clear that the cause not only generates the action but also presupposes it as a counterforce. Cause and effect differ but do not constitute two isolated modes of existence. Every action is *interaction*. The relationship of cause and effect is understood by man as interaction, i.e., as a universal bond of things and processes, expressing their mutual transformations. It seems clear that the result of the action depends not only on the initiating force but on the nature of the receiver. Thus, interaction is the essence of cause and effect, which are just its moments.

A deep understanding of the objective bonds and the interaction of things is the result of a long development of social practice and of thought. The most simple bonds of things were the object of reflection in human consciousness already at early stages of man's development; without them productive activity would have been impossible. Interaction among things and among various aspects of one thing – expressed in the form of contradictions or conflicts of opposites – is the deeper cause of their change and *development* which happens not because of some external impulse but because of interaction and *contradiction*. Development is the transition of the object from one qualitative state to another, from lower

to higher, from simple to complex. The formation of the category of development in human consciousness was – because of its central role in the dialectical method – a tremendous step forward. At a certain point in human history the notion of the development of reality in its concrete forms arose, e.g., the development of plants, animals, men, etc. Due to the simplicity of practice and the underdevelopment of thought, there was no conception of development in general but only of its particular manifestations. Increased understanding of development depended on the discovery that this process is a chain of phenomena, each link of which forms the starting point for the subsequent link just as it itself is the result of a previous one, and that every link in the chain includes its own negation, i.e., the possibility of transition into another thing, into a new existential form of the initial object.

One thus explains how the being of things is not limited to their present being, and that things contain hidden, potential or ‘future being’, i.e., the possibility which previously inhered in a being to become what it is now.

The social labor of man turns into reality what was only a possibility in nature. This is how these categories are formed in man’s mind (cf. *Possibility and actuality*). It could seem that there are many possibilities in a given thing; but only those eventuate for which the proper conditions are given. Distinguishing between the possible and present being of a thing makes it possible to understand how the external aspect of a thing hides the internal, and sets up the connection of *form and content*. While the primitive external and internal could be regarded as something conditional, the further deepening of knowledge brought the principle of interconnection of form and content. The more deeply man penetrated this bond, the more abstractly he thought. Practical manipulation of similar and different things led to the observation of individual, particular and general marks of things – the basis for the categories with the same names.

Constant observation of objects and phenomena in nature and productive activity enabled people to see that not all connections regularly recurred while some recurred constantly. This laid the basis for the formation of the categories of *necessity and chance*. This did not reveal the real connection between them. Further, deeper scientific understanding showed that particular being, by itself, is, on the one hand,

something contingent and immediate while, on the other, it is necessary since it contains in itself the universal which is the essence of the particular. Elevation of the essence to a much higher degree of development and the discovery of the order of essences mean the discovery of what is contained within the object, i.e., the ground of all the changes going on in it when interacting with other objects. Knowledge of the appearance means discovery of how to reveal the essence. Essence and appearance are discovered as moments of *actuality* which is the objective and non-cognitional unity of the regular development of objects and processes and of their appearing. Actuality is the resultant expression of the process of development of the objects and processes of nature and of social life; it is a certain stage in the development of phenomena; it is the result of the occurrence of present being from real possibility. Possibility is the discovered, internal, potential being of the thing. Actuality is richer than possibility since the latter represents only one of the aspects of the former. Each of them contain the other. Real possibility finds its ground and existential conditions in actuality and is itself part of actuality. Knowledge of actuality makes it clear that what is basically actual is necessary, i.e., it expresses its own essence (e.g., the normal physical and mental development of man) and what does not correspond to it is contingent. As a result, not everything that exists is fundamentally actual in the sense of a normally developed essence of a given set of phenomena. The necessary is that which is conditioned in its emergence and development by the internal nature of things, when the necessary external conditions are present. The contingent is all that is conditioned by external circumstances, i.e., what does not flow from the nature of things. However, necessity and chance mutually condition each other and can change one into the other. Establishment of the difference between the necessary and the contingent is the path toward a knowledge of *law*, since necessity is one of its essential traits.

In the process of the development of knowledge the categories receive ever deeper content and begin reflecting the world in its essential and basic interconnections. For example, while at an earlier stage in the development of knowledge, space and time were thought of as limited, later in the development of scientific knowledge it was established that they had properties like *continuity and discontinuity*, finitude and *infinity*, actual and potential infinity, etc. This served to concretize the categories of

matter, motion, space and time. Before man, appeared ever wider and deeper connections of things, fixed by more content-full categories, the interconnections of which served to mirror the complex relations of the real world.

The law is an essential relation, i.e., an internal, necessary connection between phenomena. It expresses, on the one hand, the essential, recurrent *bond* between things coexisting in space and, on the other, the necessary *tendency* and *direction* of development, and the order of appearance of phenomena in time. Since the law is a set, identical relation of essence or in the essence (cf. Lenin, *ibid.*, pp. 150–153), knowledge of law is possible only when scientific thought has undergone some development. The category of law is the product of mature thought and is formulated only at a rather advanced stage in human development.

For example, the material world – within the limits of our planet – presents itself as a historical series of stages in the development of the forms of the motion of matter, subject to both general and specific laws. This whole series of forms (mechanical, physical, chemical, biological and social) is distributed according to complexity from lower to higher. This seriation expresses their mutual bonds both in terms of structure and in terms of history. The general laws of the lower forms of the motion of matter keep their validity for all the higher forms but they are subject to the higher laws and do not have a prominent role. They change their activity because of changed circumstances. Laws can be general or specific, depending on their range of applicability. The specific laws fall under the special sciences and the general laws are the province of diamat. A *universal* law is a law of the existence, transformation and development of all particular things and phenomena in their interconnection which expresses the unity of the world. Universal laws were discovered as a result of the generalization of laws of a much lower order. The most general laws of the materialist dialectic are: the transition of quantitative changes into qualitative ones; the unity and conflict of contraries; the negation of negation. These laws express the universal forms, paths and motive force of the development of the material world and its knowledge and form the universal method of dialectical thought. In these laws of the dialectic one finds concretized its basic categories and their historical emergence and interconnection. The discovery and scientific grounding of the basic laws of the dialectic enriches the understanding of the content

and bonds of previously known categories, the development of which is subject to these universal laws. The laws of the dialectic form the logical expression of what is essential in development. Development as movement from simple to complex, from lower to higher, from an older qualitative state to a newer one is at the same time a continuous and discontinuous process (cf. *Continuity and discontinuity*). Quantitative change of phenomena within the limits of one and the same measure has the character of a relatively continuous growth of one and the same object. Only at a certain level of development, under certain conditions does the object lose its previous quality and become a new object. Development is thus the unity of continuity and discontinuity, of the revolutionary and evolutionary changes of phenomena (cf. *Evolution, Revolution, Leap*).

The law of the transition from quantitative changes to qualitative ones shows how the emergence of the new occurs. The essence of this law is the fact that objects and phenomena of the objective world, during the course of their development – which flows from the interaction and contradictions between different objects and different aspects of the same object – move from a state of insignificant and non-essential differences among the aspects which make up a given phenomenon to essential differences of moments of the whole and to oppositions which arise between them in the contradiction and conflict which form the internal source of development. Every object contains within itself its other. The internal contradictoriness of any object consists in the fact that the interpenetration and mutual exclusion of contraries exist in one and the same object at one and the same time. The counterposed opposites are one in that they are found in the same object. The contradiction which is expressed in the conflict of opposites within a given unity, constitutes the source of development.

Since it is reflected in the system of theoretical knowledge, this law forms the basic axis or core of the dialectical method. “Properly speaking, the dialectic is the study of contradictions in the *very essences of things*.” (Lenin, *Filosofskie tetradi*, 1947, s. 237). The dialectic thus makes it possible to find the stimuli of development of the world within this very world.

Every development is a certain form of directed process. This aspect of development is expressed by the law of the negation of negation. Every phenomenon is relative and contingent to its transformation into another

phenomenon, which under certain conditions can be the contradictory of the first and play the role of its negation. Negation is a necessary condition of development because it is not just the negation of the old but also the affirmation of the new. However, the process of development is not limited to this. The emergent quality transits into another. The negation is absorbed by another negation and the whole chain of development appears as a negation of negation. As a result of this process the object moves from simple to complex, from lower to higher, with elements of recurrence of the previous, temporal regression, etc. The law of the negation of negation provides a generalized expression of development as a whole, uncovering the internal bonds and gradual character of development. It expresses the transition of phenomena from one qualitative state to another, where the new quality conserves in a new form some traits of the old. In short, this law expresses the process of the basic change of the old quality, duplicating connections between various stages of development, i.e., the basic trend of development and seriation of old and new. Development happens in such a way that the higher stage of development appears as a synthesis of all previous movements in a short form (cf. *Aufhebung*). Every moment of development, no matter how different from the previous, flows from the previous one and is the result of its development; this is why it contains and preserves it in an altered form. In essence, it is the former become another. Whence the demand on scientific knowledge that it play the role of method: only that historical knowledge can be fruitful, which considers every moment of historical development to be the result of the previous moment and to be organically bound up with it.

In their emergence, historical development and interrelations, the internal interconnections of the categories and laws of the subjective dialectic represent a logical expression of the objective dialectic of the world and knowledge thereof in the dynamism of their development.

VIII. DIALECTICAL MATERIALISM AND MODERN SCIENCE

No other philosophy, past or present, is as intimately bound up with the natural sciences as diamat which uses the data of science and provides the scientist with the sole scientific method of thought, adequate to the structure of the objective world. Diamat is a complete generalization of all the

sciences of nature and society and, at the same time, an autonomous philosophical science. The interconnection is reciprocal and has an objective foundation. In any domain there are at work both laws specific to the domain and more general laws. The object of *diamat* includes the most general laws of the movement and development of being and thought, while the special sciences study the more specific laws. While the universal laws of the development of the world and of knowledge and their concrete forms can be studied only on the basis of a close examination and generalization of particular laws, knowledge of these general laws, in turn, aids in knowing the specific laws. Once known these general laws become a powerful tool for orientation in the complex labyrinth of things and phenomena. Therefore, the universal laws of development serve as methodological aids to the special sciences. The sole scientific method of knowledge and of transformation of reality is the materialist dialectic "because only it is both analogous to and explanatory of the developmental processes of nature, for the universal connections in nature and for the transitions from one field of research to another." (Engels, *Dialektika prirody*, 1955, s. 22).

Knowledge of the general properties and laws of movement and development of the world as a whole occurs in every concrete scientific investigation as the sole scientific method. However, these general properties appear differently in each domain, according to the specific object of study in the domain in question. It is easy to see that each phenomenon has to be approached in terms of its own peculiarities. For example, one could not study society without taking into account what distinguishes it from the biological sphere.

This recognition of specificity of methods, however, should not obscure the fact that underneath it all there is one single scientific method – *diamat*.

For example, the correct, dialectical-materialist answer to the basic question of philosophy is of great methodological importance for the study of life as a special form of the movement of matter; for the study of the emergence of life and of the laws of its development and of the emergence of man; and for the study of higher neural activity and of psychic phenomena. Idealists in biology who are vitalists are not able to give a scientific explanation of the laws of the development of living organisms and to develop effective means of conscious action by man for

changing species. Biology became a genuine science when Charles Darwin discovered the objective laws of the development of the organic world and destroyed the idealist divagations on 'life force'. Neurophysiology and psychology became sciences when Sečenov and Pavlov rejected idealist twaddle about a soul and revealed the material base of psychic phenomena. Other examples could be found but these will suffice to show that the dialectical-materialist solution to the basic question of philosophy frees science from a large number of idealist speculations, from fruitless search for a 'life force', for 'voluntary impulses' in electrons, and so on.

The development of scientific knowledge and of philosophy leads to an ever greater exposure of the dialectical world-image. Dominance in the world-view of the dialectical method makes possible a more accurate reflection in thought of the laws of the objective world. The dialectic bends creative force toward the study of the processes of change and development, toward interconnection and mutual transformations, and toward the study of contradictions in the phenomena of nature. All this makes possible maximal depth in the study of objects and processes. Comprehension of the universal connections of things and of their development requires a scientific method, logical categories and abstract thought. But theoretical thought originates in the human brain only in the form of a potency which has to be developed and perfected. This ability is developed by acquiring mastery of laws worked out over long historical practice, and of the history of science and of philosophy. In the acquisition of these laws of dialectical thought and categories of logic a large part is played by philosophy, the apex of which is diamat. Even in a simple act of knowing – whether one is conscious of it or not – one has to use philosophical results and a fortiori for the development of the ability to think theoretically; “there is no other solution than the study of all previous philosophy.” (Engels, *loc. cit.*).

This is eminently true of diamat. Concrete investigation uses both specific concepts of the science in question and the more general ones, worked out by diamat. Therefore, there is great danger in ignoring the results of the development of theoretical science which studies the laws and categories which express the most general bonds and relations of things, without which man's knowledge of reality would be inconceivable.

To describe the importance of philosophy for science, Engels wrote:

“Scientists think that they are free from philosophy when they ignore or reject it. But since they cannot take a step without thought and thought needs logical categories which they get uncritically from the minds of the so-called educated people – who are dominated by the mistakes of already dead philosophies – or from memories of required university courses in philosophy ... or from uncritical and unsystematic reading of all sorts of books on philosophy, the result is that they are nonetheless dominated by philosophy but, for the most part, of the foulest sort...” (*ibid.*, s. 164–165).

Marx noted that the importance of the materialist dialectic consisted above all in the fact that it enabled one freely to orient oneself in reference to the factual material. (cf. Marx and Engels, *Izbr. pisma*, 1953, s. 239). Diamat generalizes the entire historical experience of the development of science and should therefore serve as compass for science, keeping the scientist away from the main errors and deviations from the correct path, many of which are known to the history of science. It aids the scientist in understanding the methodological essence of his discoveries and in avoiding idealist and metaphysical distortions of the results of science. Talking about the close links between diamat and science, Lenin wrote that “no natural science and no materialism can hold its own in the struggle against the onslaught of bourgeois ideas and the restoration of the bourgeois world outlook unless it stands on solid philosophical ground.” (*SW*, vol. 3, p. 667).

The very logic of the development of the natural sciences – which have to do with material objects and processes of nature, full of contradictions and developing dialectically – drives scientists to materialism and to the dialectic. In bourgeois countries, for a variety of social and economic reasons, this process follows a rather tortured path. For example, a number of eminent scientists (*Heisenberg* and others) have moved from a subjective idealist position to an objective idealist viewpoint, while making a large contribution to materialism.

Soviet scientists and some of their foreign counterparts have thought through the philosophical implications of science from the viewpoint of diamat. Such is the inevitable path of every progressive scientist who must take willy-nilly a materialist position in his work, unless he wants to live with a contradiction between the philosophical bases of his worldview and the objective content of concrete knowledge.

IX. THE UNITY OF DIAMAT AND HISTOMAT

An important expression of the basic principles of diamat as a whole and of the consistency of the entire world-view is the application of materialism and the dialectic to the study of human society. The extension of the theses of diamat to the development of society is *historical materialism*. Histomat is an organic part of the philosophy of Marxism-Leninism. Diamat asserts that being determines consciousness and that people can know the world and its laws. In full accord, histomat asserts that social being determines social consciousness and that people are able to know society and the laws of its development. Diamat says that the world develops because of the internal contradictions it contains. For histomat, society develops because of its internal contradictions. In addition to the general laws of the development of the world, histomat reveals some special laws of society, e.g., the forces of production and relations of production with their elements and relations, etc. The general laws which make up the content of Marxist philosophy are drawn from analyses not just of nature but also of social life. Histomat is inseparable from diamat and incompatible with any other philosophy or method. Recognition of the primacy of being over thought and of social being over social thought reinforces this distinctness. By social being Marxism understands the real process of the life of people, including work, the production of material goods, relations which are formed between people in the process of production, etc. Social consciousness means for Marxism political, philosophic, legal, artistic, moral, scientific and religious views.

The basic question of philosophy finds its ultimate answer in the materialist explanation of the history of society. The transformation of the social consciousness of man depends on the transformation of social being. Only histomat has been able to explain that consciousness is a social product, i.e., the result of the social labor of men and of the conditions of life in society. Without histomat one cannot understand the essence of practice as the basis of knowledge. All the important questions of the theory and history of knowledge can be correctly solved only on the basis of a scientific solution to the central problems of social theory. Therefore, without histomat it is completely inconceivable that one develop diamat's theory of knowledge. What is more, without histomat there could be no diamat at all.

Critics of Marxism and revisionists try to divide histomat off from diamat, saying that the economic and sociological views of Marx are compatible with Machism, neo-Kantianism and other idealist, bourgeois views. Striking out against these attempts, Lenin stressed that there can be no histomat without diamat and that one could not be a partisan of one without espousing the other.

X. DIAMAT AND HISTOMAT AS CONCEPTUAL TOOLS OF THE MARXIST PARTY

Every world-view, while providing some reflection of nature and social reality, is also the expression of the interests of a certain class and party. In class-society, every class and its party have their world-view, containing their views on nature, man and society as generalized by their ideologists into a whole. It is this that makes the world-view partisan. As long as there are classes and class-conflict there cannot be a non-partisan or classless philosophy. It not only reflects the class-conflict but is itself a tool of the class-conflict.

Bourgeois and revisionist ideologists recommend non-partisanship in their world-view and in their philosophy, asserting that partisanship is incompatible with objectivity and science. The partisanship of philosophy really is incompatible with science when it expresses and defends the status and interests of the classes which clutter up history and slow down the development of society. When it expresses the interests of the dying classes, philosophy really does conflict with the right life, with objectivity and with science. But, philosophy is objective and scientific when it correctly reflects life and expresses the interests of the progressive classes of society, facilitating their advance. For example, the materialist philosophy of the 17th and 18th centuries – expressing the interests of the nascent bourgeoisie, the progressive class of the day, and opposing religious-idealistic feudalism – was partisan and, despite its limitations, objective and scientific. It furthered the development of science and of society as a whole. Everything changed when the bourgeoisie became the reactionary class. The interests of this bourgeoisie require the continuation of the exploitation of man by man, the opposition to and conflict with revolutionary workers and the national-liberation movement. Expressive of the interests of the imperialist bourgeoisie, contemporary

bourgeois philosophy is also partisan but it is no longer scientific or objective. In other words, reactionary bourgeois idealist philosophy provides a distorted reflection of reality and slows the development of society. It expresses the narrow, egoistic interests of the reactionary bourgeoisie and these interests do not reflect the objective course of history; on the contrary, they impede it. The partisanship of the bourgeois ideologists who are fighting against the transition from capitalism to a more progressive social order, socialism, are thereby in clear contradiction with the objective laws of history and are distorting its flow.

The scientific world-view, on the other hand, correctly reflects the laws of the development of natural phenomena and of society, and defends the interests of those classes which are the bearers of progress, to whom the future belongs. On the contemporary scene such a world-view is Marxism which is the world-view of the most progressive class, the proletariat, and of its vanguard, the Communist Party. Marxism espouses and carries through the principle of the partisanship of philosophy by viewing *diamat* and *histomat* as scientific weapons in the hands of the proletarian masses, fighting for their liberation from capitalism, for the victory of the most just, most human and most progressive social order, Communism.

A revolutionary theory is needed for the revolutionary practice of the transformation of society along the road to Communism. Such a theory is Marxism-Leninism, the philosophical foundation of which is *diamat* and *histomat*. The principle of Communist partisanship requires that the battle of ideas in philosophy be seen as in essence a battle of opposing classes, of their interests and goals. Throughout the whole history of the development of philosophy, materialism and idealism have been the main protagonists. They are two parties in philosophy which have always fought with each other. As Lenin pointed out, contemporary philosophy is as partisan now as two thousand years ago. The fight between materialism and idealism always reflects a social battle going on between the progressive and reactionary classes.

Some bourgeois and revisionist philosophers claim that Marxists are oversimplifying when they divide contemporary philosophy into materialists and idealists. But, Marxists do this because it is a fact of reality.

Idealism and religion are inimical to science. They are incorrect, distorted reflections of the world. Metaphysicians espouse the un-

changeable order of things in the capitalist world. This clearly means that the working class and its party are opposed to idealism, religion and metaphysics. For the working class, religion is one of the forms of spiritual exploitation. Idealism is a more refined form of religion. Only diamat and histomat make it possible to free mankind from all the empty promises of a paradise.

Marxist philosophy is the world-view of the working class and of its vanguard, the Communist Party. It is the theoretical base of their revolutionary politics, strategy and tactics. The political line of Marxism is always and everywhere “inseparably bound up with its philosophical bases”. (Lenin, *Soč.* 4, t. 15, s. 374)

No other party reflects both the subjective and objective interests of all working people. Because the interests of the working class coincide with the objective demands of social development and with the interests of the great majority of working humanity, the working class is interested above all in the scientific knowledge of nature and society, and in the elaboration of a scientific world-view and method – both of which are necessary for its successful fight against capital and for the construction of Communism.

The partisanship of Marxist philosophy consists in the determined pursuit of the materialist line in philosophy, in the defeat of all possible attempts to meld materialism with idealism, or dialectics with metaphysics, and in the rejection of reactionary political deductions therefrom. Only the honest study of reality corresponds to the interests of the workers, enabling them to ground all their practical and political activity on the solid foundation of science. Therefore, Marxist-Leninist partisanship is not only not unscientific, it is the only properly scientific kind. The command of the Communist Party about following the principle of partisanship is a command to preserve and develop a correct attitude toward life.

XI. DIAMAT AND CONTEMPORARY BOURGEOIS PHILOSOPHY

The emergence of Marxism marked a new era also within bourgeois philosophy. Lenin distinguished two basic stages in the fight of bourgeois ideologists against Marxism: before the victory of Marxism over views prevailing among workers; elimination by Marxism of all opposing views.

And, “the growth of Marxism, the spread and strengthening of its ideas among the workers, inevitably call forth multiplication and intensification of these attacks against Marxism...” (*ibid.*, s. 17).

Contemporary bourgeois philosophy is the philosophy of a defeated class. It reflects the deep crisis of capitalist society and the bourgeoisie’s fear of the masses and of Communism.

Contemporary bourgeois philosophy is marked by a proliferation of schools and trends. They have in common the basic task of a direct or indirect attack on the ideas of Communism and on their theoretical base – diamat and histomat.

Along with their attacks on diamat, bourgeois philosophers try to defend moribund capitalism. Bourgeois ideologists intend to distract the working masses from the revolutionary transformation of society and to educate them in a spirit of religious devotion and slavery, captive to a world of illusion. Even the Leninist principle of the peaceful coexistence of the two systems – capitalism and socialism – should not distract Marxist philosophers from the fight against the bourgeois world-view. Any weakening of this fight would dangerously increase the influence of these dangerous ideas on the people.

Characteristic of contemporary bourgeois philosophies are idealism, *agnosticism*, *irrationalism*, denigration and distortion of the role of science and world-outlook, false philosophical assessment of science’s accomplishments, close union of philosophy and religion, negation of social laws and eclecticism. In sociology there is the belief in the permanence of capitalism and a rejection of the division of society into two classes. The ideologists of the reactionary bourgeoisie use the most reactionary philosophies of the past or the weakest aspects of the philosophic classics. They reject all that is rational in these doctrines or make an eclectic set of isolated propositions from different doctrines.

While the ideologists of the nascent bourgeoisie had fought for reason, for its power and for the integrity of science, the ideologists of the reactionary bourgeoisie are torn between the industrial and military need for science, on the one hand, and the fact that science is destroying the foundations of idealism and religion which they have been using against the masses, on the other.

Contemporary bourgeois philosophy contains both subjective idealist and objective idealist strains. There is even a representative of vulgar

materialism in the person of Charles Meyer with his *neomaterialism*. However, the main currents are of a subjective idealist variety – especially *neopositivism*, *pragmatism* and *existentialism*. Neopositivism dominates in Britain and in the U.S. but it is widespread in other countries, thanks to its close connection with science, mathematics, cybernetics, etc. Characteristic of neopositivism is the denial of the possibility of knowing the causes and laws of the real world, the reduction of the tasks of science to mere external description of the results of direct observation, and the reconciliation of science with religion.

Akin to neopositivism is a philosophy native to the U.S., pragmatism, which views the value of all theory from the viewpoint of its practical consequences for man, independent of its correspondence to reality.

Also characteristic of contemporary bourgeois philosophy is a renaissance of medieval ideas. The class meaning of this phenomenon was described by Lenin who said that “out of fear of the nascent and powerful proletariat, the bourgeoisie supports all that is backward, archaic and medieval”. (*Soč.* 4, t. 19, s. 77).

Mysticism, clericalism and superstition get even more attention in bourgeois conceptual life, impeding the development of science and culture as a whole. Idealism and religion burden science with reactionary notions which are in open conflict with the objective results of scientific research. Among these trends one finds *neo-Thomism* and *personalism*. Neo-Thomists worship the theological dogmatism of Thomas Aquinas and the personalists insist that nature is a means of communication of God with the human person.

The popular philosophy in Western Europe is existentialism which brings to the fore the notion of ‘existence’ but reduces it to the existence of the self-consciousness of the person, the main content of which is fear of death, loneliness, etc. Despair is the last word of contemporary bourgeois philosophy. The bourgeoisie has lost its faith in the strength of human reason and in progress.

At this point, only Marxist philosophy remains true to science and makes no concessions to superstition and mysticism. Marxist philosophy frees the minds of men from the clouds of religion and from every sort of superstition and prejudice. Diamat assumes the intelligibility of the objective world and of its laws, and that science opens up to man limitless perspectives; it inspires in man confidence in his own powers, faith in

reason, and the belief that man can penetrate both the cosmos and the atom.

Bourgeois ideologists see in diamat their major enemy and the main impediment to the spread of reactionary views – which is why they work so hard to falsify and criticize it. While earlier the critics tried to show that diamat was disproved and senseless, now they are forced by facts to recognize its range and its influence. There have recently been many works by authors whose intent is to falsify the basic theses of diamat. Using a mechanistic interpretation, they claim that diamat works only for nature and not for the more complex phenomena of social life. Other critics misinterpret diamat as Hegelianism or Platonism.

Some bourgeois ideologists try to falsify the essence of the materialist dialectic by reducing it to the Thomistic ‘dialectic’ (called ‘analectic’) which introduces the peaceful coexistence of contradictions, thereby destroying the need for a revolutionary resolution of class-conflict. Since diamat with its doctrine on contradictions is incompatible with the class interests of the bourgeoisie, the defenders of the latter try to eliminate its revolutionary content and to make it serve bourgeois interests. Going to an extreme, some critics of diamat claim that it is a form of religious belief. They deny its scientific character and find traits it shares with Catholic philosophy.

The basic ‘objections’ to diamat by bourgeois ideologists are repeated by contemporary *revisionism*, but couched in Marxist terminology. The revisionists pretend that they want to ‘correct’, ‘complete’, or ‘creatively develop’ Marxism-Leninism but what they really accomplish is the spread of bourgeois ideas among the workers. Since the theoretical positions of contemporary revisionism are essentially those of the older revisionism, they can be found in bourgeois philosophy.

A vast battle is going on in imperialist countries between the progressive and the reactionary world-views, between materialists and idealists. The fight for social progress is being led by the Communist and workers’ parties with the help of Marxist philosophers. The materialist world-view is completely supported by progressive scientists who deal with nature and cannot avoid dialectical-materialist conclusions. Among those who consciously espouse diamat one finds Langevin, Joliot-Curie, Bernal, Haldane and others.

The fight for a scientific world-view in capitalist countries has also

been joined by some bourgeois intellectuals, like Bouvier-Agen and Sauvy (France); deCastro (Brazil); Lamont, Davis and Dunham (U.S.A.); Kenjuro Yanagida (Japan), and many others. Materialism is the final outcome for many leading scientists; e.g., Infeld and DeBroglie who were previously neopositivists. Finally, many of the leading physicists have come out with critiques of neopositivism; e.g., Bohr and Heisenberg.

XII. DIAMAT AND THE PRESENT

We live at a time when Marxism-Leninism is enjoying one victory after another on the international scene. Marxism-Leninism is not simply a theory; it fertilizes the revolutionary practice of millions and millions of people who are fighting against imperialism and war, who are fighting for peace, for national liberation and for Communism. The victory of the October Revolution demonstrated the practical truth-value of Marxist-Leninist doctrine, showing to all the broad path to socialism and Communism. The establishment of popular democracies in Europe and Asia, the full and final victory of socialism, the successes of accelerated construction of Communism in the U.S.S.R. – all these meant new triumphs for Marxism-Leninism and for its philosophic base. No other philosophy in the whole world ever received such a striking and complete confirmation.

The Marxist-Leninist world-view is all-powerful because it correctly reflects the general laws of being and thought, as well as the objective tendencies of the gradual development of society. It most fully expresses the interests of the working masses, and fights for their liberation from capitalism and for the construction of a new society – Communism. As a noble tree's roots run deep into the ground, diamat has its roots in the life of the working people, whose interests and strivings it reflects. This is why Marxist-Leninist philosophy is winning the fight for the minds and hearts of the people – a fact admitted to by many bourgeois ideologists who are conscious of the superiority of socialism and of its theoretical base.

The materialist dialectic teaches that in the world everything flows and changes; everything is in a state of constant movement, in a process of development from lower to higher. Every social-economic formation –including the capitalist one – is historically transitory. This means that

in human history the old social structure is necessarily replaced by the new, progressive structure. Capitalism is now being replaced by socialism which fits contemporary conditions. Capitalism is shot through with deep, internal contradictions of an antagonistic nature. These increase daily and are sapping its very foundations. In his analysis of the course of social development, Lenin wrote that “destruction of capitalism and its consequences, plus introduction of the bases of the Communist order, is the basic content of the current phase of world history”. (*Soč.* 4, 5. 31, s. 365)

The contradictions in the objects and phenomena of the material world and in the life of society are deeply reflected and theoretically grounded in the materialist dialectic which is thoroughly revolutionary and critical. Dialectic is the most necessary and useful weapon in the fight of the Marxist parties against reactionary bourgeois ideology, against revisionism and against *dogmatism*.

Dogmatism necessarily arises where one ignores the dialectical-materialist demand for a complete consideration of life in all its contradictions, peculiarities, tendencies and developments. In its place one finds quotationism and absolutization of one or another theoretical postulate without consideration of the facts of a life which is constantly changing, and without concern for science and social practice.

The materialist dialectic teaches that there is no such thing as abstract truth; truth is always concrete and all facts of nature and society have to be viewed historically. This means that in all domains of social life – particularly in politics in the solution of contemporary problems – one has to look ahead, to correctly assess social forces, and to see to the strengthening of the forces of socialism.

Life itself is the ground for concreteness in scientific analysis, and for a historical approach. Since our knowledge is a reflection of reality, it is only natural that with the growth of reality our knowledge also grows. The only really scientific criterion of truth is practice, i.e., life in its continuous development. The creative character of the materialist dialectic flows from its core, i.e., the revolutionary unity of theory and practice. Stressing the creative character of Marxism, Lenin wrote: “Speaking for himself and his famous partner, Engels said that their doctrine was not a dogma but a guide for action. This classical formulation stresses that aspect of Marxism which is often lost from view. By

losing sight of it we make Marxism one-sided and moribund; we remove its living soul and essential theoretical foundation – the dialectic as the universal and complete contradiction of historical development; we break its connection with the definite practical tasks of the epoch, which can change with every new turn of history.” (*Soč.* 4, t. 17, s. 20).

The materialist dialectic is the most revolutionary doctrine and fully corresponds to the contemporary revolutionary epoch and to the interests of the revolutionary working class and the revolutionary Marxist Party. It rejects all that is conservative and narrow; it holds to life and to reflections of life in thought. The materialist dialectic recognizes and favors continuous forward motion and the boldly revolutionary war of the working class and its Marxist party. It is not enough for a correct application of the dialectic in politics simply to repeat its basic theses. One has to study seriously the facts of life in its development. Only then can one understand the occurrence of the laws of the dialectic in a given domain of nature, society and thought. Only this makes it possible to take the correct line and to reach the needed effect in the defence of the workers' interests. Knowledge of the materialist dialectic has immense importance for the development of the theoretical and practical thought of man: it sharpens the mind and gives it flexibility and awareness of the new and unique facets of life. The dialectic frees the mind from dogma, prejudice, subjectivism, sophistry and puts it in tune with the development of science and practice. Thus, for an understanding of the contemporary world scene the materialist dialectic requires careful analysis of those contradictory processes which are determining the basic course of present social development. The decline of imperialism, which is torn by internal contradictions, the increase of class-conflict and national-liberation wars, and the daily strengthening of the socialist camp are striking. The decisive fact which conditions all current affairs is the presence of the socialist camp on the world scene. This fact has changed the balance of social forces and has automatically solved some problems, e.g., those of war and peace. With the change of historical conditions, the principles of the materialist dialectic enabled the XXth Party Congress to arrive at the possibility of avoiding war and the XXIst to reach the profound conclusion about the elimination of world war as a political tool. All this was intended to mobilize the masses in the fight for peace. In the end, everything depends on a continued war for peace, against the aggressive forces of imperialism.

The gigantic victories of the CPSU and other Marxist-Leninist parties testify to the fact that these parties are led in all their activities by the theory and method of the dialectic, as creatively developed by them. Deviance from the materialist dialectic leads, in the end, to errors in theory, in practice and in politics. The 1957 Declaration of the Communist and workers' parties said: "If in the consideration of various questions the Marxist political party does not use materialism and the dialectic, this will lead to one-sidedness, to subjectivism, to calcification of thought, to separation from practice and to loss of the ability to give an appropriate analysis of things and phenomena, to revisionist or dogmatic errors and to errors in politics."

The materialist dialectic is not just a method of knowledge of the world but also the method of its revolutionary transformation. It arms the working class and the Marxist party with a mighty means of knowing and revolutionizing the world. It makes it possible to pierce to the essence of phenomena, to reveal their internal contradictions, and to expose the tendency of their development by correctly choosing means for the accomplishment of tasks which are presented by the course of social history. The materialist dialectic definitely requires an actively creative relationship to the world and to life. It is in work, in the class war, in scientific work, in artistic creativity, in organizational activity, and in the construction of Communism that the dialectical method is actualized, confirmed and developed. Our great and famous discoveries in science and technology (satellites and planetary flight) and the superiority of Soviet science in many domains are the result of the superiority of the dialectical-materialist world-view and method which serve to guide Soviet scientists.

The important role of the materialist dialectic as method of thought and a guide in practical activity consists in the fact that it is a condition which is necessary for scientific *prediction* of a serious type. Early in the development of capitalism, Marx and Engels predicted its downfall from its own internal contradictions. More than fifty years ago, Lenin foresaw the shift of the world revolutionary center to the East with the Russian proletariat taking the lead. During the first World War, Lenin was able to foresee the possible victory of socialism in one country or in a few countries. All of these predictions came true because they were grounded in a scientific knowledge of the laws of social development.

On the other hand, innumerable 'predictions' of bourgeois politicians, sociologists, and philosophers about the inevitable downfall of socialism, and about the rebirth of capitalism proved false because the bourgeois ideologists ignored the laws of real history and substituted their wishes for reality.

One of the most important traits of Marxist-Leninist philosophy is its fundamental *humanism*. It is inimical to all possible anti-human theories of the ideology of contemporary imperialism, with their denial of human values and with their oppression of colonies and semi-colonies. Marxism-Leninism arouses great faith in the limitless forces and capacities of man to change the environment and his own nature. The task which Marxist-Leninist philosophy sets is the theoretical elaboration of the practical paths of establishing a basically human way of life for all people, i.e., Communism which satisfies the highest ideals of man.

Tied up with the scientifically grounded faith in the revolutionary capacities of man is another essential trait of Marxist-Leninist philosophy – its *optimism*. It is opposed from start to finish to the bourgeois world-view with its propagation of weakness, pessimism, helplessness and lack of faith in the future.

In contrast to the bourgeois world-view, Marxist philosophy places human reason on the solid foundations of science and practice; it fills man's heart with good feelings and desires. It gives man great spiritual strength – the force of conviction, belief in the power of reason, in the power of feeling and of the will; there is confidence in the future and revolutionary fervor in his views about life. Marxist-Leninist philosophy is a clear and vital world-view. The more it spreads to the masses, the more actively, meaningfully and confidently they will take part in the fight against exploitation, and colonial oppression and for socialism and the construction of Communist society. This is why the elaboration of a dialectical-materialist view of life is a vital requirement for everyone who values people's good, man's happiness, peace among nations and joyful work for all. Based on the humanistic principles of the Marxist-Leninist world-view, the CPSU and Soviet State take great pains to fight for the peaceful development of society and for the peaceful coexistence of socialism and capitalism.

Marxist-Leninist philosophy unites all peoples without distinction of race or nationality and produces in them the striving for improvement

and for the good of the workers. It makes it possible to explain the great goal of man – to achieve a happy life on earth for all workers.

The accelerated development of Communism requires the development of a new man – the man of the Communist society who is fully developed and armed with diamat, the progressive, scientific world-view. The CPSU gives (and has always given) great importance to the spread of diamat among the whole population and to its creative development on the basis of the generalization of the most recent achievements of the natural and social sciences and of the experience of social development – especially of the world-wide revolution and of the Communist construction in the USSR and in the popular democracies. Grounding its practical and ideological work on Marxist-Leninist doctrine, the philosophical root of which is diamat, the Communist and workers' parties confidently lead the people toward the glorious future of Communism.

MATTER

(From the Latin *materia*)

“Matter is a philosophical category denoting the objective reality which is given to man by his sensations, and which is copied, photographed and reflected by our sensations, while existing independently of them.” (Lenin, *Works*, v. 14, p. 130).

Efforts to give a definition of matter in pre-Marxist philosophy were obliged to begin by solving the problem of the objective, universal grounds and substance of each finite object in the world – nature. For the materialists it was clear that this basis is primary in reference to the conceptual, logical “collection” of objects and concepts. In other words, the definition of matter is directly bound up with the solution of the *basic question of philosophy* and, therefore, always has a polemical, partisan edge.

In ancient philosophy (India, China, Greece) the definition of matter was based on the notion of material (prime matter), of which all things are ‘made’. There were naive attempts to define matter by identifying it with water (Thales) or air (Anaximenes). Anaximander thought that no existing substance could be taken as matter as such. He considered being to be primary in an indefinite past, recognizing a hypothetical and logically prior stuff (apeiron) with the sole property of being the primary stuff. Heraclitus chose fire as prime matter – both as material and as force – and source of all change. The dialectical philosophy of nature of Heraclitus was one of the first attempts to solve the problem of the unity of matter as ‘stuff’ and as source of movement. Democritus solved the difficulty of the unity of matter and movement, formulated by the Eleatics (especially Parmenides), in his atomism. According to Democritus, there are two kinds of matter – atoms and the void. Atoms are the material of bodies and the void forms the space for the movement of bodies. The atomistic hypothesis makes it possible to explain the construction of manifold combinations out of the uniform atoms. But, the solution of Democritus provided only for the possibility of objective multiplicity of indivisible and identical atoms. He did not answer the

question about the real transformations of things and about the dynamic stimuli which move these innumerable combinations. Even the self-starting movement of Epicurus which included activity in the description of the atom, was not able to explain the qualitative diversity of “images”, of types of things ‘constructed’ from one matter.

According to Aristotle, matter is only the general possibility of objective diversity. The reality of objective diversity, i.e., its stimulus and its goal, is form and the self-moving source. In other words, the ideal (and ultimately cognitive) image or model of things is the efficient and final cause of the motion, transformation and emergence of things in their concreteness and uniqueness. The clay finds its potter in the form of the demiurge – God. Aristotle’s dualism – matter as the passive source and soul as the source of activity and creativity – dominated philosophy for a long time. Epicureanism was the last thoroughly materialistic philosophy in ancient times. The Middle Ages were dominated by the Aristotelian dualism which was modified to fit the monotheism of Christianity and Islam. Only Averroes (cf. *Ibn Rušd*) and John Duns Scotus tried to make the active force – thought – immanent to matter.

Modern mechanistic materialism defines matter not as the material but as the basic, primary properties which are necessary to all material things. In the substantial, material foundation of things, there are a number of mechanical properties: extension, impenetrability, figure, weight, change, etc. For the materialism of the 17th Century these were not mental configurations but were defined strictly geometrically and physically. There remained, however, the problem as to what was the bearer of these general properties. More often than not, the indivisible atoms were identified as this bearer.

In his theory of substance Descartes solved this problem of the bearer of the primary properties by identifying matter with one of its properties – extension. “... The nature of matter, i.e., of the body in general, does not consist in the fact that it is heavy, etc., or that it acts in some way on our senses, but only in the fact that it is a substance, extended in length, breadth and depth.” (Descartes, *Izbr. proizv.*, M. 1950, s. 446).

For both the ancient materialists and the mechanists, the search for the material substrate of all concrete objects was marked by three general properties. First, matter was counterposed to individual things as the unchanging to the changeable. Second, basic to the definition was some

criterion of objectivity: what defines matter are the properties which lie outside of us and are independent of us. Third, material substance is observed through some general base or general properties, common to all material things. The result of such a 'construction' of matter was that there were always two 'poles' (matter and form; primary and secondary properties) – and such a division could not explain the unitary thing. All the mechanists of the 16th and 17th Centuries wanted to find a definition for matter which would be independent of knowledge and they did it by distinguishing the so-called primary properties in things from the so-called secondary properties in our sensations. For all these sensualists the objects, as sets of properties, reduced to their predicates. Therein lies the danger of the Berkeleian solution to the problem.

In the philosophy of Bruno and later Spinoza there occurs a new definition of matter. As a substance matter is the world as a whole (in relation to the individual things), i.e., matter equals nature. "... The essence of the Universe is one in infinity and in any thing taken as its part. Thanks to this, the Universe and any part thereof are factually one in substance." (Bruno, *Dialogi*, M. 1949, s. 280).

In general, Spinoza tried to avoid the word 'materia' and used 'substantia'. Spinoza's notion was important for the development of the pre-Marxist understanding of matter but led to an antinomy. All things are determined by the action of an external cause and only Nature as a whole is *causa sui* (cf. *Ethica* 1, 28). Only in the knowledge of its infinite nature, i.e., in the knowledge of itself as part of the whole, can a thing be free. Movement was downgraded to an infinite mode and the individual became a finite mode of substance. Thus, even in this conception the unity of matter was not maintained but swallowed up into diversity.

d'Holbach and Diderot tried to bring together the notions of 'matter as nature' and 'matter as a set of mechanical properties'. For d'Holbach, the one, infinite nature of the Universe appears in the individual thing as its specific nature, i.e., as a melding of extension, mobility, divisibility, weight, inertia, etc. (cf. his *System of Nature*). d'Holbach and Diderot detected an error of all previous definitions of matter. Matter is what appears in our sensations: but there is more: it is also what causes our sensations. d'Holbach did not get away from the Spinoza-Bruno notion (substance-nature); he reformulated the ideas of the mechanists (matter as a set of mechanical properties) and uncovered the epistemological

aspect of the definition of matter. But he was still not able to give a dialectically scientific definition of matter.

For Diderot, as for Feuerbach, it was perfectly clear that by far not all the properties of matter were mechanical; nor can one reduce all movement to mechanical movement. This would mean that matter is an abstract category, drawn from all the general properties of things and their laws. But, this would raise the question: what is primary, the unity in thought (the pure being of the absolute idea)? or the material unity of objects?

The recognition of a universal source of things, i.e., of something substantial and universal in things, is just one aspect of a definition of matter. To absolutize this aspect would be to identify the abstract concept of matter with the material actuality thereof (cf. Engels, *Dialektika prirody*, 1955, s. 203). One can solve all these problems only by uniting the objectively dialectical and theoretically cognitive definitions of matter. In other words, the philosophical concept of matter can be defined only within the confines of the basic question of philosophy. Marxist philosophy does not know a fundamental distinction between its ontological tasks and its epistemological ones. The Leninist definition of matter is theoretical and cognitive in its form and objectively dialectical in its content. It is not a fixed and closed definition (in the formal-logical sense) but an openly dialectical definition of the thing itself, the laws of its changing, and the laws of its being known. Matter can be defined only relative to something (relatively) non-material. The only thing of this kind is consciousness. When it is reflected in consciousness, the thing has a twofold existence: as an objective object of thought and as the thought about the object. In terms of the basic question of philosophy, matter and consciousness can appear only as limit concepts (cf. Lenin, *Works*, v. 14, p. 144). They, therefore, are categories of the dialectic which appear as opposites. The objective content of the philosophical concept of matter is not 'the general mark' of existence outside of consciousness but the complex and contradictory process of the defining of consciousness by being in the course of the practical activity of man. Consciousness is opposed to matter as (1) existing outside us, (2) acting on us, causing sensation, i.e., as cause to effect, (3) being 'copied' in an act of reflection. Therefore, "it is absolutely unpardonable to confuse... any particular theory of the structure of matter with the epis-

temological category, to confuse the problem of the new properties of new aspects of matter (electrons, for example) with the old problem of the theory of knowledge, with the problem of the sources of our knowledge, the existence of objective truth, etc.” (*ibid.*, p. 129)

Every new scientific discovery – material particles, poles, etc. – represents a concretization of the philosophical concept of matter, since it reveals new modes and forms of activity on our consciousness as well as new sources of sensation.

In the concept of matter as object of definition (of knowledge) and as a premiss, the whole changing picture of the world is placed before our mental gaze (Marx). This also concretizes the concept of objective reality, in which form matter determines consciousness.

The philosophical concept of matter relates primarily to attributes of material things and to their material existence as actuality. The material being of things is their real being in the unity (identity) of essence and existence, in the ‘context’ of the general relations of the universe, in distinction from the ideal, and in the unity of the reflected existence of these things in our (individual and social) consciousness, in sensations, representations, concepts, etc. The second aspect of the objective content of the philosophic concept of matter is corporeality. Engels writes: “We abstract from the qualitative differences in things when we unite them, as physically existing, in the concept of matter.” (*Dialektika prirody*, s. 203).

At the basis of the process of reflection, i.e., of knowledge, lies the material interaction of external objects with the matter of our bodies and the social-historical, material activity of man in the transformation of the world.

The most impressive unity of the objectively dialectical and the theoretically cognitive aspects of the concept of matter is the final point of the Leninist definition: “... objective reality which is copied, photographed, modeled in our sensations”. This definition shows the possibility of knowledge copying the material nature of things. This possibility consists in a universal property of the material world – the property of reflection.

Thanks to this property of the nature of consciousness, man is able to know the universal while knowing the particular. The universal property of reflection in man appears as his special capacity (forming social-

historical activity) of reproducing the material world in the form of ideal images. At the basis of this capacity lies the specific labor process, namely, the production of tools where objects appear not in relationship to our feelings (not just in relation to our feelings) but in their objective bonds and relations. Man consciously and creatively elaborates his cognitive image, transforming the sense-given (concretely in practical activity and ideally in logical thought). Further, the cognitive image is a reflection, where the object of reflection (what is reflected) is not confused with the being of the reflecting man, but is reproduced in its actual materiality as an external object which exists independent of us and is related to the social-historical subject. This is why in the process of scientific thought man always is conscious of the fact that the objective content of his knowledge is infinitely deep and rich – deeper and richer than the content of the present knowledge. This contradiction provides one of the most important impulses for the development of scientific knowledge.

The philosophical concept of matter leads to a series of important objectively dialectical conclusions about the attributes of matter. Thus, from the definition of matter as primary in reference to consciousness the assertion of the objective character of space, time, movement, etc., organically follows. ‘Situativeness’, spatiality and temporality are necessary objective conditions of the materiality of things. Lenin’s thesis that objective reality acts on us, is copied and reflected in our sensations, already contains reference to the objective character of movement (the object reflects through activity; it arouses sensation) and time (first the object and then its reflection, the image).

In the final analysis, the concretization and development of the philosophical concept of matter is achieved through a whole system of categories of the materialist dialectic; more precisely, in an indefinite process of human (social) activity, aimed toward the objective transformation and ideal reproduction of material reality.

Over the long process of knowledge of the objective world the really essential traits of matter, reflecting its most general properties, were developed into the concept of matter. The most important of these properties, on the contemporary account, are permanence and change, continuity and discontinuity, space and time. These properties of matter exist in in-

separable unity with each other. This is why all are involved in the study of each. Permanence in the midst of change has to be seen as the main property. Throughout the process of continuous change matter undergoes the changes as permanent substance. In other words, the process of material changes or motions of matter in the larger sense of the word happens in nature only in connection with the permanence of matter. In its turn, the permanence of matter is apparent only through its motion. The permanence of matter in the process of its changes finds its reflection in the sciences. The formation of a system of physical concepts, forming the ground of a physical theory, leads to the discovery of some fundamental magnitudes which are subject to conservation (permanence) – energy, impulses, moments, orders of different sorts, etc. (cf. *Law of conservation*). The invariants of physical theory which reflect this permanence guarantee the possibility of the mathematical description of the laws of nature. What is more, basic to the experimental confirmation of physical theory is the need for constant scales and systems of measurement. The presence of constants which are adequate to reflect nature is a presupposition of exact measurement. Thus, it is not only the structure of physical theories but also their confirmation that are made possible by permanent ‘elements’. The permanent parameters of the system of a given theory reflect in the language of physics the essential properties of matter – its permanence, indestructibility and non-creatability. The permanence of matter is expressed in various forms of symmetry. In physics one often meets forms of symmetry which are bound up with transmission, reversal and mirroring in space. Each of these forms of symmetry corresponds to a permanent value. One could say that the permanence of matter appears in the properties of symmetrical space. For example, in the case of the conservation of a mirror-image in space there is a reciprocal relation between particles and anti-particles. The symmetry of space is here inseparable from the material particles.

The laws of motion which contemporary physics has uncovered make it possible to achieve a better understanding of the fact that every type of material object is organically connected with its own form of movement. The atom of a chemical element is a dynamic system which can take part in many kinds of movement. Nevertheless, under the change of some properties, the atom conserves its individuality which is determined by the internal movements which are its existential condi-

tions. The atom can find itself in a number of different states. But, any atom has its average level of energy. The energy of that level involves a minimum of internal movement which is present to the atom as quantum-energy. The atom 'loses' its null energy when it ceases to exist as a single material object. Movement, measured by a certain magnitude of average energy, appears here as an existential condition of the atom. The internally dynamic atom of contemporary physics is basically different from the externally static atom of classical physics.

Movement is an existential form of any material object, including the elementary (better, fundamental) particles. As long as the internal laws of motion of the elementary particles are not known, their structural dynamism has to be observed through properties connected with parameters of movement. Thus, the mass, charge and spin of the particles correspond to a definite type of law of motion of the elementary particles. Movement appears as self-movement of matter because of the interconnection of contraries. The interconnection of contraries takes the most diverse forms, e.g., permanence and changeability. Movement would be impossible if there were no counterposition. In turn, the conservation of movement is accomplished only in the very process of material transformation. Another set of contraries of matter is continuity and discontinuity which form an indispensable condition of matter in motion – one that could be called structural. Characteristic of every object is the presence of relatively 'indivisible' elements which constitute it and form it into a whole, according to a law. Contemporary atomism discloses the relative indivisibility of the structural elements of matter. The atom is known now to be a complex structure. But, compared to other structures in the world, the atom is relatively permanent. Not only is matter discrete but every discrete element of matter – bodies, molecules, atom, nucleus, fundamental particles – is relatively indivisible or 'elementary' at a certain level of matter in motion. Each succeeding form of matter is marked by a specific type of interconnection of the 'elements' that make it up. If these links are qualitatively different, one can speak of different levels of matter. Relatively 'indivisible' elements of the structural forms are found at any level of matter, meaning that structure occurs at all levels. Investigation of the physical, chemical, biological and social phenomena leads to disclosure of specific structures or classes of systems. Each of the domains of the material world exists as a type of

organization. The structural elements determine the peculiarities of those interconnections that form the structured whole which, in turn, exists only as the linkage of certain structural elements. However, the relationship between the elements and the interconnections of these elements are variable: different structural elements can come together with different interconnections. Contemporary physics knows four types of basic interconnection: strong (nuclear), medium (electromagnetic), weak (dissociative), and ultra-weak (gravitational). The discovery of the elements which form a class of objects led to revealing their 'substance'. In this sense, the concept of matter as substance preserves its meaning in contemporary physics. In particular, the discovery of substantial elements of structure – like the cell – is one of the main tasks of biology. Of course, the substantial elements of parts of the cell defining its 'macrostructure' – macromolecular substances and nucleic acids – are internally dynamic and are characteristic of other forms of movement, i.e., the physical-chemical but on the biological level: under certain conditions, the interconnection of these macromolecules forms the material substrate of life.

Disclosure of the substantial elements of one or another class of structures does not mean the reduction of the specific laws of a given level of matter to another level. On the contrary, it makes possible the disclosure of more refined laws of a given form of matter and the explanation of more specific properties of the level. The structures of matter are quite varied in form: matter is inexhaustible in depth. Every step in the knowledge of more refined material structures discloses new specific laws and requires the formation of new concepts for expressing them. Thus, the investigation of the structure of the atom led to the necessary formation of concepts which differed from the classical ones. This need appeared in the central effort to expose the nature of the 'superstructures' of the atoms. In order to explain the structure of the whole, one had to find the 'indivisible' elements of the whole. Of course, the atomic elements – nucleus, electrons, etc. – could not guarantee the indivisibility of the atom. This structure had to be conceived as the result of internal movements. Neither the laws of classical mechanics nor the laws of classical electrodynamics made it possible to disclose the cause of the dynamic structure of the atom. This could be explained only on the basis of the quantum laws of infra-atomic movement.

With the opening of the domain of fundamental particles the task arose of discovering their specific structures. The search for permanent elements of specific structures which are not yet known is one of the most challenging tasks of modern physics. Since the real structure of elementary particles is not yet known, at a certain level of development of physics, the energetic description of correlative processes has to do. Energy, as something conserved in all these processes, is sometimes looked upon as an indestructible substance, out of which – so to speak – are ‘drawn’ all the elementary particles. Although this way of thinking has not solved the problem, it does represent a certain stage in the conception of the structure of elementary particles. This stage can be described as follows: physics has already penetrated to the elementary particles; it has not yet found the deeper structures. The energetic way of talking is fruitful at this stage since the basis of matter here appears as something undifferentiated and unstructured. Heisenberg’s effort to consider the elementary particles to be different forms of one and the same substance, i.e., energy, testifies to the fact that one is looking for common elements of matter. But, if all the particles are made of energy, then energy has to be a substance which has a series of fundamental properties. The usual physical notion would then be expanded into a broad philosophical notion. Energy would then be not just the measure of the physical forms of movement, but also an object which would have to have properties (extension, continuity, etc.) and a series of more concrete characteristics (inertia, spin, charge, etc.). Whence it follows, that the energetic conception contains a deep contradiction between the need of physical theory to have the concept of matter and the desire on the part of some physicists to eliminate it from a physical theory limited by old concepts.

The structure of matter is realized in space and time, with the different elements outside of one another and following each other. Time and space also contain two complementary moments – permanence and changeability.

Space is the ordered coexistence of the structural elements of matter. It is sensible to talk about the spatial parameters of a given object only if that body is distinct from other bodies and has definite limits. The change in the spatial dimensions of a given object takes place only in relation to a much wider structured material system, of which it is an

object. Permanence of structure is not only the existential condition of space itself but the condition for the change of the spatial form thereof. The same is true of time. One could say that time and space have, so to speak, their own structure, reflecting the structural properties of matter in movement. The first to point this out was *Lobačevskij* in founding a new geometry. Contemporary physics (relativity theory) accepts this idea, and this connection of space and time is reflected concretely in the concept of spatial-temporal interval. However, the spatial-temporal characteristics of each object – its life-line and dimensions – find immediate expression in being measured through an appropriate system of measurement (cf. *Relativity theory*). Investigation into the structure of space and time and their connections with other properties of matter leads to more profound knowledge of matter and to the disclosure of new and unusual forms of their disposition, movement, and structure.

A. SPIRKIN

CONSCIOUSNESS

As one of the basic concepts of philosophy, sociology and psychology, consciousness is the capacity for the ideal reproduction of reality and the specific mechanism and forms of such a reproduction in its earlier stages. Consciousness appears in two forms, individual (personal) and social. Because of the complexity of the phenomenon, consciousness appears in different guises in each of the sciences studying it. The materialist solution to the basic question of philosophy sees consciousness as the awareness of being; as the relationship of 'I' to 'non-I'; as a property of highly organized matter, consisting in a reflection of reality; as the subjective image of the objective world; and as the ideal in contraposition to the material in unity with it. In a narrower sense, consciousness indicates the highest form of the psychic reflection which is proper to socially developed man and constitutes the ideal aspect of the intentional labor activity of man. The sociological approach to consciousness centers on the spiritual life of society in all its forms (science, philosophy, art, morality, religion, jurisprudence, social psychology). In psychology, consciousness is treated as the psychic activity that guarantees the generalized and intentional reflection of the external world, accomplished in linguistic form; in connection of new information obtained by the individual, with his previous experience (learning, understanding); in the isolation of man from his environment and his opposition as subject to it as object; in intentional activity, i.e., the prior cognitive construction of an activity with consideration of its consequences; in the control over and the direction of the conduct of the person with his responsibility for what happens around him as well as within him. Since the object of consciousness is not only the external world but also the subject as bearer of consciousness, then one of the main aspects of consciousness is self-consciousness. The constitutive moments of consciousness are reflection, relation, intention and control.

I. THE HISTORY OF VIEWS ON CONSCIOUSNESS

The difficulty of investigating consciousness is bound up with the basic inability directly to observe its workings – a source of all sorts of mystification of its nature. Scientific knowledge of the phenomena of consciousness rose rather late, though its sources were present in antiquity. In primitive society, when the objects and phenomena of nature were understood as spiritual forces (in analogy with the human and animal) (cf. *Hylozoism* and *Fetishism*), there was not yet a clear differentiation between the material and the spiritual, i.e., ‘soul’ and body. With the emergence of animism everything came to be considered as having a soul somehow different from things. In the earlier stages of the development of philosophy, there was no structural differentiation between the ideal and the material; e.g., *logos* was conceived of as both fire and the meaning of things. According to Heraclitus, *logos* directs all through all. The value of human reason was defined by its closeness to *logos*, i.e., the world-order of things. Before Plato, Greek thought did not have the concept of the ideal in the strict sense. The soul was regarded as the breath or as fire, or as the movement of fine atoms. Plato was the first to distinguish the concept of the ideal as something opposed to the sensory and material. Just as in the cosmos the ‘reason’ (*nous*) was the prime mover, the source of harmony and a force which could think itself, i.e., had self-consciousness, so in each individual soul of man, reason knows itself and is also the active source which regulates activity.

The idea that consciousness is a passive reproduction of the *cosmos* was characteristic of the ancient view of consciousness. Even where reason was conceived of as a material process (the movement of atoms) – as in the case of the atomists – consciousness was conceived of as subject to the laws of physical movement; the very possibility of selection and voluntary activity was thought to be an actualization of the general laws of the cosmos. For such an approach the question of the internal activity of consciousness could not even be asked.

While the ancients saw reason as cosmic, as a generalization of the real world and as a synonym of universal law, the medievals saw it as a supernatural source (God) which pre-exists nature and creates it out of nothing. Reason is treated as an attribute of God, with man having only a ‘spark’ of the divine flame. At the same time, there grew up in

Christianity, the very important idea of the spontaneous activity of the soul, where consciousness is included in the concept of soul. For Thomas Aquinas, consciousness contains all the specifically human psychic processes.

With the emergence of the capitalist formation and the development of private initiative there came an awareness of the value of the human person. While in pre-modern times the notions of 'I' and of human consciousness had been properly developed in Indian philosophic and religious schools (although the introspectionist understanding of consciousness is found as early as in Plato and Augustine), now European philosophy underwent the shift from the concept of soul to the category of consciousness. However, in some cases, this led to the absolutization of the spiritual element which was understood in the idealist tradition as something more perfect than physical reality.

The name of Descartes stands out in relation to modern philosophy's treatment of problems of consciousness. He considered consciousness a non-spatial (unextended) substance, known only to the intuiting subject. For him, all the basic phenomena of the psychic were thoughts as distinct from emotions. Although Locke rejected Cartesian nativism, he shared the view that consciousness is "... perception of that which goes on in man, in his own head". (*Izbr. filos. proiz.*, t. 1, M. 1960, s. 137). Thus, self-consciousness is brought to the fore. Materialist philosophy's conception of consciousness was usually based on two principles: consciousness is a function of the brain and consciousness is a reflection of external activities. Spinoza, for example, – using for consciousness the terms 'soul', 'spirit', 'reason', 'thought' – considered it one of the attributes of substance (nature), alongside extension. Therefore, individual consciousness was for him a quality coming to man from nature: "... it is no more in our power to have a healthy soul than it is to have a healthy body". (*Izbr. proiz.*, t. 2., 1957, s. 292). Criticizing the dualism of Descartes, Spinoza asserted the unicity of substance and thereby robbed consciousness of a substantial character. He asserted that the order of ideas coincides with the order and connection of things. The French materialists of the 18th Century considered consciousness to be a function of the brain and a reflection of reality. For them there was an antinomy between man and the environment: man is a product of the environment and the latter is a product of 'social opinion', of reason. Still of con-

temporary interest is the debate between Diderot and Helvetius on the relationship between the educative activity of society on the psyche and consciousness of the individual, and natural 'gifts'. Helvetius held that the content of consciousness is determined by the society in which people live, and reason is formed by education. Only external circumstances can make of a child a genius or an idiot. Diderot had this to say: "He (Helvetius, *ed.*) said: Education means everything. *It should be:* Education means a lot. *He* says: Organization means nothing. *It should be:* Organization means less than usually thought.:" (*Sobr. soc.*, t. 2, M.-L., 1935, s. 215).

The representatives of German classical idealism carried out a profound analysis of the creative activity of consciousness and Hegel arrived at the problem of the social-historical nature of consciousness and asserted the principle of historicism in the understanding of consciousness. Hegel assumed that the consciousness of the individual (subjective spirit), being necessarily related to the object, is determined by the historical forms of social life; of course, the latter were conceived as incarnations of objective spirit and he understood absolute self-consciousness as the supra-personal, universal law, immanent to it. Engels wrote that Hegel's phenomenology of spirit is "... the reflection of individual consciousness at different levels of its development, considered as the abbreviated reproduction of the stages historically traversed by human consciousness." (Marx & Engels, *Soč.* 2, t. 21, s. 278).

As its starting point in the analysis of consciousness, Marxism takes the sensuous, objective activity of man, i.e., social-historical practice as the transformation by man of the external world. The unity of work, consciousness and communication is a basic principle of histomat in the treatment of consciousness. Marxism also considers it basic that the reflective nature of consciousness requires the existence of a real world outside of us.

II. THE MATERIAL BASE AND THE IDEAL ESSENCE OF CONSCIOUSNESS

The basic question of philosophy is that about the relationship of consciousness to matter. The dialectical-materialist answer to this question is that consciousness is a property of highly organized matter and a function of that complex 'lump of matter' which is called man's brain.

The ancient Greek doctor and anatomist, Alcmaeon (500 *B.C.*), already put forth the thesis that the brain is the organ of the psyche. Descartes introduced the idea of a *reflex*, presaging the development of the doctrine of conditioned and unconditioned reflexes (Prohaska, Sečenov, Pavlov, Vvedenskij, Uxtomskij *et al.*). The concept of a reflex expresses the interaction between the organism and the external world, i.e., the causal connection of cerebral activity with the objective world. A significant step forward in the elaboration of the physiological mechanisms of consciousness was made in N. A. Berštein's *physiology of activity*, according to which the brain is constructed not only to receive, store and elaborate information but also to carry out directive activities, aimed at solving certain tasks.

Recent investigations of the activity of the brain have been at the cellular and molecular levels.

The brain is a complex functional system.

To understand the functioning of this system requires the synthesis of data from the study of individual neurons and from the study of man's external comportment. The material bases of the cognitive phenomena of the psyche are not just morphological but also dynamic, since there are properties of self-related-ness of voluntary interactions and the autonomous ones, as well as 'vortical' neural impulses. However, the physiological mechanisms of psychic phenomena (also biophysical, bioelectric and biochemical processes in the brain) should not be identified with the psyche, as is done by the vulgar materialists (Vogt, Büchner, Moleschott, *et al.*), holding that "... thought stands in about the same relation to the brain as bile to the liver" (Vogt, *Fiziologič. pis'ma*, SPB, 1963, s. 335). The methodological error of this position is the fact that the separation of the products of cerebral activity from the object of reflection leads to a denial of the knowability of the world. The causes for the existence of these sensations, thoughts, feelings, and desires in a given man are not to be found in the brain itself. In criticism of the vulgar-materialist error of Dietzgen who asserted that "the soul is not more distinguished from the table, light or taste than these are distinguished from one another", Lenin wrote: "This is obviously false. That both thought and matter are 'real', i.e., exist, is true. But to say that thought is material is to make a false step, a step towards confusing materialism and idealism." (Lenin, *Works*, v. 14, p. 244).

Thought and consciousness are real. But this is subjective rather than

objective reality. In the brain there is no physical impression of the object of reflection. The matter of the brain does not become red under the influence of red light. The cognitive image of the object cannot be reduced either to the material object itself or to the physiological processes which go on in the brain and which cause this image.

Both individual and social consciousness are the subjective images of the objective world. The subjectivity of the image means above all that it belongs to the subject (to man or to the social group at any level of generality) and not to the objective world. Since the image belongs to the subject, it necessarily reflects the peculiarity of his vital experience, his interests, character and social and class positions. Subjectivity also means incompleteness of reflection: the image reflects the properties of things with a greater or lesser degree of approximation. Finally, the subjectivity can also have a negative meaning, i.e., subjectivism or the tendentious distortion by the subject of the objective content of the image. Thus, the subjective image as a spiritual reality and the physiological process as its material substrate are qualitatively different kinds of reality. Ignorance of this generates a tendency to identify them (e.g., psychic phenomena with reflexes), leading to the assertion on the part of some philosophers, psychologists, physiologists and cyberneticians that the psychic is a 'material process', or a complex neural process, or one of the forms of energy, included in the general chain of its infinite transformations. At the same time, absolutization of the specificity of consciousness as the subjective image generates the tendency to oppose the ideal and material and to carry this opposition to the extreme of two substances – spiritual and material (cf. *Dualism, Psychophysical problem*). According to Lenin, the opposition of matter to consciousness has an absolute meaning only within the limits of the basic epistemological question as to which is primary and which is secondary. "To operate beyond these limits with the antithesis of matter and mind, physical and mental, as though they were absolute opposites, would be a great mistake." (*ibid.*, p. 246).

III. THE ACTIVITY OF CONSCIOUSNESS. CONSCIOUSNESS AND REALITY

In the history of philosophy and psychology the activity of consciousness

has been stressed mainly by idealism which hypostatizes this activity and converts consciousness into an independent spiritual force. The problem of the activity of consciousness was thoroughly treated in German classical philosophy. Marxism rejected the idealist version of the activity of consciousness as immanent and proceeding from the depths of spirit's substantial freedom, and also revealed the inconsistency of the metaphysical materialist position, according to which consciousness is a passive intuiting of the world, which has no real influence in the life of man and of society. Diamat explains the activity of consciousness on the basis of its determination by objective reality which acts on man, is reflected in his consciousness, and is transformed into the ideal. In its turn, consciousness is ideally converted into reality. "The thought of the ideal passing into the real is *profound*: very important for history. But also in the personal life of man it is clear that this contains much truth." (*ibid.*, p. 114)

The activity of consciousness is mainly directed toward knowing. It appears in the selecting and directing of perception, in the abstractive activity of thought, in acts of phantasy and of productive imagination, connected with the establishment of new ideas and ideals and with the directing of practical activity.

The point of departure of man's relation to the real world is intentional activity. Stressing the difference between the work activity of man and the comportment of animals, Marx noted that man does not limit himself to changing the form given by nature. In what is given by nature he carries out his own goals which determines like a law the methods and character of his activities which are subject to his will. "The spider carries out operations known to the weaver and the bee can in building his hive sometimes surpass the architects. But what separates the worst architect from the best bee is that he first constructs in his head what he is later going to build. The final result of the process of work already existed in human representation, i.e., ideally." (Marx & Engels, *Soč.* 2, t. 23, s. 189).

Human activity, as distinct from that of animals, does not realize a program of the species, determined by purely biological needs, but develops its own program both by choosing one of the possible directions and motivations, and by proposing new goals and tasks. The final cause of activity does not lie in the subject and his wishes. The real basis of the will is need, i.e., the objectively defined dependence of man on the ob-

jective world, the subjective demands of the individual on this world (his need in terms of objects and circumstances), as needed for normal activity. By preferring the satisfaction of one need over that of others, the individual makes a choice. The will is thus not the simple inclination of the living organism but the conscious effort to define the value of a given need in the context of the general set of human needs. In making the selection and taking responsibility for it, man uses his experience, his knowledge and the objective value of his plans to define the measure of their correspondence with the objective logic of things. In order to serve as a factor in activity, the need has to be transformed into a goal, i.e., the ideal model of the desired future. The profound meaning and historical necessity of the emergence and development of consciousness – which gave man the possibility of correctly reflecting the essential, of predicting the future and, thereby, of creating the world through transformatory activity – lies in guaranteeing creative activity for the transformation of the world, as subject to the interests of man and of society. “Human consciousness not only reflects the objective world, but also creates it... The world does not satisfy man and man uses his activity to change it.” (Lenin, *Soč.*, t. 38, s. 204, 205).

IV. THE STRUCTURE OF CONSCIOUSNESS. PSYCHE AND CONSCIOUSNESS. CONSCIOUSNESS AND SELF-CONSCIOUSNESS

The structure of consciousness is mainly determined by the fact that it is the process of knowledge of reality and the result of this process, i.e., knowledge. “How consciousness exists and how something exists for it – this is knowledge.” (Marx & Engels, *Iz rannix proizv.*, 1956, s. 633)

As cognitive activity, consciousness begins with the senses – i.e., with the reflection in images of the immediate presence of things, their properties and their relations – and reaches the levels of theoretical thought. The movement from sensation to theoretical knowledge takes the form of an indefinite spiral: every departure of abstract thought from sensations, perceptions and representations is accompanied by a continuous return to them. “In direct perception I do have before me the whole object but only in well-rounded knowledge, arising in the form of simple perception, the object appears before my spirit as a sort of whole, *systematically differentiated within itself.*” (Hegel, *Soč.*, t. 3, M., 1956, s. 252).

Consciousness is not just knowledge but also man's relation to the world, in the elaboration of which the main role is played by the *emotions*. "... Without 'human emotions' there has never been, is not now, nor ever will be any human *search* for truth." (Lenin, *Soč.*, t. 20, c. 237).

The concept of the psyche is wider than the concept of consciousness. The psychic includes all conscious and unconscious cognitive processes and forms (sensations, perception, representation, memory, thought), psychic states (emotion, feeling, spirits, fatigue, etc.), and also psychic properties of the individual (powers of observation, position, character traits, types of temperament, etc.).

While the psyche is common to all animals, consciousness is present only in man. But even in a mature individual the basic skein of experience is not under direct control. Leibniz points to the fact that not all sensations and perceptions become facts of consciousness: "... the conviction that the soul contains only the perceptions it knows is a big source of error" (*Novye opyty... M.-L.*, 1936, s. 106).

The sphere of the subconscious contains sensations, perceptions, representations, thought, when they escape the focus of consciousness, as well as habits, instincts, intuitions and reflex actions. The unconscious forms of behavior are based on a hidden fund of information about the properties and relations of things, and guarantees discharge of dangerous pressures on the consciousness. It is consciousness which dominates the interplay of conscious and unconscious processes in man's psyche.

Although it is a higher form of human psychic activity, consciousness is not the same as thought. When we talk about the different consciousness of, e.g., the bourgeois and the proletarian, we have in mind not any difference in their knowledge, logic or understanding, but mainly the difference in their interests, convictions and value-orientations. In consciousness there is an image not only of the outside object but also an image of this image, i.e., the reflection of the reflection of the objective world. An essential aspect of consciousness is self-consciousness which expresses consciousness in its actual givenness to the subject. Self-consciousness is the awareness and evaluation by man of his knowledge, habits, moral character, ideals, motives i.e., a total evaluation of himself as actor, as a thinking and acting being. Self-consciousness is proper not just to the individual but also to society, to classes, to social groups

when they turn to consider their place in the relations of production and to study their interests and ideals. In self-consciousness man isolates himself from and counterposes himself to the whole environment, and defines his place in the circle of natural and social events. Self-consciousness provides "... man the possibility of relating to the act of his own consciousness critically, i.e., to separate *all his external* from all his internal, to analyze and compare it with the internal; in short, to study the act of his own consciousness" (Sečenov, *Izbr. filos. i psihologič. proizv.*, 1947, s. 504). Awareness by the subject of his psychic activity can occur on various levels: from profound and clear self-consciousness to obscure and unclear understanding of what is going on in the 'soul'. Self-consciousness is closely connected with *reflexes* when they reach the level of theoretical thought.

Self-consciousness – as self-knowledge, self-relatedness, self-evaluation – forms at a certain level in the development of the individual under the influence of the social mode of life which requires self-control in one's drives and acts, as well as responsibility for them.

Therefore, it is other people who provide the measure and model for man in his relationship to himself; self-consciousness is profoundly social in nature: "In a sort of way, it is with man as with commodities. Since he comes into the world neither with a looking glass in his hand, nor as a Fichtean philosopher, to whom 'I am I' is sufficient, man first sees and recognises himself in other men. Peter only establishes his own identity as a man by first comparing himself with Paul as being of like kind. And thereby Paul, just as he stands in his Pauline personality, becomes to Peter the type of the genus homo." (Tucker p. 213). In the socially developed man immersion in external affairs does not lead to exclusion of consciousness. Cognitive states of the psyche are always accompanied by the feeling of his 'I' – though this can be either a very loose control or complete absorption where the 'I' is the only object of consciousness.

The human 'I' changes with the growth of knowledge, with education of the will and cultivation of feelings as well as with change in physical states and feelings. Nevertheless, it does retain a certain wholeness and constancy. Thanks to the presence of some essentially invariant properties, human consciousness 'remains itself' and at every stage man can identify his present 'I' with past ones.

V. THE EMERGENCE OF CONSCIOUSNESS AND ITS
BIOLOGICAL PREREQUISITES

The formation of man's consciousness was preceded by a long period of 'mental' development of animals. In the interpretation of this development, diamat rejects both hylozoism and the restriction of psychic privileges to man alone. It assumes that the psychic reflection of reality appears only at a higher level of the organization of matter and is connected with the formation of the nervous system. The elementary form of reflection – proper to all living organisms – is *irritability* which, at a higher stage of evolution, becomes sensibility, i.e., the ability to reflect different properties of things in the form of sensations. In the higher animals there arise the elementary forms of the psyche – the ability to analyze complex sets of simultaneous stimuli and to reflect them in the form of perceptions which are holistic images of the situation. One usually distinguishes two forms of behavior in animals: the instinctual or in-born (cf. *Instinct*) and the individually acquired habits. Clearly expressed habits and intellect are found only in animals with a brain, especially primates (cf. *Animal psychology*).

Genetic similarities between man and animal do not indicate the identity of their psyches. The psychic activity of animals is completely determined by biological laws and serves for adaptation to the environment, while the consciousness of man serves for the transformation of the world. As distinct from the animal, man selects his relationship to the world and the world itself as objective reality.

The emergence of man is bound up with the transition from appropriation of objects at hand to work (cf. Marx and Engels, *Soč.* 2, t. 3, p. 19n). It is in the process of work that the instinctive bases of the animal psyche and the mechanisms of conscious activity are distinguished. Generated in the process of work, consciousness mainly contains nature, as man has humanized it, and culture. Consciousness can emerge only as the function of a complexly organized brain, which complexifies as a result of the structural complexity of sensory activity and social relations, as well as of the cognate modes of communication (cf. Engels, *ibid.*, t. 20, s. 490).

With the help of tools man got involved with objects and artificial forms of interaction. The application of tools and of systems of linguistic signs (e.g., gestures and sounds) changed the whole nature of human

activity in primitive and clan societies. The logic of sensory activity and the system of gestures and acts of communication dictated work in common and the interiorization of cognitive activity. The instrument of this internal activity was a system of signs, i.e., *language*. “Language is as old as consciousness, language *is* practical consciousness that exists also for other men, and for that reason alone it really exists for me personally as well;...” (Tucker, p. 122).

Speech, by objectifying thought, made it into an ideal object for the very subject of this thought. Language is the necessary means for coordinating the labor of the members of society; it is a means not only of social control but also of the voluntary self-control of the person, as well as the formation of conceptual thought and self-consciousness. The experience of the animal-species is transmitted through the mechanisms of heredity which explains the slow tempo of the process. The transmission of socially developed modes of dealing with the world happens mainly in the process of education with the help of the tools of work and of language. Thanks to language, consciousness is formed and developed as the spiritual product of the life of society, establishing the continuity of human activity and community.

Consciousness passes through two basic steps in development: the period of early consciousness, embracing about a million years of emergence of man and of human consciousness; and the consciousness of socially developed, rational man. Describing the early stage of the formation of consciousness, Marx and Engels noted that this was ‘pure early consciousness’, as ‘original awareness’ – close to direct sensation – of the environment, “at first, of course, merely consciousness concerning the *immediate* sensuous environment and consciousness of the limited connection with other persons and things outside the individual who is growing self-conscious.” (*loc. cit.*) In the early stages of man’s awareness he did not get beyond sense representations and simple generalizations of his own acts and of the environment. In the further course of the complexification of work and social relations the ability to think in concepts, judgements and reasonings was formed.

While early consciousness was basically consciousness of isolated individuals and appeared as discrete and syncretist sets of data with a weakly developed emotional overlay, the consciousness of rational man is differentiated into a system of variegated spiritual powers and into

spheres of spiritual activities (scientific, artistic, moral, etc.). In conjunction with this there is the gradual differentiation of individual and social consciousness, forming *mythology*, the basic form of a world-view.

Further significant changes in consciousness accumulated in the transition to class society. The concepts, ideas and value-orientations of different classes took over the consciousnesses of individuals and formed their values in terms of their places and situations in the system of social relations.

VI. THE SOCIAL ESSENCE OF CONSCIOUSNESS. INDIVIDUAL AND SOCIAL CONSCIOUSNESS

Idealism assumes that consciousness develops immanently and spontaneously and can be understood only in and of itself. On the other hand, Marxism assumes that it is impossible to analyze consciousness in isolation from the other phenomena of social life. "Consciousness is, therefore, from the very beginning a social product, and remains so as long as men exist at all." (*loc. cit.*)

The brain of man is not a 'tabula rasa' where life inscribes its image. It includes the results of the whole of human history in the form of 'gifts' which are actualized during education, training and a whole set of social activities. "Again, of all the things that come to us by nature we first acquire the potentiality and later exhibit the activity..." (Aristotle, *Ethica Nicom.* 1103a26).

It is impossible to explain all the individual peculiarities of the psychic make-up of the individual without taking into account the biological factors of heredity. However, absolutization of the hereditary factor creates insuperable difficulties for the disclosure of the essence of man and of his consciousness. The naturalist position tries to reduce the essence of consciousness to internal organic relations of the brain. This is untenable as a scientific theory and leads in politics to the ideology of racism. In and of itself, the natural brain cannot think humanly. It is the organ of human consciousness only when man takes part in social life and acquires a historically elaborated form of culture. Stressing the social essence of the consciousness of the individual which remains as it is even outside of direct contact and communication with others, Marx wrote: "But even when I undertake a scientific activity – one that I can carry out

in direct communication with others – it is *social* activity, because I ask as a *man*. Not only am I given, in the form of a social product, material for my activity – even the language with which the thinker works – but *my own very being is social activity*; and also because I act on my own and establish myself as a social being for society.” (Marx & Engels, *Iz rannix proizv.*, 1956, s. 590).

Consciousness is not only infra-individual; it is also objectified and exists supra-individually in the form of a material and spiritual culture – in the form of social consciousness. Social consciousness develops through the consciousness of individuals and is only relatively independent from it. Undeciphered writing does not in itself have conceptual content, but only in relation to individuals – as the books of the world, monuments of art, etc. – do they have the meaning of spiritual wealth. Social consciousness is a reflection of social being, expressed in language, in science and philosophy, in works of art, in religion and the myths of popular wisdom and in the social norms and views of classes, social groups and mankind as a whole. Social consciousness has a complex structure and different levels, from the instinctive mass level to the highest refinements of theory. Social consciousness exists in many different forms: science, philosophy, art, morality, religion, politics, and law. While reflecting social being, social consciousness possesses relative independence and has feedback on social being. When ideas take hold of the masses they become a material force.

What is more, social consciousness forms a necessary condition for the formation and existence of individual consciousness, which expresses the specific traits of the individual development of the person and the particularities of their education, with characteristics setting them off from the spiritual world of other people. In the main the relationship of the individual to the world is mediated primarily by the views and ideas of a given society as a whole, acting daily on the person and making of each man a representative of a certain style of life, of a certain level of culture and of a certain psychology.

When we turn to social consciousness, then we abstract from all individual and personal views, and maintain only the views and ideas which are characteristic of a given society as a whole or of a definite social group. Just as society is not a ‘sum’ of the individuals making it up, so social consciousness is not a ‘sum’ of the consciousnesses of the in-

dividuals, but a qualitatively different spiritual system which lives its relatively independent life and influences every man, identifying his happiness with the historically accumulated norms of society. Above individual consciousnesses there exists the massive, world-historical culture – a system made up of scientific, artistic, moral, legal and political ideas and representations: “... like a wave breaking over us we feel the pressure of a whole ocean of world history; the thought of the ages in our heads in a minute ...” (Herzen, *Byloe i dumy*, 1946, s. 651). There is a constant interaction between individual and social consciousness. The historical norms of consciousness as developed by society are the object of the personal convictions of the individual and are the source of moral and esthetic norms and tastes. In turn, individual ideas and convictions take on the character of social forces when they enter the framework of social consciousness and also take on the character of norms of behavior. Individual consciousness is, in this way, the accumulated experience of society and social consciousness does not exist outside of individual consciousness.

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DIALECTICAL LOGIC

Dialectical logic is the science of the most general laws of the development of nature, society and human thought. These laws are reflected in the form of special concepts – logical *categories*. Therefore, dialectical logic can also be defined as the science about the dialectical categories. As a system of dialectical categories, it investigates their reciprocal connections, sequence and the transitions of one category into the other.

I. THE OBJECT OF DIALECTICAL LOGIC AND ITS TASKS

Dialectical logic is based on the materialist solution to the basic question of philosophy and considers thought as a reflection of objective reality. This conception is contrary to the idealist conception of dialectical logic which is based on conceiving thought as independent of the world – a sphere unto itself. The fight between these two mutually exclusive interpretations of thought has marked the *history of philosophy* and of logic.

Logic is either *objective*, i.e., dominating all reality, or *subjective*, when there is the reflection in thought of the contradictions which dominate the movement of reality. In this sense dialectical logic is a subjective logic or can be defined as the science of the most general laws of the bonds and development of the phenomena of the objective world. Dialectical logic “is the science not of external forms of thought, but of the laws of development ‘of all material, natural and spiritual things’, i.e., of the development of the entire concrete content of the world and of its cognition, i.e., the sum-total, the conclusion of the *History* of knowledge of the world.” (Lenin, *Works*, v. 38, pp. 92–93).

Dialectical logic as a science coincides with the *dialectic* and with *theory of knowledge*: “... three words are not needed: it is one and the same thing”. (*ibid.*, p. 319).

Dialectical logic is usually counterposed to *formal logic* (cf. *Logic*). This

counterposition is due to the fact that formal logic studies the forms of thought in isolation from their content and from the development of thought, while dialectical logic studies the logical forms in connection with the content and with their historical development. One can note the differences between formal and dialectical logic without exaggerating their counterposition. They are closely connected in the real process of thought and therefore in its study. Dialectical logic is from a certain point of view the study of what is also studied by formal logic – namely, *concepts, judgments, reasonings, scientific method* – with their philosophical and methodological bases and problems.

The task of dialectical logic is to use the generalization of the history of science, philosophy, technology and creativity in general in order to investigate the logical forms and laws of scientific knowledge, as well as the ways of constructing and laws of development of scientific theory; as well as to disclose the practical and experimental bases thereof while seeing how knowledge relates to the object, etc. An important task of dialectical logic is analysis of the historical accumulation of the methods of scientific knowledge and the explanation of the heuristic potencies of a given method, as well as the limits of its application and the possibility of the emergence of new methods (cf. *Methodology*). Developed on the basis of the generalization of social practice and of the accomplishments of science, dialectical logic plays an important role in relation to the sciences, serving as their general theoretical and methodological base. (cf. *Science*).

The history of philosophy as a science is important for dialectical logic. In fact, they are the same except for this difference: while dialectical logic has to do with the sequential development of abstract logical concepts, the history of philosophy has to do with the sequential development of these same concepts but in the concrete form of philosophical systems which displace each other. The history of philosophy shows to dialectical logic the sequence in the development of its categories. The sequence in the development of logical categories in dialectical logic is dictated above all by the objective sequence of the development of theoretical knowledge which, in turn, reflects the objective sequence of the development of real historical processes – cleansed from contingency and without essential zigzags (cf. *Logical and historical*). Dialectical logic is a complete but by no means closed system: it develops and is enriched

according to the development of the phenomena of the objective world and along with the progress of human knowledge.

II. THE HISTORY OF DIALECTICAL LOGIC

Dialectical thought has a long history. Even in primitive thought there was consciousness of development and of the dialectic. In primitive and ancient philosophies there were prefigurations of dialectical theory. Even in the first representatives of Greek philosophy the ancient dialectic, based on vital sensations and perceptions of the material *cosmos*, is formulated in all actuality as grounded on and containing contraries which are mobile and independent. All the philosophers of early Greek classical times talked about universal and eternal motion while simultaneously seeing the cosmos as a closed and perfected whole, eternally at rest. This was the universal dialectic of *motion* and *rest*. These same philosophers talked about the universal changeability of things in function of the transformation of any basic element (earth, water, air, fire and ether) into any other. This was the universal dialectic of identity and difference. They further talked about being as sense perceptible matter and saw there some laws. The numbers of the Pythagoreans – at least the early ones – were indistinguishable from bodies. The logos of Heraclitus is universal fire which regularly rises and falls. For Diogenes Apollonia thought is air. The atoms of Leucippus and Democritus were geometrical bodies – eternal and indestructible, undergoing no changes, but constituting sense perceptible matter. All earlier Greek classical philosophers talked about identity, eternity and time: everything eternally proceeds in time and everything temporal contains an eternal basis, with the theory of the eternal cycle of substance. Everything is created by the gods: but the gods themselves are no more than the generalization of the material elements in such a way that the cosmos is ultimately uncreated: it arose by itself and continues to rise in its eternal existence.

Therefore, the very early Greeks were already aware of the basic categories of dialectical logic, although their spontaneous materialism did not enable them to form these categories into a system and to construct dialectical logic as a special science. Heraclitus and other philosophers of nature provided the formula of eternal emergence as the unity of

contraries. Aristotle called Zeno the Eleatic (A 1.9.10, Diels) the first dialectician. The Eleatics were the first to counterpose both unity and diversity and the rational and sensual worlds. On the basis of the philosophies of Heraclitus and the Eleatics and with growing subjectivism in Greece, there grew up the purely negative dialectic of the sophists who used the contrariness of things and the relativity of human knowledge to carry dialectical logic to the point of complete nihilism, including morals. Zeno was nevertheless able to continue to keep the dialectic alive. (A 9, 13) Xenophanes puts his Socrates into this context – a Socrates who talks about pure concepts, free of sophistical relativism, about the most general elements, dividing them into genera and species, about moral judgement, using a dialogue form: “Even the word ‘dialectic’”, he says, “comes from the fact that people met together and broke things down according to genera...” (*Memor.* IV 5, 12).

One should not underestimate the role of the sophists and of Socrates in the history of dialectical logic. Departing from the naive ontological dialectical logic of the earlier Greeks, they introduced a torrid pace into the development of human thought with its eternal contradictions and with its constant search for truth in a climate of heavy discussion and the urge toward ever more refined conceptual categories. This spirit of heuristics (disputes) and of a question-and-answer development of the theory of dialectic henceforward marked the whole of ancient philosophy and its dialectical logic. This spirit also permeates the Platonic dialogues, the distinctions of Aristotle, the formal logic of the Stoics and even the mystical constructs of the neo-Platonists who were leaders in heuristics, in the dialectic of accurate categories, in the interpretation of past and present *mythology* and in the refinement of systems of categories. Without the sophists and Socrates ancient dialectical logic would have been unthinkable even where the content was different. The Greek was always talking, arguing and making word-games. His dialectical logic arose on the basis of sophistry and of the Socratic method of dialectical discourse.

Continuing the work of his mentor and seeing the world of concepts or ideas as independently actual, Plato understood the dialectic to be not just the distribution of concepts into genera (*Soph.* 253Dff.) and not just the search for truth through questions and answers (*Crat.* 390C), but also as “knowledge of the relatively existing and of the truly existing”

(*Phileb.* 58A). He thought it possible to achieve this only with the help of a reduction of the contradictory particles into the whole and universal (*Rep.* VII 537C). The best illustration of his idealist dialectical logic are to be found in the ‘Sophist’ and the ‘Parmenides’.

In the ‘Sophist’ (254B–260A) one finds the five basic dialectical categories: movement, rest, difference, identity and being, as a result of which being is treated by Plato as an actively self-contradictory coordinative division. Everything is conceived as identical with itself and with all others and as different from itself and all others, as well as resting and moving in itself and relative to all others. In the ‘Parmenides’ Plato carries this dialectical logic to an extreme of exactitude and systematization, by first giving the dialectic of the singular as an absolute and indivisible unity, and the dialectic of the uniquely divisible whole, related both to itself and to all that depends on it (*Parm.* 137C–166C).

Plato’s ideas on the various categories of dialectical logic are to be found throughout his works; e.g., the dialectic of pure emergence (*Tim.* 47E–53C) or the dialectic of cosmic unity which is higher than the unity of individual things and their sum and also higher than the opposition of subject and object (*Rep.* VI, 505A–511A). It is no wonder that Diogenes Laertius (III, 56) called Plato the founder of the dialectic.

Inserting the Platonic ideas into matter and thereby transforming them into the forms of things, Aristotle based his doctrine on potency and energy (as well as on a series of analogous ideas) and carried dialectical logic to a higher stage of development, although he called it ‘first philosophy’ rather than dialectical logic. He retained the word ‘logic’ for formal logic and by ‘dialectic’ he meant the doctrine about probable judgments and reasonings or about appearance (*Anal. prior.* 11, 24a22 ff.).

Aristotle is very important in the history of dialectical logic. His doctrine of four causes – material, formal (more precisely, semantic or eidetic), efficient and final – means that all these are existing in each thing as fully identical with and different from the things themselves. There is no doubt that from a contemporary viewpoint this is the doctrine on the unity of contraries, although Aristotle himself did not stress the laws of contradiction (more exactly, of non-contradiction) as in being and in knowledge. The doctrine of Aristotle on the prime mover which thinks itself, i.e., which is for itself both subject and object, is nothing other than a part of dialectical logic. It is true that the ten categories of

Aristotle are taken by him in isolation and are purely descriptive. But in his 'first philosophy' all of these categories are treated quite dialectically. Finally, there is no reason to discount his description of the dialectic as a system of probable reasonings. In any case, Aristotle deals with the dialectic of emergence because probability is possible only in the range of emergence. Lenin says: "Aristotle's logic is an enquiry, a searching, an approach to the logic of Hegel – and it, the logic of Aristotle (who *everywhere*, at every step, raises *precisely* the question of *dialectics*), has been made into a dead scholasticism, by rejecting all the searchings, waverings and modes of framing questions." (Lenin, *Works*, v. 38, pp. 368–369).

Among the Stoics "only the dialectician is wise" (SVF, II frag. 124; III frag. 717 Arnim.) and they defined the dialectic as the "science of correctly discussing relative to judgements in questions and answers" and as the "science about the true, the false and the neutral" (II frag. 48). Since the Stoics divided logic into dialectic and rhetoric (*ibid.*, I frag. 75; II frag. 294), their dialectical logic was not conceived ontologically. In contrast, the Epicureans conceived dialectical logic as 'canonical', i.e., ontologically and materialistically (Diog. L. X 30).

However, if we attend not to the terminology of the Stoics but to their doctrine on being, then we find the Heraclitean cosmology, i.e., the doctrine on the eternal emergence and mutual transformation of elements, the doctrine on fire-logos, on the material hierarchy of the cosmos and – the main difference between the Stoics and Heraclitus – a solid teleology. Thus, the Stoic doctrine on being was not only materialist but also close to dialectical logic. The line of Democritus, Epicurus and Lucretius cannot be understood mechanistically. The appearance for them of each thing from atoms is also dialectical since each thing carries with it completely new properties in comparison with the atoms, from which it arises. There is, also, an ancient comparison of the atoms with letters (67A 9; cf. A. Makovel'skij's book, *Ancient Greek Atomists*, p. 584): the thing is made up of atoms just as the tragedy and comedy are made up of letters. It is clear that the atomists had in mind the dialectical logic idea of whole and part.

In the later years of ancient philosophy the dialectic of Plato was greatly developed. Plotinus wrote a special work on the dialectic (*Ennead.* 1 3) and the further neo-Platonism developed, the more carefully and

scrupulously was dialectical logic developed. The neo-Platonist hierarchy of being is fully dialectical: the one, which is the absolute unity of all existents, contains in itself all subjects and objects and is thus indivisible; the numerical breakdown and qualitative fulfilment of this first number is Nous which is the identity of the universal subject and universal object (borrowed from Aristotle) or the world of ideas. The transition of these ideas establishes the motive force of the cosmos or the world-soul. Gradually, the rest of the cosmic spheres are generated, beginning with heaven and ending with earth. Neo-Platonism's very doctrine about the gradual and continuous evolution and self-division of the original one – what was called in antiquity and during the Middle Ages 'emanationism' (Plotinus, Porphyrius, Iamblichus, Proclus and many others at the end of ancient philosophy) – was dialectical. A whole mass of dialectical conceptions was produced but – in the style of the times – they were clothed in a mystical and scholastic form. Dialectically important, for example, were the notions of division of the one, the inter-reflection of subject and object in knowledge, the doctrine of eternal motion of the cosmos, pure emergence, etc.

This sketch of ancient dialectical logic shows that almost all the important categories had been elaborated on the basis of a conscious relationship to spontaneous emergence. However, neither ancient idealism nor ancient materialism was able to finish the job by introducing full consciousness, joining matter and idea in some cases and separating them in others, in view of the primacy of religious mythology in some cases and of enlightened relativism in others and in view of the weak awareness of categories as reflections of reality and the inability to conceive the creative influence of thought on reality. To a great extent, the same was true of medieval philosophy, where a new mythology replaced the old but dialectical logic remained captive to a blind ontologism.

The dominance of monotheistic religion in the Middle Ages pushed dialectical logic into the field of theology, where Aristotle and neo-Platonism were used to establish scholastically developed doctrines about a personal absolute.

This was a step forward in the development of dialectical logic since philosophic consciousness gradually began to feel its own strength. Dialectical logic was used in the construction of the Trinity doctrine (e.g., by the Cappadocians – Basil the Great, Gregory Nazianzen,

Gregory of Nyssa – and in general by the Church Fathers, like Augustine) and the Arab-Jewish doctrine on the social absolute (e.g., Ibn Rošd and the Cabbala). The symbols of faith developed at the first two Councils (325 and 381) affirmed three persons in one substance and with completely identical development of all three: the source of eternal motion (the Father), the diversifying law of this motion (the Son or the Word of God) and the eternal creative emergence of this law (the Holy Ghost). Science has already explained the connection of this conception with the dialectical logic of Plato, Aristotle, the Stoics and the neo-Platonists. The most profound expression of this dialectical logic is in Proclus' 'Elements of Theology' and in the so-called 'Areopagites' which presents a Christian version of Proclus. Both were important for the dialectical logic of the Middle Ages (cf. A. I. Brilliantova, *The Influence of Eastern Theology on the West in the Works of John Scotus Eriugena*, 1898).

This dialectical logic was based on a religious mysticism and reappears in Nicholas of Cusa's ideas on the identity of knowledge and ignorance, on the identity of maximum and minimum, on eternal movement, on the trinary structure of eternity, on the identity of the triangle, circle and square in divine theory, on the coincidence of contraries, on anything in anything, on the generation and development of absolute nothing, etc. What is more, Cusa mixes these old ideas with emerging notions of mathematical analysis so that the absolute ends up being conceived as some form of integer or, inversely, as differential. In Cusa one also finds the notion of concrete possibility (*posse – fieri*), i.e., eternity as the eternal emergence of newer forms as grounding being. In this way, the infinitesimal principle was established as an existential characteristic of the absolute itself. There was also for example, his notion of *possest*, i.e., *posse est*, or eternal potency which generates ever newer things and grounds being. Dialectical logic with an infinitesimal range here becomes a very clear conception. One also should recall Giordano Bruno's Heraclitean pantheism and pre-Spinozistic materialism which also included the unity of contraries, the identity of minimum and maximum (with the minimum conceived only as close to the infinitely small which was then developing as an idea), the infinity of the Universe (treated in a fully dialectical manner since its center could be anywhere), etc. Philosophers like Cusa and Bruno continued to teach about God and the divine

unity of contraries but this was camouflage for the infinitesimal which developed, over a century or so and represented a new stage in the development of dialectical logic.

In modern times, the rise of capitalism and its individualist philosophy, dominated by rationalist metaphysics (Descartes, Leibniz, Newton, Euler) brought operation with variable magnitudes and functions – widening the field of dialectical logic, although it was often not seen in this light. For, what mathematics calls a variable magnitude, the philosopher calls an emergent magnitude; and, as a result of this emergence, there come to be limit values which are really the unity of contraries as, e.g., a derivative is a unity of contrary arguments and functions – not to speak about the very emergence of magnitudes and their transition to the limit.

It is necessary to keep in mind that, with the exception of neo-Platonism, the very term ‘dialectical logic’ is not used in the philosophic systems of the Middle Ages and of modern times except as meaning something like logic. For example, this is true of the Damascene’s ‘Dialectica’ and of Eriugena’s ‘De divisione naturae’ in Western theology. Descartes’ doctrine on the variety of space, Spinoza on thought and matter or on freedom and necessity, or Leibniz on the presence of every monad in every other monad – all contain very profound dialectical constructs but none of them had a dialectical logic.

Thus, modern philosophy was also a step forward for dialectical logic. The modern empiricists (Bacon, Locke, Hume) with all of their metaphysical and dualist notions, gradually came to see in the categories a reflection of reality. Despite their subjectivism and formalistic metaphysics, the rationalists all found some independent movement in the categories! There were also efforts at some sort of synthesis, doomed to failure because of excessive individualism, dualism and formalism in modern bourgeois philosophy. This was because the latter arose on the basis of private enterprise with a sharp opposition between ‘I’ and ‘non-I’, where the ‘I’ was always in charge.

Spinoza shows the failure of such a synthesis in pre-Kantian philosophy. The initial definitions of his *Ethics* are completely dialectical. If in the *causa sui* essence and existence are identical, then there is identity of contraries. Substance is that which exists for itself and which knows itself through itself. This is also a unity of contraries – being and the definitional

presentation of itself to itself. The attribute of substance is what reason presents as its essence. This is the identity in essence of that which is of the essence and its mental reflection. The two attributes of substance – thought and extension – are one and the same. There is an infinite series of attributes but each of them reflects all of substance. There is no doubt that we have here dialectical logic. Nevertheless, Spinozism is blindly ontological, very sloppy about reflection and thinks very little of the reverse reflection of being in being itself. Without these one cannot develop a systematic dialectical logic.

It was German Idealism which established the classical form of modern dialectical logic – starting with the negative and subjectivist treatment by Kant, through Fichte and Schelling to the objective idealism of Hegel. For Kant dialectical logic is nothing more than the destruction of the illusions of human reason which wants to attain complete and absolute knowledge. Since, for Kant, scientific knowledge is only that knowledge which is based on sense experience and the activity of understanding and the higher concepts of reason (God, world, soul, freedom) are not scientific, then dialectical logic is for Kant the awareness of the inevitable contradictions which reason encounters when it wants to reach absolute goals. This purely negative treatment of dialectical logic by Kant was of historical importance because it showed the contradictoriness of human reason. This, in turn, led to attempts to overcome the contradictions of reason, which already have a positive function in dialectical logic.

It should be noted that Kant was the first to use the term ‘dialectical logic’ in a very extensive way. What is more interesting is the fact that Kant was very impressed by the role which dialectic logic plays in thought. Contrary to his dualism, his metaphysics and his formalism, he could not prevent himself from making frequent use of the principles of unity of contraries. For example, in the chapter ‘Of the Schematisms of Pure Conceptions of Understanding’ in the *Critique of Pure Reason*, he asks himself the question: how do the sense-data fall under understanding and its categories? It is clear that they have to have something in common. The schema they have in common is time. Time binds the sensory phenomena with the categories of understanding, since it is empirical and *a priori*. This is a mystification in Kant for, on his own terms, time cannot be something sensory; it has to be *a priori* and cannot unite sensation

and understanding. However, it is clear that, unbeknownst to himself, Kant is conceiving temporal emergence in general; and, it is clear that in emergence in general each category appears and disappears. Thus, a cause of a given phenomenon which characterizes its coming-to-be appears in different forms – i.e., arises and passes away. Thus, the dialectical synthesis of sensation and understanding, precisely in dialectical logic's direction, is effectuated by Kant himself – but metaphysical and dualistic prejudices keep him from being clear and simple about it.

Of the four groups of categories, quantity and quality obviously belong dialectically to the relations and the modal categories are only more precise expressions of the relations. Within each group, Kant presents the categories dialectically, i.e., triadically. Unity and diversity came together in the unity of opposites which Kant himself called the whole; reality and negation came together in limitation (of affirmation and non-affirmation). Finally, even Kant's antinomies (e.g., the world is limited and limitless in space and in time) result from emergence: the observable world is finite but we cannot find its limits in space and time; therefore, the world is not finite but infinite and there exists only the search for the limit according to the regulative requirements of reason. The *Critique of Judgment* is also an unconsciously dialectical synthesis of the other two critiques.

Fichte immediately facilitated the systematization of dialectical logic by conceiving the things in themselves as subjective categories, without any objective existence. This absolute subjectivism eliminated dualism and permitted the strict derivation of some categories from others, thus bringing dialectical logic into contact with anti-metaphysical *monism*. We need only add to this absolute spirit of Fichte the absolute nature of Schelling and the absolute history of Hegel to get the latter's objective idealism, where the monistic dialectical logic makes it possible to encompass the whole of reality, from the purely logical categories, through nature and spirit, ending in the categorical dialectic of the whole of the historical process.

Hegelian dialectical logic – not to speak of the other domains of knowledge, where (according to Hegel) there is only the movement of one category or another as established by world spirit – is the systematic development of a science where there is an exhaustive and contentful presentation of the universal forms of movement of the dialectic (cf.

Kapital, t. 1, s. 19). Hegel is perfectly correct from his own viewpoint when he divides dialectical logic into being, essence and concept. Being is the very first and most abstract definition of thought. He concretizes it in the categories of quality, quantity and measure (the last being both the quality of quantity and the quantity of quality). Hegel conceives quality in the form of initial being, which transits after exhaustion into non-being, which exhausts itself into non-being, whereupon there is the emergence of a dialectical synthesis of being and non-being (since in every emergence being always arises only to be destroyed). Exhausting the category of being, Hegel considers being again but from the point of view of opposition to being; whence flows the category of the essence of being, where Hegel – following his usual method – finds essence for itself, its appearance and the dialectical synthesis in the category of actuality. This exhausts essence. But essence cannot be in isolation from being. Hegel also investigates this stage of dialectical logic, where one finds the categories of essence and being contained in that of the concept. Since Hegel was an absolute idealist, he finds in the concept the high point of both being and essence. Hegel saw his concept as subject, as object and as absolute idea; the categories of his dialectical logic were also ideas and absolute. What is more, the Hegelian concept can be interpreted materialistically – as did Engels – as the general nature of things, or as the general law of process (as in Marx), or as knowledge (as in Lenin). This part of Hegel's logic ceases to be mystical and becomes rational. All these self-moving categories are conceived by Hegel in the widest and most universal sense, so that Lenin can conclude his *Conspectus* by saying: "... in this most *idealistic* of Hegel's works there is the *least* idealism and the *most materialism*. 'Contradictory', but a fact!" (Lenin, *Works*, v. 38, p. 234).

Hegel represents the highest summit of Western philosophy because he established a logic, where all the logical categories flow continuously and dynamically from a creative interpenetration and where the categories – though only products of spirit – are objective in that they represent all of nature, society and history.

The Russian revolutionary democrats – Belinskij, Herzen, Čer-nyševskij and Dobroljubov – represent a large advance over the pre-Marxist philosophy of the 19th Century. Their revolutionary theory and practice not only made it possible to move from idealism to materialism

but also led to the dialectical emergence of the most advanced views in various fields of the history of culture. Lenin wrote that the dialectic of Hegel was for Herzen the “algebra of revolution” (cf. *Soč.*, t. 18, s. 10). How well Herzen understood dialectical logic in relation to the physical world, can be seen from the following words: “The life of nature is continuous development, development which is abstractly simple, incomplete, spontaneous in concretely complete, complex development of the embryo through differentiation of all the concepts in it, and the usual sollicitude carries this development to the fullest correspondence of the form with the content; – this is the dialectic of the physical world.” (Herzen, *Sobr. soč.* t. 3, 1954, s. 127).

There are profound comments on dialectical logic in Černyševskij (cf. e.g., *Poln. sobr. soč.*, t. 5, s. 391; t. 3, s. 207–9; t. 2, s. 165; t. 4, s. 70). Because of the circumstances of their era, the revolutionary democrats could turn only to the materialist dialectic.

III. DIALECTIC LOGIC IN BOURGEOIS PHILOSOPHY AT THE TURN OF THIS CENTURY

Bourgeois philosophy deviated from the accomplishments of previous philosophy in the field of dialectical logic. Hegel's dialectical logic was rejected as ‘sophistry’, ‘logical error’ and even ‘disease of the soul’ (R. Haym, *Hegel und seine Zeit*, 1857; A. Trendelenburg, *Logische Untersuchungen*, 1840; E. Hartmann, *Ueber die dialektische Methode*, 1868). The efforts of the right Hegelians (Michelet, Rosenkranz) to defend dialectical logic were useless because of the dogmatism and metaphysical structures of their own views. On the other hand, the development of mathematical logic and its successes in grounding mathematics led to its absolutization as the only scientific form of logic.

The elements of dialectic logic that remain in contemporary bourgeois philosophy are connected above all with the critique of the limited formalism of the process of knowledge and with the repetition of Hegel's doctrine on ‘concrete concepts’. Neo-Kantianism replaces the abstract concept, based on the law of the inverse relation of extension and intension of the concept and thereby leading to more abstract concepts, with the ‘concrete concept’, conceived along the lines of a mathematical function, i.e., as a general law which covers all the special cases by

substitution for variables, endowed with any consistent meaning. Deriving this idea from the logic of Drobisch (*Neue Darstellung der Logik...*, 1836), the neo-Kantians of the Marburg school (Cohen, Natorp, Cassirer) substituted for the logic of 'abstract concepts', the 'logic of mathematical concepts about functions'. Because one forgot that the function is only the representation of the activity of reason, this led to a denial of the concept of substance and to 'physical idealism'. Neo-Kantian logic also retained a number of idealistic conceptions of dialectical logic – the conception of knowledge as the process of 'constructing' the object (the object as 'infinite construction'); the principle of 'origin' (*Ursprung*), consisting in the 'conservation of unity in diversity and vice versa'; the 'heterology of synthesis', i.e., its subsumption not to the formal law of ' $A=A$ ' but to the content-full one, ' $A=B$ '. (cf. H. Cohen, *Logik der reinen Erkenntnis*, 1902; P. Natorp, *Die logischen Grundlagen der exakten Wissenschaften*, 1910).

In neo-Hegelianism the problem of dialectical logic was linked with the critique of the traditional theory of abstraction: if the sole function of thought is to abstract, then "the more we think, the less we will know" (T. Green). Therefore, a new logic is needed; one devoted to the principle of the 'wholeness of consciousness', whereby reason which has an unconscious notion of the whole, tries to bring its partial ideas into correspondence with it by 'complementing' the part with the whole. Putting 'complementarity' in the place of Hegel's 'negativity', the neo-Hegelians arrived at a 'negative dialectic' where the contradictions met in concepts serve as signals for the non-reality of their objects. (cf. Bradley, *The Principles of Logic*, 1928, and his *Appearance and Reality*, 1893). Complementing this is the 'theory of internal relations' which absolutizes the universal relations of phenomena, excludes the possibility of true propositions about fragments of reality, and leads the neo-Hegelians to an irrational denial of discursive and analytic thought. These tendencies are shared by German (Kroner) and Russian (Il'in) neo-Hegelianism, where Hegel's dialectical logic appears as 'irrationalism made rational', 'intuitivism', etc.

The general crisis of capitalism and the rapid increase of the contradictions of capitalist society led to an effort to consider dialectical logic in terms of the insolubility of its contradictions.

The 'tragic dialectic' came to be, which was 'Hegel plus ethos' but

without the “rational faith in the final resolution of contradictions”. (A. Liebert, *Geist und Welt der Dialektik*, B., 1929, S. 328). This tragic dialectic was reinforced by the inability to envisage a solution to the contradictions by getting outside the system that makes them necessary. This turned the tragic dialectic into a sort of apology for contemporary capitalism, with the renunciation of a real dialectical logic *à la* Hegel or Kant. In the ‘critical dialectic’ this notion is complemented by an assertion on the impossibility of applying the dialectical logic to nature.

In *pragmatism* the critique of abstraction and formalism in mathematical logic also led to *irrationalism* (James) and *voluntarism* (Schiller). By trying to substitute a ‘logic of enquiry’ for formal logic, Dewey used some elements of Hegel’s dialectical logic: especially by taking the relation between propositions of different quality and quantity as a testimony to the depth of knowledge. Thus, contrary judgements limit the investigation and give direction to further research; subcontraries are interesting not because of the formal property that they cannot both be false, but because they concretize the problem; subalternate judgements are trivial in the transition from lower to higher but very important in that from higher to lower, and this is a new step in continuing the investigation (Dewey, *Logic. The Theory of Inquiry*, 1938). But, since Dewey’s ‘logic of enquiry’ is based on the notion of an ‘unique and unrepeatability situation’, the logical forms and laws become ‘useful fictions’ and the process of knowledge is simply ‘trial and error’.

The philosophical trends which are not connected with the dialectical logic tradition of German classical philosophy usually treat the limits of formal logic as the limits of scientific knowledge in general.

One gets things like Bergson’s demand for ‘fluid concepts’, which are able to follow reality ‘in all its turns’ and which are able to bring together contrary sides of reality. However, “this unification contains something mysterious, i.e., how contraries can coexist; and it cannot be explained by a set of steps or by variability of form; like all mysteries it has to be accepted or rejected” (Bergson, *Introduction à la métaphysique*). Therefore, the basic demand of dialectical logic is turned into a ‘mystery’. This leads directly to *intuition* as the sole way of knowing (German *Lebensphilosophie*, Bergson) and to simple mysticism (the ‘dialectical theology’ of Barth, Tillich, etc; the mysticism of Stace, etc.).

No small place is given to the ideas of idealist dialectical logic in con-

temporary *existentialism*. Generally inclined to mysticism in its explanation of knowledge, existentialism treats dialectical logic as a 'dialogue of I and Thou' where 'thou' means God rather than other men (Marcel, Buber). Jaspers considers intuition to be the highest form of knowledge and equivalent to creation of the object. Holding this to be proper only to God, he simultaneously uses the Hegelian counterposition of understanding and reason. The latter is higher than the former but lower than intuition which uses contradiction to penetrate the world and consciousness. Man can cut through the fetters of thought to being itself: transcendence through the dissolution of failing thought is the mystical path in thought (cf., Jaspers, *Von der Wahrheit*, 1958, s. 310). According to Jaspers, dialectical logic applies only to 'existence', i.e., 'to being which is ourselves', observing itself as 'universal negation' (*ibid.*, s. 300). This idea recurs in the thought of Sartre, where its applicability to man is conditioned by the prior occurrence of 'nothing' (*le néant*) in the world. Nature is the domain of 'positive reason', based on formal logic, while society is known by 'dialectical reason'. Sartre defines dialectical reason as totalization, as 'logic of labor', etc. In this respect, dialectical logic is a means of knowledge only of that which it itself creates. According to Sartre, real 'goals' exist only as the product of human activity, and the knowing and 'constructing' and 'totalizing' dialectical reason finds its principle not in the dialectic of nature and society but in human consciousness and in the practice of the individual, opposed both to nature and to society. This line of thought continues the misthinking of many bourgeois ideologists who assert that the dialectic and materialism are incompatible.

The development of *neopositivism* and its absolutization of mathematical logic as the only form of scientific logic have dulled the sensitivity of contemporary bourgeois philosophy to various aspects of dialectical logic. However, the crisis of the neopositivist conception of the 'logic of science' has generated attempts to go outside of its limits. For example: Bertalanffi's 'general systems theory'; Piaget's 'genetic epistemology'; Perleman's 'Theory of argument'. Of course, these logicians do not have a complete conception of the dialectic and their crass imperialism in the logical investigation of methods of thought makes it impossible for them to develop positive principles of dialectical logic. However, their empirical investigations do flow along the lines of

a content-full analysis of logical theories – somewhat closer to dialectical logic. Of interest, also, are the works of the so-called ‘dialectical school’, grouped around the journal, *Dialectica* (Gonseth and others) and including both philosophers and scientists (Bachelard, Destouches-Février). However, their efforts to establish dialectical logic as a ‘dialectic of contraries’ suffer from a pragmatic approach to ‘alternative logics’ according to a principle of ‘convenience’ and ‘utility’ and absolute relativism in the understanding of truth (Gonseth) and also because the dialectical unity of contraries is often subordinated to ‘complementary’ postulates of existence and not to a unity or ‘identity’ of contraries.

In this way, contemporary bourgeois philosophy is aware only of isolated aspects of dialectical logic.

There is no bourgeois philosophical theory that has a scientific conception of dialectical logic and the dialectical logical ideas which remain from previous philosophies often lead to irrationalism and mysticism. Nevertheless, contemporary bourgeois philosophy still contains idealist elements of dialectical logic.

As a conclusion to our sketch of pre-Marxist and non-Marxist development of dialectical logic, we can say it appeared as: the general emergence of matter, nature, society, soul (Greek philosophy of nature); the emergence of domains in the form of logical categories (Platonism, Hegel); the emergence of mathematical magnitudes, numbers and functions (mathematical analysis); the doctrine on correct questions and answers and about disputes (Socrates, Stoics); the critique of all that exists and substitution of its discrete and hidden multiplicity (Zeno of Elea); the doctrine about regularly emerging probable concepts, judgments and reasonings (Aristotle); the systematic elimination of all human illusions about reaching absolute truth and, instead, reaching paradoxes (Kant); the subjectivist (Fichte), objectivist (Schelling) and absolute (Hegel) philosophy of spirit, expressed in the emergence of categories; the doctrine on the relativity of human knowledge and about the complete logical impossibility of thinking or talking or of asserting or denying anything (Greek sophists and sceptics); the substitution of the unity of opposites by coexisting, complementary elements of a series of achievements of wholistic knowledge (Bradley); the mixing of contraries with the help of pure intuition (Croce, Kroner, Il’in); the irrationalist and purely instinctivist mixture of opposites (Bergson); the relatively con-

ceived and more or less contingent structure of consciousness (existentialism); and the teleologically treated system of questions and answers between consciousness and being (Marcel, Buber).

Consequently, pre-Marxist and non-Marxist philosophy began by treating dialectical logic materialistically and ended up in extreme idealism. But, this general result of the history of dialectical logic was instructive: philosophical thought had already met with material beings outside of and independent of human consciousness; it had already understood that the categories of human thought are the result of the reflection of this being; it was clear that one had to admit the relativity of these categories, as well as their self-movement and their complexity; many philosophical systems had already taken up the problem of the reverse influence of thought on the world; finally, historicism had appeared here and there in doctrines about categories and their emergence. However, all these isolated and often important developments of dialectical logic remained more or less contingent, historical facts. There was no sufficient social force to bring them all together and to unite them with human development and to make them serve the needs of freely developing man.

The history of dialectical logic shows that in the whole of antiquity, of the Middle Ages and even of modernity up to Kant, dialectical logic was hardly distinguished from the doctrine on being. Kant and German Idealism began the development of an autonomous dialectical logic, taking it by the wrong side either as the product of the human subject or as that of some sort of world-subject. There was only one other path – one that was seldom visited in ancient philosophy: namely, the path of recognizing dialectical logic as the reflection of objective reality, a reflection which through social practice has an inverse influence on reality.

The sole philosophical system which critically appropriates all that previous philosophy had accomplished in dialectical logic, from the position of a definite materialism and develops it is the philosophy of diamat. Highly appreciative of the dialectical logic of Hegel, Marx and Engels freed it from the doctrine about absolute spirit. They critically developed Feuerbach's ideas who also tried to assimilate Hegel's accomplishments in the field of logic from the viewpoint of materialism but who did not see the role of work in the spiritual development of man. Feuerbach assumed that the real world was given to man in the act of intuition and,

therefore, he saw the task of the materialist critique of Hegel's logic as consisting in an interpretation of logical categories as the picture of reality, farthest removed from the sense intuition of man, and limited thereto.

In criticizing Feuerbach, Marx and Engels established that in his knowledge man is given first not the external world as it is but as transformed by man. Marx and Engels found the key to the problem of knowledge and its science in social practice. Marx' *Capital* was a triumph of the materialist understanding of dialectical logic. The economic categories as a reflection of the economic reality; their abstract generalization and their concrete-historical character; their self-development, conditioned by the corresponding self-development of economic reality; their self-contradiction and in general contradiction as the motive force of historical and logical development; finally, awareness of the revolutionary appearance of a new historical period, without illusions, without any exaggerations – all this comes out with exceptional clarity in any dialectical category of Marx' *Capital*. Such are the categories of commodity, concrete and abstract labor, exchange value and use-value, commerce and money or the formulae $C-M-C$ and $M-C-M$, surplus value, and also the social-economic formations themselves (feudalism, capitalism, Communism). A prime example of dialectical logic is provided by Engels in many of his works – especially in *Dialectic of Nature*, which helps to lay the foundations of Marxist dialectical logic. The unprecedented development of science during the 19th Century, the development of the working movement, and the petty-bourgeois reaction to Hegel – all prepared minds for the triumph of the Marxist dialectic. In the 20th Century Lenin armed himself with the scientific accomplishments of the 19th and 20th Centuries and provided a profound formulation of Marxist dialectical logic, conceiving it along with Marx and Engels as a revolutionary turnabout in logic (cf. *Soč.*, t. 38, s. 353–361). One can see that no category – economic, social, historical, or cultural – remained for Lenin without a dialectical elaboration. For example, one could take Lenin's doctrine on the development of capitalism in Russia, of imperialism as the last stage of capitalist development, of people and the state, about the Communist Party, of war and peace, about the preservation of the values of world culture and the critique of earlier periods of its development, about trade-unions, about the creativity of Tolstoy, etc.

IV. DIALECTICAL LOGIC IN SOVIET PHILOSOPHY

In the Soviet Union much has been done on the dialectical analysis of different categories, on their various combinations into systems and on dialectical logic as a whole. Questions of dialectical logic have been developed by Marxists in other countries, too. Some of them are still open to discussion: e.g., the object of dialectical logic and its relation to formal logic. We will mention only the main characteristic viewpoints, reflected in the Soviet literature. The viewpoint of M. M. Rozentál', E. P. Sitkovskij and I. S. Narskij, for example, is that dialectical logic does not exist outside of the dialectic which, as the science on the most general laws of the development of nature, society and human thought, is also the logic of Marxism-Leninism. "... Dialectical logic has to be seen not as something different from the dialectical method, but as one of the most important of its sides and aspects – namely, the side which asks what human thoughts – concepts, judgements, etc. – have to be like so that they will reflect the movement, development and change of the objective world." (Rozentál', *Principles of Dialectical Logic*, 1960, p. 79).

Another viewpoint holds that dialectical logic is a part of the theory of knowledge which, in turn, is part of the dialectic. This notion is expressed by V. P. Rožin as follows: "... the object of dialectical logic is part of the object of the Marxist theory of knowledge and of the dialectic.... In turn, the theory of knowledge is part of the object of the materialist dialectic..." (*The Marxist-Leninist Dialectic as a Philosophic Science*, 1957, p. 241). This is also the position of M. N. Rutkevič (cf. *Dialectical Materialism*, 1959, p. 302).

B. M. Kedrov asserts that dialectical logic is "... the logical aspect or the logical function of the dialectic" (cf. *Dialectic and Logic. Laws of Thought*, 1962, p. 64), that it "... in essence coincides not just with the so-called subjective dialectic, i.e., the dialectic of knowledge, but also with the objective dialectic, the dialectic of the external world" (*ibid.*, p. 65). At the same time, Kedrov recognizes that "... the problem area of dialectical logic is different from that of the dialectic as a science, although there is no sharp delimitation. This difference is conditioned by the fact that dialectical logic is a special form of thought, where the connections of the objective world are reflected in a specific way" (*ibid.*, p. 66). In conjunction with this, Kedrov thinks it possible to talk about specific

laws of the dialectical logic which he considers "... as concretization of the laws of the materialist dialectic relative to the sphere of thought, where the general laws of the dialectic appear in a form which differs from that they have elsewhere." (*loc. cit.*).

A number of Soviet philosophers (S. B. Cereteli, V. I. Čerkesov, V. I. Mal'cev) go further in this direction by recognizing the existence of special, specific forms of thought: judgments, concepts, reasonings. Close to this is the viewpoint of M. N. Alekseev who considers the object of dialectical logic to be dialectical thought: "When thought knows the dialectic of the object, it is dialectical; otherwise, it cannot be called dialectical." (*Dialectical Logic*, 1960, p. 22).

Finally, some recognize the existence of only one logic – formal – adding that the dialectic is not a logic but a philosophical method of knowledge and of the transformation of reality. For example, K. S. Bakradze writes: "There are *not two sciences on the forms and laws of correct thought*; there is only one such science and that is formal logic.... Dialectical logic is not a doctrine about the forms and laws of correct, and adequate thought, but a general methodology of knowledge, and a methodology of practical activity. This method studies the phenomena of nature and the methods of knowing them." (*Logic*, Tbilisi, 1951, pp. 79–80).

The creative development of any science involves differences of opinion and efforts to solve the problems facing it – as can currently be observed in Soviet logical writings.

V. THE BASIC PRINCIPLES AND LAWS OF DIALECTICAL LOGIC

From the viewpoint of dialectical logic, the forms of thought, the categories, are the reflection in consciousness of the most general forms of objective activity of social man who is transforming reality: "... the essential and proximate basis of human thought is the *change of nature by man*, and not just of nature as such; but the reason of man develops in accord with how man begins to change nature." (Marx & Engels, *Soč.* 2, t. 20, s. 545). The subject of thought is not the simple individual but the person within a set of social relations. All forms of vital human activity are not just natural but also historical and involve the emergence of human culture. If a thing is made by man or separated by him from other

things for some purpose, it becomes the center of very complex productive, social and historical relations. However, if a thing is not made by man (the sun, moon or stars) but only conceived by him, then the social-historical practice is found only in the definition of the thing. The principle of practice has to enter the very definition of the object since all objects are either made by the subject or done for him by other or, at least, serve for certain vital purposes and are removed from ordinary reality.

When known, the laws of nature – according to which man changes any object, including himself – become like logical laws, directly influencing the movement of the objective world and of human life. In consciousness they appear as the ideal image of objective reality: “the laws of logic are the reflections of the objective in the subjective consciousness of man” (Lenin, *Works*, v. 38, p. 183)

Dialectical logic is based on the affirmation of the unity of the laws of the objective world and of thought. “Ruling over all of our theoretical thought with absolute force is the fact that our subjective thought and objective world are subject to the same laws and that their results cannot oppose but have to agree with each other.” (*Dialektika prirody* s. 213).

Every universal law of development of the objective and spiritual world is also in a certain sense a law of knowledge: any law which is reflecting that which exists in reality also points to the fact that one must think correctly about the domain in question. (cf. *Laws of thought*).

The basic and most general laws of the development of the phenomena of reality are the *unity and conflict of contraries*, the *transition from quantitative changes to qualitative ones* and the *negation of negation*.

The essential principles of dialectic logic are the assertion of the universal connections and interconnections of phenomena and also of their development, which takes place through contradictions. Thus, the characteristic principle of dialectical logic demands taking into account all (that can be distinguished at this level of knowledge) sides and bonds of the object in question with other objects; it is a principle which requires that the object be studied in development. Development takes place only when each of its moments is advanced again and again. But if the advances of new moments are not to stop, then the new has to be recognized in what develops and in what serves development. The exclusion of the differences of moments of emergence leads to the down-

fall of emergence itself, since only that emerges which changes from one to the other. But, full exclusion of the identity of different moments of emergence also cancels the former, subjecting it to a discrete set of points which are immobile and therefore unrelated. Therefore, difference and identity of the different moments of emergence are necessary for every emergence. Within certain limits and in concrete content, development is history. Dialectical logic is above all historical logic and a logic of development. Lenin says of the dialectic that it is "... the doctrine of development in its fullest, deepest and most comprehensive form, the doctrine of the relativity of the human knowledge that provides us with a reflection of eternally developing matter." (*SW*, vol. 1, p. 42). Historicism is the essence of the dialectic; the dialectic is in essence the historical process.

Contradiction is the motive force of emergence. "The splitting of a single whole and the cognition of its contradictory parts... is the *essence* (one of the 'essentials', one of the principal, if not the principal, characteristics or features) of dialectics." (*ibid.*, p. 359).

Development is the actualization of contradiction and contraries which underlie not just the identity and difference of the abstract moments of emergence but also their mutual exclusion, and their union in this mutual exclusion. Thus, the real emergence is not simply the identity and difference of contraries, but their unity and conflict. Dialectical logic studies the development of the categories which reflect reality, which 'move themselves' and outside of which there is not only no mover but also nothing at all. The categories reflecting it possess a relative independence and internal logic of movement. "Thinking reason (understanding) sharpens the blunt difference of variety, the mere manifold of imagination, into *essential* difference, into *opposition*. Only when raised to the peak of contradiction, do the manifold entities become active (*regsam*) and lively in relation to one another, – they (receive) acquire that negativity which is the *inherent pulsation of self-movement and vitality*." (Lenin, *Works*, v. 38, p. 143). "The two basic (or two possible? or two historically observable?) conceptions of development (evolution) are: development as decrease and increase, as repetition, *and* development as a unity of opposites (the division of a unity into mutually exclusive opposites and their reciprocal relation). In the first conception of motion, *self-movement*, its *driving* force, its source, its motive, remains in the shade (or this source is made *external* – God, subject, etc.). In the second

conception the chief attention is directed precisely to knowledge of the *source* of 'self-movement. The first conception is lifeless, pale and dry. The second is living. The second *alone* furnishes the key to the 'self-movement' of everything existing; it alone furnishes the key to the 'leaps', to the 'break in continuity', to the 'transformation into the opposite', to the destruction of the old and the emergence of the new.'" (*ibid.*, p. 360). "Movement and 'self-movement' (this NB! arbitrary (independent), spontaneous, *internally-necessary* movement), 'change', 'movement and vitality', 'the principle of all self-movement', 'impulse' (*Trieb*) to 'movement' and to 'activity' – the opposite to '*dead Being*' – who would believe that this is the core of 'Hegelianism', of abstract and abstruse (ponderous, absurd?) Hegelianism?? This core had to be discovered, understood, *hinüberretten* (rescued), laid bare, refined, which is precisely what Marx and Engels did.'" (*ibid.*, p. 130).

The following statement by Lenin is a striking characterization of dialectical logic: "A tumbler is assuredly both a glass cylinder and a drinking vessel. But there are more than these two properties, qualities or facets to it; there are an infinite number of them, an infinite number of 'mediacies' and inter-relationships with the rest of the world. A tumbler is a heavy object which can be used as a missile; it can serve as a paper-weight, a receptacle for a captive butterfly, or a valuable object with an artistic engraving or design, and this has nothing at all to do with whether or not it can be used for drinking, is made of glass, is cylindrical or not quite, and so on and so forth.

Moreover, if I needed a tumbler just now for drinking, it would not in the least matter how cylindrical it was, and whether it was actually made of glass; what would matter though would be whether it had any holes in the bottom, or anything that would cut my lips when I drank, etc. But if I did not need a tumbler for drinking but for a purpose that could be served by any glass cylinder, a tumbler with a cracked bottom or without one at all would do just as well, etc.

Formal logic, which is as far as schools go (and should go, with suitable abridgments for the lower forms), deals with formal definitions, draws on what is most common, or glaring, and stops there. When two or more different definitions are taken and combined at random (a glass cylinder and a drinking vessel), the result is an eclectic definition which is indicative of different facets of the object, and nothing more.

Dialectical logic demands that we should go further. Firstly, if we are to have a true knowledge of an object we must look at and examine all its facets, its connections and ‘mediacies’. That is something we cannot ever hope to achieve completely, but the rule of comprehensiveness is a safeguard against mistakes and rigidity. Secondly, dialectical logic requires that an object should be taken in development, in change, in ‘self-movement’ (as Hegel sometimes puts it). This is not immediately obvious in respect of such an object as a tumbler, but it, too, is in flux, and this holds especially true for its purpose, use and *connection* with the surrounding world. Thirdly, a full ‘definition’ of an object must include the whole of human experience, both as a criterion of truth and a practical indicator of its connection with human wants. Fourthly, dialectical logic holds that ‘truth is always concrete, never abstract’, as the late Plekhanov liked to say after Hegel....

I have not, of course, run through the whole notion of dialectical logic, but what I have said will do for the present...” (*SW*, vol. 3, pp. 536–537).

One could look at one more judgement of Lenin on dialectical logic, where with all brevity he presents the system of “elements of the dialectic”. Above all, one must affirm objective reality in itself, outside of any categories. In order that a thing be known, it has to be known in its relations to other things. Lenin expresses this as follows: “(1) the *objectivity* of consideration (not examples, not divergences, but the Thing-in-itself). (2) the entire totality of the manifold *relations* of this thing to others. (3) the *development* of this thing (phenomenon, respectively), its own movement, its own life. (4) the internally contradictory *tendencies* (*and* sides) in this thing. (5) the thing (phenomenon, etc.) as the sum *and* unity of *opposites*. (6) the *struggle*, respectively unfolding, of these opposites, contradictory strivings, etc. (7) the union of analysis and synthesis – the breakdown of the separate parts and the totality, the summation of these parts. (8) the relations of each thing (phenomenon, etc.) are not only manifold, but general, universal. Each thing (phenomenon, process, etc.) is connected with *every other*. (9) not only the unity of opposites, but the *transitions* of *every* determination, quality, feature, side, property into *every other* (into its opposite?). (10) the endless process of the discovery of *new* sides, relations, etc. (11) the endless process of the deepening of man’s knowledge of the thing, of phenomena, processes, etc., from appearance to essence and from less profound to more profound essence. (12) from

co-existence to causality and from one form of connection and reciprocal dependence to another, deeper, more general form. (13) the repetition at a higher stage of certain features, properties, etc., of the lower and (14) the apparent return to the old (negation of the negation). (15) the struggle of content with form and conversely. The throwing off of the form, the transformation of the content. (16) the transition of quantity into quality and *vice versa*..." (Lenin, *Works*, v. 38, pp. 221–222).

These 16 elements of the dialectic as formulated by Lenin are the best picture of dialectical logic to be found in world literature. In a certain sense, Lenin moves from the being of matter, through its essential relations to living, self-contradictory, eternally moving and unfolding concrete reality.

VI. ON THE SYSTEM OF DIALECTICAL CATEGORIES

In its general traits, the structure of dialectical logic reflects the actual picture of the development of human cognition, i.e., the process of its movement from the immediate being of things to their essence. "The concept (cognition) reveals the essence (the law of causality, identity, difference, etc.) in Being (in immediate phenomena) – such is actually the *general course* of all human cognition (of all science) in general." (*ibid.*, p. 318).

In accordance with this, dialectical logic has three basic sections:

The section about being, about matter, where one studies such problems as the basic question of philosophy; matter and its existential forms; space and time; finite and infinite; matter and consciousness, etc.;

The section about essence, where one considers the categories and laws of the dialectic; the mutual transition of quantitative changes into qualitative ones; dialectical contradiction; negation of negation; causality; form and content; necessity and chance; part and whole; possibility and actuality, etc.;

The section about knowledge, where one considers the knowability of the world; the role of practice in knowledge; empirical and theoretical knowledge; truth; forms, modes and methods of scientific knowledge; scientific discovery; proof, etc.

The developmental sequence of logical categories in the context of dialectical logic has an objective foundation and does not depend on the

wills of men. It is determined above all by the objective order of the development of knowledge. Each category is a generalized reflection of matter, i.e., the result of age-old social-historical practice. Logical categories "... are stages of distinguishing, i.e., of cognising the world, focal points in the web, which assist in cognising and mastering it". (*ibid.*, p. 93).

Developing this idea, Lenin noted the general order of development of the logical categories: "First of all impressions *flash by*, then *Something* emerges, – afterwards the concepts of *quality* (the determination of the thing or the phenomenon) and *quantity* are developed. After that study and reflection direct thought to cognition of identity – of difference – of Ground – of the Essence versus the Phenomenon – of causality, etc. All these moments (steps, stages, processes) of cognition move in the direction from the subject to the object, being tested in practice and arriving through this test at truth..." (*ibid.*, p. 319).

The system of dialectical categories is something flexible in itself: it is always changing and developing on the historical level. Every period in science and philosophy can be expressed in its own specific system of categories. That which is characteristic of one period can lose its meaning for another.

The logical categories and laws are steps in the knowledge of the developing object and of its own necessity and in the natural order of the levels of its emergence. Any of the logical categories is defined only through a systematic ferreting out of its bonds with all others, i.e., only in the system and through it. The task of developing the definitions of the logical categories into a strict system is the only possible scientific way of disclosing the essence of each of them. When such a system of logical categories – reflecting the necessary order of development of knowledge in accordance with the development of its object – is acquired by man and thereby turned into cognitive form, it becomes scientific method.

All the theses of *diamat*, i.e., of dialectical logic, have the role of methodological principles relative to the investigation of the concrete object; they form a norm for true knowledge. This is what Marx had in mind when he said that one can think logically only with the dialectical method. Only the dialectic guarantees accord between the movement of thought and the movement of objective reality.

VII. ON THE DIALECTIC OF CATEGORIES

Concepts "... must likewise be hewn, treated, flexible, mobile, relative, mutually connected, united in opposites, in order to embrace the world." (*ibid.*, p. 146)

This 'living bond of all with all' (Lenin's expression in the same place) obviously has to be disclosed by categories, ordered in such a way as to show forth the dialectic. Every category, taken in its self-contradictory character, moves toward the resolution of that contradiction – which can happen only as the result of the appearance of a new category. This new category is also found in contradiction with itself and, as a result of the resolution of this contradiction, leads to a third category, and so on.

Thus, every category is continuous and infinite until it exhausts its internal possibilities. When these possibilities are exhausted, we reach its limits, which are already its negation and the transition to its contrary. Since infinity cannot be contained in a finite number of operations (e.g., by the addition of more and more units), it is clear that the limits of infinite emergence can be reached only by a leap, viz., a leap from the domain of a finite meaning of the category to a completely new quality, i.e., to a new category which is the limit of the infinite emergence of the previous category.

The exhaustion of the infinite possibilities within a given category, taken in isolation, says nothing about the contradictions which reside in this exhaustion or about the transition to the limit of this exhaustion which is a unity of contraries of the category in question with its successor, into which it transits. Contradiction as the moving force of emergence cannot be replaced by another force and, without it, emergence degenerates into a discrete magnitude. However, we are interested here in the very mechanism of the dialectical transition, i.e., how categories come to be out of contradictions. The deeper we penetrate into the category, the contradiction, although it exists at every step, is not permanently fixed there. Only when we exhaust all the internal content of a given category and force it to its limit, can we begin to note the moment of the actual realization of the contradiction, for in the circling of circles, so to speak, the opposition of the circle to the circling corresponds to this foundation of the circles. If even the most simple movement is a unity of contradic-

tions (cf. Lenin, *loc. cit.*) and if in every phenomenon there are contradictory forces (*loc. cit.*) and these contradictions are mobile (*loc. cit.*), then it is natural to seek out the contradiction which speaks for itself and presents itself to our perception and reason. Such an evident fact is that which Lenin called the 'limit' or 'barrier', when he wrote: "*Something*, taken from the point of view of its immanent Limit – from the point of view of its self-contradiction, a contradiction which drives it (this *Something*) and leads it beyond its limits, is the *Finite*. When things are described as finite – that is to admit that their not-Being is their nature ('not-Being constitutes their Being'). 'They' (things) *are*, but the truth of this being is their *end*." (*ibid.*, p. 110).

Thus, the exhaustion of the internal content of the category and its transition to the limit that marks it off from other categories is not the essence of the dialectical transition but only the concrete mechanism thereof and the concrete picture, while the sole motive force of the movement of the category is its self-contradiction; and the only force that can impel it to the limit and, therefore, to the other category is and always will be only contradiction.

Thus, no matter how many sides a polygon has, it will never be a circle. Only the infinite elevation of this number to a leap will give us the circularity of a circle, rather than that of a polygon. The circularity of a circle summarizes the whole process of increasing the number of sides of the polygon in the circle, and (summarizes) all the cognate contradictions; it is also the immediate boundary with other geometrical figures which are outside the circle. Therefore, translating the exact mathematical concept of limit into the language of logical categories, we have to say that the hidden dialectical transition consists in a leap-like transition from the infinite emergence to the limit of this emergence which, since it is the limit with another category, already contains it in itself and which, being the contradiction of this category, itself already begins to change into its opposite, i.e., into a new category. "Shrewd and clever! Hegel analyses concepts that usually appear to be dead and shows that there *is* movement in them. Finite? That means *moving* to an end! *Something?* – means *not that* which is Other. Being in general? – means such indeterminateness that Being = not-Being." (*loc. cit.*)

This means that Lenin is talking not only about the movement of concepts but also about their movement to the limit. And, using the category

of 'nothing' he notes that the reaching of the limit is already the beginning of the transcending of this limit. Lenin quotes Hegel with approval: "... by the very fact that something has been determined as a boundary, it has already been surpassed." (*ibid.*, p. 111).

Let us take, for example, the category of being. We find all its types and in general all that pertains to it. Thereafter, it seems that there is nothing left. But nothing left means that this being is different from nothing! But, if being is different from nothing, then it has no traits at all and is nothing. Therefore, such being is non-being. In other words, non-being is that limit to which being can move after its infinite emergence and exhaustion and in which it, leap-like, negates itself, changing into its opposite.

Let us look at the category of emergence. When emergence exhausts itself, it reaches its limit, meaning that emergence stops and we remain where we are. Therefore, what remains as a category is the limit whither emergence moves along the paths of its infinite unfolding (it should be noted that Hegel used '*Dasein*', i.e., 'being present', for actual being).

Let us take the category of remaining, i.e., the state of having emerged and then we will have exhausted its infinite possibilities. Since nothing but being exists and, therefore, nothing but being can remain, then we should introduce the category of stoppage for the completely remaining, i.e., for being within itself. And this means that the remaining is reduced for us to the isolated stoppage, i.e., it is converted into a quantity and thereby all quality (with its being, non-being, becoming and actuality) converts into quantity.

It is not hard to show that quality-less quantity – as a result of the use of all its infinite possibilities – converts to qualitative quantity, i.e., to measure.

The exhausting of all the infinite possibilities of being in general – including all quantities and all qualitative categories – leads to the only possible outcome, to the confrontation of all of being as such with itself. We cannot confront being with something else since being is already exhausted and there is nothing else. As far as the confrontation of being with its moments is concerned, we have already done that (in quantity and measure). There remains, therefore, the confrontation of being with itself but only as with something whole. Having exhausted all the possibilities of some *A*, we begin to consider it as such, even outside of

its internal transitions, and we begin to see that this A is precisely A and nothing else. And when we know precisely A in this A , this means that from the being of that A we have moved to its essence. Identity is the first stage of essence; essence is that which is had as a result of the relationship of being with itself – its self-relatedness or, so to speak, its reflection of itself in itself. The essence of being is, therefore, nothing other than being itself but taken from the viewpoint of its self-relatedness.

The category of movement is next. Movement can occur at any speed. One can exhaust all these speeds only if one accepts an infinite speed. But a body which is moving with infinite speed is at all the points of its infinite trajectory. This means that it is at rest. Therefore, rest is movement with infinite speed. And rest is movement with no speed. Therefore, the category of rest also appears in a leap-like transition to the limit from the infinite emergence of its speed.

Under the influence of facts and experiments, real thought at every step factually shows and expresses in definite concepts the very transitions and transformations of contraries one into the other, and formulates laws which these transitions follow.

Therefore, every category of dialectical logic reflects some aspect of the objective world and all of them "... embrace conditionally, approximately, the universal law-governed character of eternally moving and developing nature." (*ibid.*, p. 182).

The laws and categories of the dialectic express the universal properties, bonds, forms, paths and motive force of the objective world and of knowledge thereof. When the categories and laws of the dialectic, which express the objective dialectic of reality, become known by man, they form a universal philosophical method for the knowledge of the world.

PSYCHOLOGY

(From the Greek ψυχη = soul and λογος = science)

Psychology is the science which studies the process of active *reflection* by men and animals of objective reality in the form of *sensations, perceptions, concepts, feelings* and other *psychic* phenomena.

The special place of psychic phenomena in life and in the activity of man and the special nature of its bonds with the environment gave rise for a long time to a special treatment of these phenomena and their respective objects in the outside world. The specific form of the givenness of psychic phenomena was one of the reasons for isolating psychology as a special science from the others which use objective methods. For a long time psychology remained a domain of descriptive activity. The explanation of the nature of psychic phenomena has always been a matter of contention between materialism and idealism, which was a fight about the possibility of a science of psychology. It was *diamat* that first created the conditions for rendering psychology an objective science. The reconstruction of psychology began in the 1920's in the U.S.S.R.

At the beginning of this century, psychology underwent a rapid development. This was stimulated by the achievements of science – especially by the growth of evolutionary biology, of the physiology of sense organs, of psychophysics and the physiology of *higher neural activity*, as well as by the growing demands on psychology by medicine, education and production. This led to the formation of special psychologies: child psychology, social psychology, etc. All this created conditions for the radical reorganization of psychology, including: the objective methods which had been applied almost exclusively to external conduct and to neurological phenomena were extended to the study of properly psychic activity; the growth of interdisciplinary research, connecting psychology with neurophysiology and then with cybernetics, technology and with the social sciences; finally, there has been great increase in psychologies which deal with the scientific-technological revolution (engineering psychology, cosmic psychology, etc.). As a result, psychology has lost its former isolation and, at the same time, has become a developed and independent domain of science.

The vast development of psychology in the past few decades does not mean, however, that its basic methodological problems have been satisfactorily solved. This is especially true of the main problem, i.e., what is the object of psychology and what sort of method should it use? The basic difficulty here is that there is no evident dependence of subjective psychic phenomena on external influences, nor is there an obvious dependence of these phenomena on cerebral processes. The move from the subjective phenomena directly to the objective reality which is acting on it destroys psychology's object since this activity is not a psychological one but is studied by other sciences. The same loss of object occurs if one turns to the brain. Although cerebral processes are basic as a material foundation to all psychic processes, the brain is the object of study of neurophysiology. The problem is not solved by joining these two domains of study since psychic processes then appear as merely parallel to the physiological ones – as epiphenomena. These problems led at the end of the 19th Century to a renunciation of scientific psychology and to the effort to construct psychology as a science about *behavior* (cf. *Behaviorism*) or about reflexes (*Reflexology*). At the same time, there were idealist currents in psychology which denied the possibility of a scientific explanation of psychological phenomena (descriptive psychology, psychology as the science of soul). In addition, there were in psychology contradictions between the biological and sociological approaches to the human psyche and between the analytic and holistic approaches. As a result there were in psychology many competing trends, all of which were amassing enormous amounts of data. As this data accumulated it showed the original assumptions of these trends to be less mutually exclusive than had been thought.

However, this possibility of reconciliation remained dormant as long as the framework was idealist and mechanist.

A new conception of the object and methods of psychology as a domain of concrete, scientific knowledge was developed on the basis of dialectic and of the Leninist theory of reflection. The psyche is viewed here as a product of the development of living matter. The psyche is not just an 'adaptation' to life, but necessarily produced by it and it plays a real function in evolution and in the development of the further adaptability of the organism; namely, it has the function of orienting the organism in its environment and of directing its behavior. Basic to this function is a

special form of assimilation of the active milieu, where it is transformed according to internal states of the subject which isomorphically model the impinging properties, producing a psychic reflection thereof.

The development of behavioral studies led to the need for characterizing these internal states and for uncovering their objective function. The task arose of studying the interaction between psychic reflection and the objective reality around the subject. An analysis of the available data showed that the transition of the reflected into psychic reflection happens precisely during activity. The activity which practically unites the subject with objective reality gives one the correlation of the reflection with the reflected as well as adjustments for adequacy.

The psychologies of animals and of early childhood are of great methodological importance for they make it possible to show that one can provide a description of sensations, images and feelings without recourse to introspection. Of course, the researcher is not able to reach the subjective experiences but this is no limitation on a scientific knowledge of the psyche. In the first place, there is no reason to doubt that at that point there is introspection and, in the second, the existence of these phenomena in man just poses new problems, namely, to show the need for their emergence and specific functions. In this way, the existence of a subjective, psychic world is changed from an initial postulate to a problem to be investigated. Decisive in the successful elaboration of this problem is the historical approach to the human psyche, i.e., viewing it as the product of the development of specific acts of labor. The transition to labor brought a new form of psychic reflection – human consciousness – where the reflected ‘becomes’ the subject, and opens to it a view of the world where it and its own activity are included. Work – as productive and intentional activity, subject to the result which it intends – requires that the result be present in the mind of man in a subjective form that can be correlated with the raw material (the object of work), with the stages of transformation, and with the result (the product of work). On the other hand, this representation itself can be actively changed by the subject on the basis of his experience of activity and of the changing circumstances. In other words, it has to exist for the subject in such a way that he can take cognizance of it and do things with it in his head; and this means that it has to exist for him introspectively. In this way, the subjective (introspective) cognitive phenomena are not at all epiphenomena which accom-

pany human activity but are its necessary internal condition. The real nature of this 'doubling' of reflection, which marks consciousness, can be revealed only by an objective analysis of the conditions and of the process of knowing.

The historical conditions of cognitive reflection arise in the very activity that grounds its necessity – work. In the process of changing the form of activity into the form of a property at rest or of being (Marx), there is also an objectification of the psychic activity of man. Impelling and controlling the activity of the subject, the internal image is actualized in him and in his product. In this externalization of his form he himself becomes an object of psychic reflection. The mental correlation of the regulatory activity of the representation with the reflection of the object which the representation represents is the very process of knowing the latter. This process can be carried out only if the object appears to man in its ideal form, i.e., as the psychologically impressive content of an activity. Isolation thereof is effected in *language*, in the process of meaningful speech. Therefore, knowing is always connected with language. Language appears here not as a means of communication between people but as their practical and active consciousness which exists for the individual only to the extent that it exists for other people (Marx). The linguistic system which is the bearer of social consciousness is acquired by the individual and becomes the substrate of his consciousness. Therefore, consciousness as a form of the individual psyche is conditioned by the existence of social consciousness. With the isolation and development of spiritual production and the enrichment of language, the consciousness of the individual is freed from direct links with the practical activity of labor; the circle of the intelligible is widened and consciousness becomes the universal form of human psychic reflection. Of course, this does not mean that all that is now reflected in man's brain is in his awareness; it only means that he *can* know it. One of the main problems of psychology has to do with the process and conditions of individual awareness. Modern research into the higher forms of perception, into *speech* and its role in controlling intentional activity, into the formation of *meaning*, etc., provide enough material to show that the exclusively introspectionist and intuitionist views of the human psyche have to be dropped.

Another basic psychological problem has to do with the explanation of

the nature of the internal processes in man which are experienced by him as cognitive processes. Research into the intellectual behavior of animals, study of man's effective thought, and especially investigation of the formation of internal cognitive processes in children have led to the elimination from psychology of the absolute opposition between internal (and theoretical) and external (and practical) activities which was basic to the old empiricist, subjectivist psychology. It has been shown that there is a genetic bond and communication between the main structures of these forms of activity. Careful research has demonstrated the process of the transformation of external activities and operations into internal mental ones (the process of interiorization). Psychological investigation has also turned up the opposite process – of exteriorization.

The introduction of the concept of activity as the process of transition from reflected to reflection enables psychology to solve other problems, like that of the biological and social. In his activity man enters into relationships with reality which have been established by mankind in the course of its historical development. Appropriation of this reality by the individual leads to the transformation of the initial biological forms of his behavior and knowledge, i.e., of his *needs* and *feelings*. Therefore, the problem of the biological and social in psychology is not a problem of the interrelation of two different factors which are determining the psyche of man but one of reconciling the laws of the biological development of the psyche with those of its social-historical development.

As far as its object is concerned, psychology is closely related to the physiology of higher neural activity. The successes of the psychology of higher neural activity led a portion of the researchers to reduce the psychic to the physiological. This idea played a progressive role and was confirmed, to the extent that psychology is conceived simply as a description of subjective phenomena. The discovery of psychic reflection as determined by activity and the consequent linking of the subject with objective activity not only turned psychology into an independent science but also clarified its relationship to neurophysiology. Although both internal and external activities can be dealt with in terms of physiological processes, they cannot be reduced merely to physiological laws. For example, the hand moving a tool uses physiological processes but the full explanation has to take into account the objective properties of the tool, the object of the work and the goal thereof. The same is true of

internal, cognitive activities. It is clear that this activity is a function of the brain but its structure and the logical operations it uses are not derived from the physiology or the laws of the brain's operations. The real relations which connect the psychic with the physiological flow from the fact that the work of the brain effectuates the activity of the subject, and particularly of his internal psychic activity. Therefore, a complete description of the psychic processes should include a description of the particular physiological mechanisms that are involved. This involves the special task of investigating the physiological mechanisms and morphological base of various concrete psychic processes (vision, hearing, etc.). A solution of such tasks falls to the limit disciplines of psychology – psychophysiology and neuropsychology, for example. Properly psychological research makes extensive use of data from physiology – especially from electrophysiology – but cannot be reduced to the merely physiological just as the use of chemical indicators in physiology does not reduce it to biochemistry.

Contemporary psychology is a well-developed domain with several sub-domains and trends of interpretation. Regardless of the progressive differentiation of its sections, psychology preserves as its object the study of the general transitions from the reflected to the psychic reflection, from external activity to internal (reflective) activity, and from psychic reflection to forms of activity and their products. These transitions constitute a special form of the movement of matter and are the product of a higher stage in the development of life.

I. THE HISTORY OF FOREIGN PSYCHOLOGY

At the source of the deterministic conception of the psyche we find *Heracitus* and *Democritus* who conceived the *soul* as a fiery substance giving life to the body. Medical observations and anatomical investigations led to a recognition of the brain as the organ of psychic activity (Alcmaeon), to the doctrine of *temperaments* as different proportions of the four elements, determining the individual traits of a person (Hippocrates and his school), and to identification of *pneuma* as the bearer of psychic acts. However, the doctrine about the soul as one of the types of matter could not explain the emergence of the ideal products – concepts, words, numbers, or the premisses for the transformation of

these products into essences, residing in a changeable nature. The idea of a soul capable of intuition was counterposed to the body and declared immortal (by the Pythagoreans and *Plato*). *Aristotle* presented the soul as the mode of organization of the animate body and of its conduct. In his *De Anima* and *Historia Animalium*, Aristotle developed the first system of psychological concepts. However, in explaining the higher forms of cognitive activity (the *nous* doctrine) he left the terrain of science and leaned toward dualism. During the Hellenistic period, the materialist approach to the psyche was maintained by the Peripatetics, Epicurus and the early Stoics; in ancient Rome there were Lucretius and Lucianus; the line of Plato survived in the form of neo-Platonism. The position of materialism was strengthened by the successes of anatomy and medicine at the hands of Herophylus and Erasistratus who discovered the nerves (as distinct from muscles and tendons), the difference between sensory and motor nerves (a discovery which was forgotten), and the dependence of both on the brain. Galen provided a detailed description of the structure and functioning of the nervous system – a description which held for nearly five hundred years. From *hylozoism*, thought moved to a strict distinction between the animate and inanimate and between the psychic and the biological. The next step had to do with distinctions within the psychic and the formation of the notion of consciousness. But the unity of a human consciousness capable of introspection did not fit into the naturalist scheme of things and there were fresh attempts to assert the immateriality of the psychic (*Plotinus* and *Augustine*). The guarantor of the truth-value of knowledge was said to be the soul which lives and moves in God, ‘turning back on itself’ in certitude about its own operations and its invisible products. For centuries, the arguments of Augustine served to support an introspectionist psychology which was inimical to determinism.

During feudal times, the development of positive knowledge about the psychic was very slow. Even so, physiology advanced in the person of *Ibn Sina* and in the fight of the nominalists with the realists, etc.

The 17th Century came up with a new approach to psychic activity which was subjected to the principle of *determinism* (at first in its mechanist form). *Descartes* revealed the reflective nature of behavior and the notion of the soul was transformed into the non-theological notion of consciousness as the immediate knowledge of the subject

about his own psychic acts. A number of important psychological conceptions emerged at that time: *association* (Descartes, *Hobbes*, *Locke*); the passions (Descartes) and affects (*Spinoza*); apperception and the unconscious (*Leibniz*); the emergence of knowledge from individual sense-experience (*Locke*). Under the influence of Newtonian mechanics, *Hartley* established a link between the principles of association and reflection. Materialist associationism revealed the regular flow of cognitive processes to be dependent on the frequency and intensity of the organism's contact with the milieu and with other real factors (the so-called laws of association). The notion of association as the basic mechanism of spiritual activity dominated both idealist and materialist psychologies in the 18th and 19th Centuries.

French materialism of the 18th Century introduced the notion of different levels of neural-psychic organization (*Diderot*, *Cabanis*) and posed the problem of the formation of the person with his interests and capacities dependent on the operation of social conditions (*Diderot*, *Helvetius*).

The psychological ideas of *Lomonosov*, *Radiščev* and other progressive Russian thinkers also flowed into the stream of the materialist worldview. The first half of the 19th Century saw the blooming of neurophysiology. Interest was focused on the univocal correlation of function and anatomical structure. Experiments with nervous activity revealed the mechanism of the reflex arc (*Prohaska*, *Bell*, *Majandie*). Within physiology experimental methods for investigation of psychic functions were developing and the first attempts to quantify these functions were being made. *Weber* established a certain correlation between the changes in sensations and the changes in the strength of stimuli, i.e., some connection between the psychic and the physical. The work of *Weber* was used by *Fechner* to formulate the so-called basic psychophysical law (cf. *Sensation*). Another trend in external experimentation and the quantitative approach had to do with reaction time. *Helmholtz* (1850) determined the speed of neural transmission and in the 1860's the Danish psychophysicologist, *Donders*, proposed a schema for calculating the speed of psychic processes as manifestations of cerebral activity.

The development of the reflective conception, of the physiology of sensation, of reaction time, and also the establishment of the evolutionary theory in biology – all supported the notion that the psychic is a

biological factor with objective value. At the same time, the logic of the experiments being done led to the idea that psychic phenomena are subject to laws which are not the same as the physiological laws: this posed the problem of the right of psychology to an independent existence. Attempts to construct psychology as an experimental science followed – the best known of which is that of *Wundt*, which aimed at uniting all the contemporary conceptions. But this union was fragile because determinism and introspectionism could not coexist for long. Although his theoretical efforts did not stand the test of time, Wundt's organisational efforts in founding the first laboratory of psychology (Leipzig, 1879) were honored by being imitated in Russia, the U.S., Britain and elsewhere. There followed publications, positions in universities and congresses (the first was held in Paris in 1889) which solidified psychology as an independent field.

The majority of the experimental psychologists of that era were under the influence of introspectionism which regards consciousness as a set of phenomena which could be observed only indirectly, through the experiences of the subject. Insistence on going beyond introspection was limited to the 'experimental school' (Benn, *Ribot*). In his influential *Principles of Psychology*, Spencer demanded that the subjective approach be supplemented by the objective approach. The American psychologist, Rush, developed an original system, where the facts of consciousness were treated as originatively capable of reflecting the material world. A systematic program for the construction of psychology on the basis of an objective method was drawn up by *Sečenov* whose ideas (through *Pavlov*) have had a world-wide influence. Sečenov's work also stimulated progressive scientists in Russia (*Lesgaft*, *Bexterev*, *Lange*, *Korsakov*, *Todarskij* and *Pavlov*).

In addition to the problems inherited from old psychology, experimental psychology undertook the study of association, first in terms of speed of emergence and then on the basis of experiments with *memory* (especially by *Ebbinghausen*) in terms of the more general properties of frequency and separation in time. Work was done on attention (*Kittel*), and on habit (*Brian* and *Harter*). At the same time, comparative psychology was growing (*Darwin*, *Leb*, *Lloyd-Morgan*) and there were investigations of emotions (*James*, *Lange*, *Ribot*), perception (*Lange*), and of the sensory-motor reactions (*Bastian*, *Münsterberg* and others). Experimental

psychology grew with the help of the concepts and methods of natural science. The social nature of the psychic activity of man first drew a determinist explanation in Marxist doctrine which, however, became the methodological foundation of psychology only after the October Revolution.

The impossibility of analyzing consciousness by psychophysiological methods led to considering consciousness as not subject to deterministic analysis. The notion of two irreconcilable approaches to the psyche arose: that of natural science and that of the cultural-historical (Wundt, *Dilthey*, *Rickert*, etc.). At the same time *Durkheim*, Mead, Baldwin and others were trying to establish the constitutive role of social relations and products in relation to individual consciousness. However, they took sociality as abstract and 'pure', and the causality of individual psychogenesis could not be properly explained. Social being was reduced to social consciousness and the latter was either psychologized (Tarde) or biologized. Nevertheless, this innovation had a significant influence on the development of psychology.

The demands of education, medicine, and criminology as well as the growing demands of capitalist production forced the development of methods for defining the individual differences between people. One of the pioneers in this direction (often called differential psychology) was Galton who developed a technique for the statistical study of the properties and capacities of the individual. Later intelligence *tests* were established. Psychology became widely applied in practice – in solving the problems of the organization of work, of professional qualifications, of work-habits, and in the study of advertising, etc. The extensive development of psychology led to a re-examination of some of the premisses of bourgeois psychology. Wundt's model of 'the subject and the internal processes he observes' was replaced by 'the milieu and the organism which adapts to it'. In the course of the experimental study of thought, the *Würzburg school* concluded against its own introspectionism because the facts showed that the process of thought is determined by the *situation* – by tasks which direct the thought of the subject but of which he is not aware. Opposing Titchener's subjective method (where the psychologist deals with the elements of thought as such, in abstraction from their concrete meaning and role in comportment) was the so-called functionalism (Dewey, Engell) which treated the psychic as a means of adap-

tation to the milieu as the 'accomodation to the new'. In addition to this brand of functionalism which went back to James, there were other versions, represented in England by Ward and Stout, in German by Stumpf, in Denmark by Höffding, and in Switzerland by *Claparede*. The functionalists prepared the way for *behaviorism* which dominated by U.S. in the 1920's. Behaviorism exaggerates the need for a reconstruction of psychology on the basis of an objective method. Under the influence of *positivism*, psychic reality was identified with the direct observation of the external appearances of comportment and 'stimulus-response' was taken to be the final word on the relationship of the organism to the milieu. Behaviorism gave a strong push to the development of research into the process of learning. By strengthening the objective approach to comportment, behaviorism was one of the factors of progress for psychology. However, in the conflict with subjectivist psychology, behaviorism fell under the influence of its views on knowledge and demanded that all concepts on psychic phenomena find corporeal equivalents (logical thought and the speech centers; sensation and reactions within the organism, etc.). Behaviorism underwent a complex evolution – from the simple mechanicism of Watson to the quasi-neo-realistic views of Holt, who tried to reintroduce the old concepts of psychology but with a behaviorist interpretation.

Gestalt psychology criticised psychologistic atomism and devoted itself to investigation into the holistic, structural character of psychic activity; however it took the intellect purely statically, without movement.

At the beginning of the 20th Century arose Freud's *psychoanalysis* which began with psychoneurological material but soon extended its pretensions to the level of a complete theory of psychic activity, basic to which is the thesis on the preconditioning of all psychic acts by the energy of blind sexual impulses (libido). After World War I, Freud amended his theory by introducing the category of superego, referring to the social determination of behavior. But this sociality was reduced to the biological and sometimes to the purely sexual.

Adler and *Jung*, students of Freud, raised certain objections. Adler deviated from the thesis on the omnipresence of sexuality, asserting that the basic drive was the desire to excel which generates the 'inferiority complex' causing 'overcompensation'. Jung emphasized the 'collective

unconscious' in the form of archetypal ideas which limit the further mental development of mankind. Biologization of the mechanisms of consciousness in the doctrines of Jung and other psychoanalysts were used to support racist views in fascist Germany (Jensch, Zander and others).

The 1930's and 40's saw the strengthening in foreign psychology of the tendency toward synthesizing the trends which had developed up to that time. This happened on the basis of a rapid extension of experimental techniques and at the behest of social, engineering and military practice. Methodologically, however, psychology was eclectic and lacked an overall theory that would enable it to bring together all the empirical material. Positivism had a great influence and changes were taking place in behaviorism and in psychoanalysis (Gestalt psychology gradually wore itself out, its ideas being absorbed by other schools). Neobehaviorist theories (Tolman, Hall, etc.) came up with the notion of 'intermediate variables', i.e., the factors that mediate motor reactions (dependent variables) to the stimulus (independent variable).

In the 1950's and 60's, the investigation of 'central processes', developing between the sensory 'inputs' and the motor 'outputs' of the organism was victorious. This trend, which was generated by the logic of the development of science itself and by the needs of practice, is imposing because of the experience with the programming of calculators.

In the 1960's international recognition came to Jean Piaget who is developing psychology as one of the sciences in a whole complex, having to do with the study of man. He, therefore, pays attention to the biological and the social grounding of psychology. Piaget tries constantly to introduce into psychology the methods of mathematics, mathematical logic, etc. Piaget insists on a structural approach and has made improvements over Gestaltism.

There have been attempts to take neurophysiological mechanisms as components of the general structure of behavior (Hebb, Pribram) and to extend the objective method to the sense-image aspect of vital activity (Brunschvicg, Gibson).

Under the influence of mathematical logic, cybernetics and information theory, psychology has shown tendencies toward formalization which reared its head already in the 'hypothetical-deductive' behaviorism of Hall. *K. Levin* uses the concept of topology to explain the sequence of

motivation in individual and group comporment. It was Levin who launched the experimental study of personal relations, i.e., the interaction of individuals in groups of differing degrees of sociality. His work opened a new trend in *social psychology*. Freudianism has become *neo-Freudianism*, replacing sub-conscious factors with social-cultural ones (Horney, Sullivan, *Fromm*). Thereupon, psychotherapy can be used not just for the quieting of neurotics but also for relieving people of their feelings of helplessness, fear and inadequacy. There has been a sharp rise in the number of analysts helping the individual to achieve 'optimal adaptation' to social conditions.

The insufficiency of biologization and of idealist conceptions have led leading psychologists in bourgeois countries (Politzer, Vallon, Fries, Wells and others) to develop a lively interest in the dialectical-materialist understanding of psychic activity, as achieved by Soviet psychology.

II. THE HISTORY OF SOVIET PSYCHOLOGY

On the eve of the October Revolution, psychology in Russia was involved in heavy contradictions. The extreme right (*A. I. Vvedenskij, L. M. Lopatin, N. O. Losskij, S. L. Frank*, etc.) leaned toward German idealist philosophy and psychology. Opposed to them were the natural-science trends (the 'objective psychology' or 'psychoreflexology' of Bexterev, the 'biopsychology' of V. A. Wagner, the 'real psychology' of N. N. Lange), closely following the ideas of Sečenov and Pavlov. The position of the organizer of the Moscow Institute of Psychology, *G. I. Čelpanov*, was ambiguous: his theoretical position (as stated in *Brain and Soul*, Moscow, 1912) was close to German idealism; but he did make it possible for experimental psychology to be developed at the university.

In the first years after the Revolution, the dominant role was played by the natural-science trend, working with the sciences (biology, physiology, evolutionary theory) and trying to construct psychology along the lines of an objective science. Much of the development in this school was due to Pavlov's ideas on higher neural activity. The psychology of those days can be best discovered in the works of Bexterev and *Kornilov* on *reflexology* and *reactology*. At the first All-Russian congress of psychoneurology (January 10–15, 1923), Kornilov's speech made the first demand in history for the application of Marxism psychology. The Moscow

Institute of Psychology, headed by Kornilov as of 1923, attracted the young researchers who were trying to carry out the program of constructing a Marxist psychology (N. F. Dobrynin, A. N. Leont'ev, A. R. Lurija, V. A. Artemov and others). L. S. Vygotskij played an important part in this.

In the second half of the 1920's the first efforts to establish a Marxist psychology made it clear that although psychology is not a "science about the soul", there are difficulties in defining its object. Both reactivity and reflexology tended to develop into mechanistic accounts of behavior. However, there were developing at the same time the psychological conceptions – related to the penetration into psychology of the Leninist theory of reflection and the diamat doctrine on development (L. S. Vygotskij's theory of the historical development of higher psychic functions; the genetic principle of P. P. Blonskij for the study of psychic processes, etc.) – which outgrew the methodological principles which obliged psychology to be taken as a science of behavior. Progressive psychologists were aware of this and the reconstruction of the 1930's was marked by discussions on the object of psychology and by the assertion that consciousness is its object. Toward the end of the 1920's there was a stress on applied psychology: *psychotechnology*, psychology of work, child psychology, educational psychology and legal psychology.

Soviet psychologists played an active role in solving the problems of reconstructing production, the scientific organization of work (NOT), social education, cultural work among the masses, etc. The social importance of problems raised by science were also studied. During this time there were theoretical divergences: criticism of the theory of 'two factors' in pedagogical and child psychology, the 'hereditary-biological' trends in pathopsychology (abnormal psychology) and in characterology, etc.

An essential role in the theoretical formulation of the bases of Soviet psychology was played by dialectical notions, especially Vygotskij's theories on the emergence, structure and development of the higher psychic functions. Vygotskij and his disciples developed the historical approach to the study of man's psyche, using two hypotheses: the first holds that psychic activity is mediated, and the other that internal psychic processes are derived from the activity of what is external and 'inter-psychic'. Historicism in the study of the human psyche was furthered by A. N.

Leont'ev and his coworkers, for whom psychic activity is a special form of activity – a product and resultant of external material activity, which is formed in the course of social-historical development into the internal activity of human consciousness (cf. A. N. Leont'ev, *The Problem of the Development of the Psyche*, Moscow, 1959. He received the Lenin Prize in 1963). The works of Blonskij formulate the dialectical approach to the genetic theory of the development of memory and thought. Of great importance are the works of S. L. Rubinštejn, grounding the principle of determinism in psychology, examining the bases of cognitive theory, and criticising foreign psychological theories.

The reconstruction of psychology on the basis of the theory of reflection brought to the fore problems of the psychological structure of cognitive processes. What becomes important is the study of the transitions from sensation to thought, of intellectually mediated sensations (B. G. Anan'ev), of the investigation of visual sensations, of sensibilization of the sense organs (S. V. Kravkov, K. X. Kekčeev), of aural sensations (B. M. Teplov), etc. Of primary importance in studying perception were the investigations connected with the theory of *character (ustanovka)* (D. N. Uznadze) which makes it possible to develop an original approach to the problems of the activity of the individual and of the unconscious. Before the war significant changes took place in the investigation of habits (L. A. Švarc, E. V. Gur'janov, etc.), attention (N. F. Dobrynin), memory (A. A. Smirnov, P. I. Zinčenko, N. A. Rybnikov, L. V. Zankov), thought (P. S. Ševarev, P. Ja. Gal'perin, A. V. Zaporožec, N. A. Menčinskaja, L. I. Božovič). The premisses for the dialectical-materialist conception of *talents* and their development in the process of activity (B. M. Teplov) were established then. The doctrine of A. S. Makarenko led the way in the study of the development of the person in the collectivity.

The notion of the social-historical conditioning of human consciousness has received general recognition. This forms the basis for investigating various forms of individual activity: the orientation of the individual (S. L. Rubinštejn), character as a modification of the person (D. N. Uznadze), relations (V. N. Mjasiščev), and others. In psychology the principle of development is firmly asserted. Soviet psychologists affirm the unity of consciousness and of activity, uncovering the basis of an objective knowledge of the psyche and making possible the correct solu-

tion to the question about the methods of psychology. By studying the structure of human consciousness, psychology begins to develop the infra-functional bonds and relations (which Vygotskij discussed as early as the 1920's) and thus overcome narrow functionalism in dealing with psychic processes. But this task has not been solved mainly because it involves the reconstruction of the whole conceptual structure of psychology. The theoretical assertion of the principle of unity of psychic activities stands in contradiction to the traditional picture of isolated psychic functions. A resolution of this contradiction is one of the factors of further development of Soviet psychology.

During the Great Patriotic War Soviet psychology devoted itself to industrial psychology (study of means of raising thresholds of sight, hearing, etc.; masking of light, sound, etc.; determination of readiness to fight, readiness to work, etc.).

In the post-war years the theoretical and experimental problems of Soviet psychology were intensively developed, and important methodological questions were extensively discussed. The foundation of the Academy of Pedagogical Sciences of the RSFSR (1943) was an important factor in including psychologists in the work of studying learning and education. Three all-union congresses of psychology (1952, 1953, 1955) drew conclusions and prepared the way for work on psychology of the person, pedagogical psychology, child psychology, on the physiological mechanisms of human psychic activity, cognitive psychology, etc. The Society of Psychologists held its first congress in 1957. The basic problems of psychology are being dealt with in the works of V. A. Artemov, E. I. Bojko, P. Ja. Gal'perin, F. D. Gorbov, V. V. Davydov, N. F. Dobrynin, N. I. Žinkin, L. V. Zankov, A. V. Zaporožec, V. P. Zinčenko, A. N. Leont'ev, A. R. Lurija, N. A. Menčinskij, V. D. Nebylicyn, K. K. Platonov, S. L. Rubinštejn, P. A. Rudik, A. N. Sokolov, E. N. Sokolov, A. A. Smirnov, B. M. Teplov, F. N. Šemjakin, P. A. Ševarev, E. A. Šoroxova, D. B. El'konin, P. M. Jakobson (Moscow), B. G. Anan'ev, L. M. Vekker, B. F. Lomov, V. N. Mjasiščev, M. G. Jaroševskij (Leningrad), G. S. Kostjuk (Kiev), R. G. Natadze, A. S. Prangišvili, Z. I. Xodžav (Tbilisi), P. I. Zinčenko (Xar'kov), M. A. Mazmanjan (Erevan), V. S. Merlin (Perm'), I. V. Straxov (Saratov), D. G. El'kin (Odessa) and many others. Important factors for Soviet psychology at the beginning of the 1960's were the development of branches needed by the national

economy and by culture (pedagogical psychology, social psychology, engineering psychology, space psychology, etc.), close contact with cognate sciences (logic, pedagogy, cybernetics, sociology, etc.), extensive use of electronics and the newest experimental technology, *factorial analysis*, and the modelling of psychic phenomena. These new traits of Soviet psychology were in evidence at the second congress of the Society of Psychologists (1963).

The links of Soviet psychology with foreign psychologists have been expanded and strengthened. This is evidenced by their participation in international conferences and meetings and in the translations of books, as well as in the use of their methods, etc.

Psychological work is currently being carried out in many institutions and laboratories in the Soviet Union. There are departments of psychology at the universities in Moscow and Leningrad. The regular (18th) international congress of psychologists took place in Moscow in 1966 and its president was A. N. Leont'ev.

SCIENCE

I. THE CONCEPT OF 'SCIENCE'

Science is an important element in spiritual culture. It is the highest form of human knowledge. It is the system of developing knowledge, where knowledge is advanced through appropriate methods, where it is expressed in exact concepts, and verified through social practice. Science is a system of concepts about the phenomena and laws of the external world or the spiritual activity of people, which makes possible the prediction and transformation of reality in the interests of society. It is a historically cumulative form of human activity; it is a 'spiritual production', with its own content; and it is the result of a careful gathering of facts, the elaboration of hypotheses and theories with their necessary laws, and the application of methods of investigation.

II. THE GENERAL CHARACTERISTICS OF SCIENCE

The concept of science is used to designate both the process of the elaboration of scientific knowledge and the whole system of knowledge, confirmed by practice and presented as objective truth, as well as for the knowledge contained in a certain domain of science. Science is a highly diversified set of branches.

Through science mankind achieves its domination over the forces of nature, develops material production and transforms social relations. Science makes it possible to elaborate the correct, dialectical-materialist *world-view* which frees man from superstition and from prejudice; it expands his horizons by perfecting his mental abilities and his moral structure.

The word 'science' means knowledge. This has to be understood as the confirmed conclusions about material and spiritual phenomena and their true reflection in the consciousness of man. Knowledge is counterposed to ignorance, i.e., the lack of confirmed information about something. As Lenin noted, knowledge is the penetration of the mind into reality

thanks to its subjection to the power of man. Our reason moves from ignorance to knowledge and from superficial knowledge to much more profound and comprehensive knowledge. Knowledge can be variegated: ordinary, pre-scientific, scientific; empirical and theoretical.

Elementary knowledge is found in animals who possess true information about some properties of things and their simplest relations, necessary for their successful orientation in the environment. Elementary everyday knowledge is present in little children. In the course of his life, every man comes to a set of empirical conclusions about the external world and about himself. Even primitive peoples had no small amount of information in the form of traditions, habits, empirical experience, production methods, etc. They knew how to do a lot and their ability was based on knowledge. Everyday knowledge, pre-scientific knowledge and scientific knowledge – are all based on *practice*. All types of knowledge are true reflections of things. Nevertheless, scientific knowledge differs essentially from ordinary and pre-scientific knowledge. Ordinary empirical knowledge is, of course, limited to the noting of facts and their description. For example, the fisherman knows what is needed for fishing and the merchant knows commerce. This was known long before Archimedes discovered the law of levers. But this law made it possible to create new mechanical devices, previously known to no practical man. Scientific knowledge also requires, in addition to the collation and description of the facts, also their explanation which occurs by rethinking them in the context of the whole system of concepts of a given science. Ordinary knowledge notes what lies on the very surface, what happens during a certain event. Scientific knowledge wants to know *why* it happens in just this way. The essence of scientific knowledge lies in the confirmed generalization of facts, where it becomes *necessary* rather than contingent, *universal* instead of particular, *law-bound*, and can serve as a basis for *predicting* various phenomena, events and objects: "... the summit of scientific work is prediction. It opens up to us coming events or historical occurrences; it is the sign that indicates that scientific thought is subject to the tasks of mankind, the forces of nature and the forces moving the life of society." (N. A. Umov, *Sobr. Soč.*, M. t. 3, 1916, s. 251). The whole progress of scientific knowledge is bound up with growth in the force and volume of scientific prediction. Prediction makes it possible to *control* processes and to *direct* them. Scientific knowledge

opens up the possibility not only of predicting the future but also of consciously forming it. The vital meaning of every science can be expressed as follows: *to know in order to predict and to predict in order to act.*

An essential characteristic of scientific knowledge is that it is systematic, i.e., it is a set of information which is ordered according to certain theoretical principles. A collection of unsystematized knowledge is not yet science. Certain basic premisses are fundamental to scientific knowledge, i.e., the laws which make it possible to systematize the knowledge. Knowledge becomes scientific when the collection of facts and their descriptions reach the level where they are included in a theory.

Philosophy and logic already had a scientific character in antiquity. The ancient peoples collected a significant amount of information about a number of relations of things. On this basis there were impressive accomplishments: pyramids, etc. But these elementary mathematical concepts were pre-scientific. They were not gathered together in a logically organized whole based on general principles and laws. The first mathematical knowledge to take on a scientific form was that of Euclid who provided a system and proofs. Practical chemistry is also as old as mankind. These practical conclusions about chemical processes only began to become science in the works of Boyle in the 17th Century.

Each science has its own stages of formation. But the criterion of this formation is common to all sciences: the definition of the object of investigation; the selection of concepts adequate to this object; the establishment of a fundamental law, present to this object; the discovery of a principle or the establishment of a theory to explain a set of facts. For example, mechanics was formulated as a science when one had established the laws of inertia and of the conservation of the quantity of movement and had developed the corresponding concepts (Galileo, Descartes, Newton). The generation of political economy began with the physiocrats. Smith, Ricardo and others discovered the first economic laws but only Marx turned political economy into a real science. Sociological knowledge was turned into a science when Marx and Engels revealed the motive forces of history, and the objective laws of the development of society, making possible the prediction of Communism.

Knowledge develops into a science to the extent that it discovers laws and is able to predict.

Scientific knowledge is essentially different from faith, i.e., from the blind acceptance of the truth of something which in principle cannot be subjected to practical confirmation and logical proof. Faith, however, should be distinguished from confidence, based on scientific knowledge, e.g., the confidence of the Soviet people in the victory of Communism. Confidence can have a scientific basis; on the contrary, blind religious faith in God, in mysteries and in the supernatural, faith as prejudice and superstition and faith in beings and forces can never be confirmed; they are only felt. While science makes man strong before the forces of nature and social life, religion and faith disorient him, sap his power, make him feel weak and increase his class-self-consciousness. As contrasted with faith, scientific knowledge is the true, practically grounded and logically confirmed reflection of reality. The logical bonds of a system of scientific knowledge are perceived as necessary and as flowing either from facts or from previously established truths. This is why the grounding of the results of scientific knowledge appears as something universal and able to convince people who have the necessary cultural level.

Scientific knowledge of the world exists in essential independence from esthetic forms of consciousness. Although both science and *art* are reflections of reality, science is essentially in the form of concepts and categories, while art is in the form of esthetic images (cf. *Esthetic images*). Both the scientific concept and the esthetic image are generalized perceptions of reality. But because of the conceptual character of scientific thought, the dialectic of universal, particular and individual has a different form in science than in art. In science this dialectical unity takes the *universal* as predominant while in art it is the *individual* that dominates. Scientific knowledge tries to maximize accuracy and to exclude anything personal; science is the most general social form of the development of knowledge. The whole history of science shows that anything subjective had to be purged. Artistic productions are unique while the results of scientific investigations are universal. Science is the product "of the universal historical development and its abstract sum" (*Arxiv K. Marksa i F. Engel'sa*, t. 2 (7), 1933, s. 161). In art one has the artistic thoughts coming from the artist himself in such a way that there can be no question of them existing in reality. The artist attains the universal in the particular and not the universal as such: esthetic truth does not try to

avoid the arbitrary and subjective. If the artist expresses the universal outside of organic unity with the particular (typical) and individual, then he is guilty of schematism and sociologism. However, if the artist reduces all to the individual and blindly follows the observed phenomena, tearing the individual from the universal and particular, then he gets not an artistic production but a naturalist copy. The main thing in science is to eliminate all that is individual, unique, etc., and to affirm whatever is general in the form of concepts and categories. *Law* is the form of universality in the world. Therefore, scientific knowledge is knowledge of the laws of the world.

Agnostics (i.e., sceptics) and many idealist metaphysicians deny the fact that the main task of science is knowledge of the laws of nature. Some idealists reduce science to a description of the phenomena of nature. Against these agnostics stand not only the classics of Marxism-Leninism but also leading scientists who are materialists.

III. THE OBJECT, METHODS AND STRUCTURE OF SCIENTIFIC KNOWLEDGE

It is essential for scientific knowledge to know what to investigate and how the investigation will take place. The first question has to do with the *object* of science and the second with the *method* of science. The object of science is the whole of reality, i.e., the different forces and types of matter in motion and also the forms of its reflection in human consciousness.

Sciences are divided into those which are general and those which are special, according to their objects. The *general* sciences are the philosophical ones (cf. *Philosophy*) which study the most general laws of all movement (the dialectic) and the specific laws of thought (logic). The *special* sciences are those which study either nature, or society or their interconnections (cf. below).

In the study of any object there is a general course of development of science, corresponding to the basic steps of knowledge in general. Knowledge of immediate phenomena "... reveals the essence (the law of causality, identity, difference, etc.) in Being (in immediate phenomena) – such is actually the *general course* of all human cognition (of all science in general. Such is the course also of *natural science* and *political economy* (and history)." (Lenin, *Works*, v. 38, p. 318).

Engels showed that the general course of the knowledge of nature, society and the spiritual activity of people includes some basic steps: the direct perception of the object of study as an undivided whole, where everything changes and is interconnected; the analysis of the object, distinguishing its different aspects and the study of its details; the establishment of a whole picture of the object on the basis of the parts that have been studied, i.e., on the basis of factual combination of analysis and synthesis. Characteristic of the dialectical view is "... the union of analysis and synthesis – the break-down of the separate parts and the totality, the summation of these parts." (*ibid.*, p. 222).

In the course of knowledge, analysis precedes synthesis, though they are inseparable. In contemporary science the picture of the world is known in its wholeness and concreteness. This is one of the appearances of the internal logic of the development of science. The qualitative variety of reality and of social practice determines the internal variety of human thought, the different modes and methods it uses, and the different domains of scientific knowledge which dominate different eras in the historical development of science. Peculiarities of the method are determined by peculiarities in the object of scientific investigation. The content of the object to be studied is expressed in the method. The method is so closely bound up with the scientific knowledge of the world that every essential step in the development of science calls forth new methods of investigation. Therefore, the level of development of a given science can be judged by the methods it uses (cf. *Method, Methodology*). Scientific method can be divided as follows:

General methods affect all sciences and any object. The dialectical method which is the only basically scientific method of investigation for contemporary science belongs here. All of its concepts, categories and laws play the role of methodological principles. This general method takes on concrete form in accordance with the concrete content of the object of the science in question. Such a concretization or use of a certain aspect of a general method takes place when, for example, the comparative method is used on the objects of biology, geography, chemistry, etc., where it helps to uncover general connections of phenomena. In biology it produces comparative anatomy, embryology, physiology, etc., which help to ground and to further develop evolutionary theory. In chemistry, the comparative method of Mendeleev discovered the periodic law.

Another concrete example of a general method in science is the historical method, which helps to reveal and to ground the principle of development in a given domain of reality. In biology, this method is the general method – as K. A. Timirjazev showed; it is the ground of evolutionary theory (*Darwinism*). In geology (where it is partially expressed in the actualist method) it is basic to historical geology which deals with the development of the Earth and of the Earth's surface. It is basic to all progressive cosmological hypotheses in astronomy. The universal methods which belong to every science and to all of scientific knowledge are studied by philosophy.

Particular methods are used in all the sections of science but only for the investigation of particular aspects of its objects. To a certain extent they have a general character (not being restricted to just one form of the movement of matter) but each of them has to do not with the whole object but with just one definite side (appearance, essence, quantity, structure, etc.).

Science is not a simple registration or accumulation of facts but their systematization, generalization and interpretation. Therefore, the most general methods of scientific investigation are those of empirical and theoretical investigation. The two are interconnected and condition each other. Knowledge moves from the study of phenomena to the uncovering of their essences, and each stage in this progression has its concrete modes of investigation: direct *observation* of phenomena under normal conditions; *experiment* for the study of artificially produced and limit phenomena; *comparison*; *measurement* – a special case of comparison, where a quantitative relation (expressed in numbers) is established between a given (unknown) object and another (known) object, taken as unit of measurement (scale); *induction* and *deduction*, with the help of which the empirical data are generalized and logical conclusions are drawn; *analysis* and *synthesis* which help to uncover the law-bound bonds between objects (their parts and aspects) by dissociation and re-assembly of their parts. To these one must also add the mathematical methods which serve as special modes of investigation of objects and phenomena of reality, of their structure, etc., and to generalize the results of these investigations, as well as to serve in the search for and expression of physical laws, etc.

The tools of scientific investigation are those objects (instruments,

devices, etc) which serve the experimental examination of the object and the experiential confirmation of the results, as well as the preservation of the results. Hypotheses provide a preliminary explanation of the causes and essence of the phenomena in question. When thought has advanced sufficiently the *hypothesis* becomes a form of the development of science. The theoretical generalization of experimental data is accomplished with the help of *abstraction*. The accumulated empirical material has to be examined in the light of previous theoretical notions and new ones elaborated through *generalization*. Unification of all the theories, hypotheses, etc., of all the sciences leads to the elaboration of a general picture which reflects reality in its internal bonds.

Contemporary science is developing new methods and modes of investigation, including:

The method of *analogy* includes discovery of the internal unity of various phenomena, the unity of their essences, and the community of their laws. This method is widely used in cybernetics, modelling, etc.

The method of *formalization* is based on the generalization of the forms of processes which differ in content; it is the abstraction of their forms from the content in order to elaborate the general modes of operating with them. This method is widely used in mathematical logic, cybernetics and some other branches of science and technology.

The method of *mathematization* is a concretization of the previous method as extended to the study and generalization of the quantitative aspects, general connections and structures of the objects and processes in question. This obviously involves statistical methods, the theory of probability and the use of computers.

The method of *modelling* is closely bound up with the above since it models the essence of the phenomena of reality by artificially transposing it to a material image or abstract model (of the thing). Since the model makes it possible to subject it to conceptual or physical experiment, very complex cognitive problems are involved in the interrelations between methods of modelling and the experiment.

Special methods, or the methods of the special sciences, are involved with the specific character of special forms of the movement of matter. Some of these methods have meaning only within the limits of a special branch of science, being relevant only to a particular object, in conjunction with which it arose. Among these we find some crystallophysical,

astrophysical, geophysical, biophysical and chemophysical phenomena and methods.

Sometimes a whole complex of interconnected special methods is used in the study of one and the same object (e.g., the methods of physics, chemistry and cybernetics concentrated in molecular biology). It happens that the methods used to study simple forms of movement are extended to more complex objects of other sciences. This can be explained by the fact that the more complex forms contain 'similarities', acquired in the course of their historical development from the more simple. Therefore, the study of the simpler forms of movement makes it possible to discover not only the structure but also the genesis of these more complex forms and thereby to find their essence and to know them fully and profoundly.

By method of science is often meant the ensemble of all of these (general, particular and special) methods.

In the structure of science one has to distinguish: the factual material (observational and experimental) accumulated in the course of its development; the results of the generalization of the factual material, expressed in appropriate theories, laws and principles; the scientific premisses and hypotheses which are based on the facts and need the further confirmation of experience; the general, philosophical interpretation of the principles and laws discovered by science as well as the world-view impact of science. All of these exist in close connection with each other.

The establishment of a *fact* or facts is a necessary condition for scientific investigation. Noting of a fact fixes a certain aspect or phenomenon of the object in question. The scientific fact is the result of trustworthy observation, experiment, etc. The scientific fact appears in the form of the direct observation of the object, the indication of a device, a photograph, protocols, tables, schema, documents, eye-witnesses, etc.

The strength of science is due to its dependence on facts. But, by themselves, facts do not yet constitute science just as the construction material is not yet a building. Facts are included in the structure of science only when they have been selected, classified, generalized and explained. The task of scientific investigation consists in disclosing the cause for the emergence of a given fact and in explaining its basic meaning and the connections between facts.

Particularly important for the progress of scientific knowledge is the

discovery of new facts. Their elaboration leads to the construction of a *theory* which is the most important component part of any science. The development of science is bound up with the disclosure of new laws of reality. The power of man over the environment is measured by the extent and depth of his knowledge of these laws. Closely involved with the laws are the principles which are the generalization of the experimental facts; e.g., the principle of minimal activity; the principle of the constancy of the speed of light, etc.

Any somewhat developed theory appears as something incomplete, rough and artificial. Scientific knowledge moves in an eternal contradiction between the inexhaustible richness of the properties and relations of the object and the effort of the subject to reproduce them as fully as possible in a system of scientific knowledge. Since any scientific theory is limited, there is in every period the need for supplementary knowledge and hypotheses. Hypotheses which are confirmed become theories.

The essential component of scientific knowledge is the philosophical elaboration of the scientific data, providing the world-view and the methodological ground. The scientist always approaches the facts and their generalization from a certain philosophical position. The very selection of facts – especially in the social sciences – is a question of great methodological importance. Its solution requires serious theoretical preparation and philosophical culture. The development of science requires not only the theoretical consideration of the facts, but also the analysis of the very process of arriving at them, considering them, etc. The study of these problems belongs to philosophy.

IV. THE SOCIAL ESSENCE OF SCIENCE

Science is a complex social phenomenon which has many limits and is connected with many other phenomena of social life. The emergence of science and its development are integral parts of the world history of mankind. While outside of society science is not able to arise or develop, society for much of its development is unthinkable without science. The historical sense of the emergence and development of science is to be found in its satisfaction of the demands of social life. There are many social factors which influence the choice of the object of scientific investigation, the direction and tempo of research and the use to which

the results are put. These include: the needs of material production; social and political practice; the economic structure of society; the nature of the reigning world-views; the various forms of social consciousness; the degree of development of production, technology, spiritual culture and enlightenment; and, finally, the internal logic of scientific knowledge itself. Among all these factors, the needs of material production and of the revolutionary class-war are decisive. They put before science definite cognitive tasks: production has definite need for the results of the scientific knowledge of nature and supplies the technical means for investigating, e.g., the microcosmos. The success of the scientist depends not just on his application and flair but also on the available experimental tools. The development of technology supplies science with mighty instruments of experimental and conceptual investigation, e.g., computers. Social practice is the sphere of application of knowledge and, in this sense, it is the goal of knowledge. Practice serves as the criterion for the truth of the results of science. In essence, in any domain of science it is the practical orientation which is the main and decisive stimulus to scientific investigation. The whole history of scientific knowledge shows that the practical application of a discovery was followed by a rapid development of the corresponding domain of scientific knowledge. The development of technology, in other words, revolutionizes science.

There are different states in the development of scientific investigations: some of them are close to direct satisfaction of the needs of practice (the solution of current, *tactical* problems); others have a longer time-line. The latter form the higher strata of science and are devoted to solving *strategic* problems: e.g., to discovering vast possibilities of future practice and to the introduction of basic changes in social practice. A clear example of such scientific strategy is the scientific prediction by Marx of the Communist structure of future society.

Narrow practicism is inimical to science, especially to its theoretical reaches. It limits scientific thought to the narrow corridors of movement which are involved with those parameters of the object in question, which are important only for the historically transitory forms of practice. This impoverishes the content of theory. On the other hand, when scientific thought is not held to these limits, it is capable of revealing in the object properties and relations which open up wider perspectives of practical

application. The separation of theory from practice, i.e., from life, makes theory pointless and in the end destroys its social and scientific meaning. It becomes scholasticism.

Emerging and developing under the influence of the material needs of society, scientific creativity also has a logic of its own; i.e., it is relatively autonomous.

The history of science shows that fruitful ideas in one domain can be important for the creative development of other domains. The theoretical development of thought is both embroiled in production and to some extent free of the immediate demands of practice. Many discoveries are made in relative independence from practice; e.g., those of Roentgen.

No small role in the development of science is played by the material stimuli which drive the scientists. But of more importance are the moral stimuli, i.e., the ideal driving forces: to lighten the work of man; to enlighten them; to reconstruct social relations in the interests of the people; to carry out the process of creation, etc. Many great scientists have been inspired by a sense of responsibility to society and by a desire to serve the interests of humanity. These ideal motivations are not original but produced: they have an objective basis and express real needs of society. Every scientist is a son of his epoch, the needs of which determine the character of this activity in the final analysis. Humanity sets itself "... only such tasks as it can solve; since, looking at the matter more closely, it will always be found that the task itself arises only when the material conditions for its solution already exist or are at least in the process of formation." (Tucker, p. 5).

The needs of material production influence the development of science through the economic structure of the society in question. This dependence of the development of science on social relations has been growing over the course of history and will grow with the increasing control of governments over science.

During the feudal period, when the dominant ideology was religion and knowledge of the world was looked upon as something sinful and forbidden, science was not able to develop normally. In the period of its emergence, capitalism created a favorable climate for the development of science. It replaced religious scholasticism with rational methods of thought and with experimental procedures. The bourgeoisie could not

build production on anything as fantastic as religious belief. "For its industry the bourgeoisie needed science which investigated the properties of physical bodies and the phenomenal forms of their forces. Before that time, science had been the humble servant of the church and could not go beyond the limits of belief; this is why it was as useless as unscientific. Now, science rose up against the church and, needing science, the bourgeoisie took part in the uprising." (Marx & Engels, *Soč.*, t. 22, s. 307).

In turn, the development of material production created the means for the theoretical reconsideration of reality. "... Alongside capitalist production, the *scientific factor* first consciously developed, was applied and established on such a scale as previous eras could not even imagine." ('Iz rukopisnogo nasledstva K. Marksa', *Kommunist* 1958, 7, s. 23).

Capitalism made possible the application of science not only in production but also in agriculture. When agriculture was put under scientific control, the biological sciences developed enormously.

The further development of science was conditioned by the continuous growth of the needs of industrial and agricultural production and by the spread of the world market, reflecting all the contradictions of bourgeois society, including those involved in the *division of labor*.

Capitalist production also included the products of spiritual creation. This is expressed above all in the fact that the accomplishments of science are commodities which play in the bourgeois system just the opposite role that the scientists have in mind for them. The concrete, historical conditions of bourgeois society influence the ideas of the scientists and many of them are aware of it now.

The growing needs of production and increased competition require constant improvement of technology and the financing of scientific research. But the development of science leads inevitably to the materialist world-view and thereby brings science into conflict with the reactionary bourgeois world-view. Whence the tendency of bourgeois philosophers to *positivism*, i.e., to avoidance of the broader questions of methodology and world-view. All this slows the development of science.

At the same time, it is clear that the accomplishments of science – especially natural science – have a great impact in the bourgeois world.

In the social sciences things are different. The ruling classes cannot afford to consider honestly the mechanism of their own society. Lenin

stressed that "... there can be no 'impartial' social science in a society based on class struggle..." (*SW*, vol. 1, p. 41).

In such a society, keeping from the people the truth on the leading tendencies of historical development can be considered a way of preserving this society. The ideological position of the representatives of their social sciences does not permit them to solve correctly the main problems of social development. Thus, although the bourgeois social scientists have been able to collect data and to solve some particular problems, they have not been able to come up with any new, justified theory of social development.

Science occupies a completely different position under socialism, where it enjoys all the conditions for fruitful development. Under socialism, science has many advantages over science under capitalism – especially as regards planning on a massive level and as regards the respect of the people. Socialism creates the conditions for including the people in middle and higher education and thereby brings the people to science. In socialist countries science serves the people and the people have a hitherto unheard of access to science.

Socialist ownership of the means of production, the planned character of the socialist economy, the constant devotion of the CPSU and the Soviet regime to scientific-technological progress, the dominance in the country of the progressive world-view of science – all of this contributes to the mighty accomplishments of Soviet science, which are the pride of our people and of all progressive mankind. It is true that Stalin's personality cult impeded the development of science and of scientific discussions. It was particularly harmful to the social sciences. Its end brought on a rapid development of science in all domains of knowledge.

While under the influence of society, science can, in turn, have a great influence on social progress. It influences the development of methods of material production and people's way of life. Science influences not only the revolutionizing of production but also the intellectual culture and minds of men. Great scientific discoveries have been very influential in human history.

At different times in history the role of science has varied. The knowledge brought by people to work, to production and to living had a scientific character already in slave-owning society. But at that time the elements of scientific knowledge had a very weak influence on produc-

tion. The latter was done mainly by slaves and by hand on the basis of empirically developed habits. During feudalism there was natural agriculture and slowly developing tools. Technological progress was very slow and based on individual talent.

The role of science in the development of production rose with the spread and generalization of production. It was capitalism developing in the bosom of feudalism that asked questions which could be answered only by science: there was a need for mechanics, mathematics, etc. Science became more and more the spiritual content of the forces of production and its achievements were clothed in technological innovations.

The leading thinkers of those times were acutely aware of the need to instill scientific principles in production and they called for the development of a science that would "... know the power and activity of fire, water, air, stars, heavens and of all the bodies around us, like our craftsmen know their trades, so that we can use them with exactitude for all applications and thereby become masters of nature" (Descartes, *Izbr. proizv.*, 1950, s. 305). The whole subsequent course of history appears as a continuous and spreading process of 'scientification' of production and of the transformation of natural science into an immediate force of production.

This process took many paths – above all, that of the creation of ever more perfect instruments and machines: the development of the instruments of labor "... is an index of the degree of social knowledge in general – science – changed into an *immediate force of production.*" (Marx in *Bol'shevik*, 1939, 11–12, s. 63).

Currently this process is expressed in the automation of production in the partial replacement of the human brain by computers, etc. By expanding the sphere of social labor, science has made it possible for less effort to accomplish more in the way of material production.

The transformation of natural science into an immediate force of production happened through perfecting the methods of production, e.g., by replacing mechanical means with chemical, electrical ones and by shortening working time: the creation of the real wealth of society "... is less dependent on the work-time and quantity of wage labor..., and depends on the general state of science and on the degree of development of technology or on the application of this science to production." (*ibid.*, s. 61).

Natural science is transformed into a force of production through the search for the use of new sources of energy and by the creation of artificial materials; by perfecting transportation and shortening the time it takes to get to work; by accelerating the transmission of information; by introducing new plants and new agricultural techniques; by improving the health of man, the best force of production, through elevation of his cultural and technological level.

A fruitful solution of the problem of uniting natural science with production depends on the character of the social structure. The social destination of science is to lighten the lives and work of men, to increase the control of society over the forces of nature, to facilitate the perfecting of social relations. Contemporary science can, because of its discoveries, do much in this direction. Under capitalism scientific discoveries and creations increase the productive power of work and increase the mass of commodities. But, they are not bringing happiness to all people; they are not eliminating need and poverty. "In capitalist society progress in technology and science means progress in the art of sweat-shopping." (Lenin, *Soč.* 4, t. 18, s. 557).

The introduction of automatic machinery has brought the intensification of labor, joblessness and lower wages.

"Science is a sovereignly powerful tool which – depending on who is using it – can bring either happiness or disaster to the people." (S. I. Vavilov, *Soč.*, t. 3, 1956, s. 607). Thus, the one-sided development of natural science and technology in the context of capitalist relations of production has led to a situation where thermonuclear war threatens mankind. Leading scientists worry about the consequences of their discoveries. "Scientists know the good science can bring to humanity; they also know what can be done if peace prevails on earth. They never want to hear the words: 'Science brought us the tragedy of the atomic and thermonuclear bombs. Scientists know that science cannot be guilty. The guilty are those who misuse the achievements of science.'" (F. Joliot-Curie, *Five Years of the Fight for Peace*, M., 1955, s. 190).

Under socialism the social role of science changes essentially. The activity of the CPSU and of the Soviet regime is based on science. On the basis of science, one carries out the planning of the economy and the transformation of the social relations. Both the social and natural sciences are to play a large role not only in establishing the material-

technological base of Communism but also in the ideological education of Soviet man, and in the elaboration of a scientific world-view for him. Science has a large role to play in the fight with reactionary bourgeois ideology.

The Program of the CPSU stresses that prospects for the progress of science and technology are mainly conditioned by the accomplishments of the leading branches of science. Before science are the grandiose tasks that follow: to learn how to control thermonuclear reactions for peaceful uses; to work on the climate; to conquer disease and lengthen human life; to guide and regulate the vital processes of the organism; to create synthetic materials with various properties; to conquer space; and to explore the outermost reaches of the Universe.

Socialism enables the economic sciences to plan the most rational use of material and human resources, to choose the most progressive directions for the development of production, and to perfect the organization of work. Under socialism, social relations are consciously organized and the social sciences form the foundation for controlling the development of society toward Communism. In the course of Communist construction the role of science will grow constantly (cf. *Communism, Communist work*).

V. THE LAWS OF THE DEVELOPMENT OF SCIENCE

The most important laws of the development of science are:

(a) The conditioning of the development of science by the needs of social-historical practice. This is the main motive force and source of the development of science.

(b) The relative autonomy of the development of science. No matter what concrete tasks practice puts before science, the solving of these problems can take place only by going beyond a certain stage in the development of the very process of the knowledge of reality, which is effectuated in the line of an orderly transition from phenomenon to essence and from the less profound essence to the more profound one.

(c) Continuity in the development of ideas and principles, theories and concepts, and methods and modes of science; the wholeness of knowledge of reality as an internally oriented process. Each higher step in the development of science rises on the basis of the previous stage, with conservation of all that is valuable in the previous stage. Since absolute

truth is made up of relative truths, the later and (relatively) more complete truth is internally linked up with the earlier and less developed truth.

(d) The gradual character of the development of science through intermediate periods of relatively restful (evolutionary) development and rapid (revolutionary) changes of the theoretical bases of science and of its system of concepts and representations (picture of the world). The evolutionary development of the whole of science is the process of the gradual accumulation of new facts and experimental data in the context of existing theoretical views, in connection with which there is an extension, refinement and elaboration of the existing theories, concepts and principles. The revolution in science takes place when there is a basic change and reconstruction of previously established views, a review of the fundamental theses, laws and principles because of the accumulation of new data and the discovery of new phenomena which were not accounted for in the context of the previous views. But the break and conversion affects not the content of previous knowledge but its incorrect interpretation, e.g., the incorrect universalization of laws and principles which are valid only within certain limits.

(e) The interactivity and interconnectedness of all the component parts of science, as a result of which one science can and must investigate the procedures and methods of the other sciences. As a result of this, the conditions are established for the full and profound disclosure of the essence and laws of qualitatively different phenomena. Such an interconnection of the parts of science defines some of the peculiarities of its historical development, in particular of the order of appearance of the separate domains.

(f) Freedom of critique; unprejudiced discussion of disputed or confused questions of science; disclosure and free interpretation of divergent views. Since the dialectically contradictory character of the processes of nature are disclosed in science not all at once and completely, it is through disputes that the contradictory sides of the processes are revealed. The result is the overcoming of the initial one-sidedness of various views on the object of investigation and the elaboration of a single view which is more adequate to reality than one would be which pretended to absolute truth.

Violation of these laws of the development of science leads to serious errors and deviations from truth in the activity of scientists and even of

whole schools. For example, separation from practice brings with it a lack of perspective on scientific development, stress on the non-essential, and often false questions and scholasticism. Ignorance of the relative independence and internal logic of the development of science leads to narrow practicism, to underestimation of the role of theory, to denigration of theory and to 'projectism'. Ignorance of continuity in the development of science generates nihilism in relationship to the previous history of science and a resultant inability to see the historical core and cognitive foundations of contemporary scientific trends and concepts. Failure to consider the interconnectedness and interpenetration of the methods of science causes occurrences of one-sidedness in views on the object of investigation, including: negation of the applicability of methods of some sciences to the study of objects of other sciences; or, on the contrary, negation of the specificity and even the existence of the object of one science on the grounds that it can be studied by the methods of another. Every effort to limit the freedom of science, of critique and of scientific discussion – on the pretense that there is one true view which does not need correction – leads to stagnation in science and submits scientific argumentation to dictates, organizational measures, monopolism, the elimination of free discussion or its reduction to organized discussions with inadequate views replacing others, with things like the personality cult – all of which are incompatible with true science and dangerous for it.

VI. CONDITIONS AND TENDENCIES IN THE DEVELOPMENT OF CONTEMPORARY SCIENCE

Science is a complex process of "spiritual production" which thousands of people pursue as a profession. While earlier science was developed usually by one individual or a few people in small laboratories and with primitive tools, now there is a completely different situation: scientific creativity is usually exercised by the combined forces of a large number of people in gigantic laboratories with good equipment. The development of science is the work of special institutes, production laboratories, and schools – especially universities. Cooperating in this are different levels of the population. The *continuity* of knowledge is achieved as a result of the interaction of the old and new cadres, teachers and students,

and between geniuses and ordinary people. "Not one discovery of any import can be made without the preparatory work of thousands of relatively insignificant and colorless scientists. These collect a large part of the – generally hitherto unknown – necessary data for the bases that the great people need." (J. Bernal, *Science in the History of Society*, Moscow, 1956, p. 29).

The *scientific school* is an important form for the organization and development of science. The gifts and talents of the scientist can shine better when he is supported by his colleagues. The scientific collectivity provides a context for the discussion of ideas, the exchange of experience and for the generation of new ideas. As Louise de Broglie notes: "collective work is necessary in many investigations but it cannot replace intensive personal thought" (in *Along the Paths of Science*).

Scientific knowledge is growing all the time: one thesis of science ages and is dropped by further movement; another appears and in conflict with the old ones affirms its right to life. In appropriating the ideas of a previous generation the new generation has to critically rework them and develop them further. "... But it goes without saying that the 'disciples' do not guard the heritage in the way an archivist guards an old document." (Lenin, *CW*, vol. 2, p. 526).

Scientific truth often appears as the result of a conflict of opinions. The only judge in the conflict of opinions is not authority but practice (cf. *Practice in science*).

A clear trait of the contemporary level of scientific knowledge is its penetration into the internal *structure* of the object. This has brought to the fore the structural method of research and of mirroring the objects as complex systems of interconnected elements. The object of contemporary science is not only the special forms of the movement of matter, but their *bonds* and *interconnections*. While developing in the direction of more profound research of the higher levels and of complex systems in the organization of matter, science is also penetrating more deeply into the simpler forms of movement and is thus being more successful in the practical fulfilment of the needs of society. For example, on the basis of a profound structural study of biological, physiological and psychic processes it has been possible to make great advances in cybernetics. Penetration into the depths of matter has made it possible to create artificial substances – polymers, cybernetic systems, etc.

On the basis of this deeper penetration science includes more fields and must specialize. This has fertilized science with the benefits of alternating differentiation and integration. There is a perfecting of detail and an enrichment of the terminology of science. There is extensive use of artificial languages and of sign systems (cf. *Semiotics, Sign*). The differentiation of scientific knowledge appears in the isolating out of relatively independent disciplines with their specific tasks and methods. The more deeply science goes into detail, the better it can reveal the connections between the different domains of reality and therefore the integration of scientific knowledge is facilitated, i.e., the formation of sciences which study properties and relations which are common to a large number of qualitatively different objects. The more science uncovers the connections of things, the better it explains the details. Such is the actual dialectic of knowledge through differentiation and integration.

From the viewpoint of special methods, contemporary science is marked by the domination of a large number of experimental approaches, using different tools and various mathematical modes. Exact mathematical methods have always been needed by natural sciences; they are increasingly needed by the social sciences. The rapid mathematization of science has facilitated the growth of cybernetics. The successes of cybernetics and *mathematical logic* in penetrating the production process shows that formalization brings great practical results. The development of these and other domains of science has led to the almost complete automation of the process of material production.

At the same time the limitations of the formalization and the mathematization of scientific knowledge are becoming clearer. "Mathematical formalism makes an evident contribution to the description of complex things. But it cannot do so for the understanding of real processes." (M. Born, *Physics in the Life of my Generation*, M. 1963, s. 87).

"... One should not underestimate the necessary role of imagination and intuition in scientific research. Developing with the help of irrational leaps (stressed by Meyerson) and straight circles, where we are trapped by deduction and induction, based on imagination and intuition, making possible great conceptual victories.... In this way (what a contradiction!), human science – essentially rational in its grounds and methods – can be carried out only through dangerous leaps of reason when it becomes possible to exit from the strict limits of reason

and to use imagination and intuition.” (DeBroglie, *op. cit.*, s. 294-5).

Contemporary science grows through a synthesis of the formal and contentful aspects of knowledge. From the methodological viewpoint, science is factually being penetrated by diamat. While earlier, for instance, *historicism* was used mainly in the study of the history of society, of the evolution of plants and animals and of geological processes, now it is the very heart of the scientific method.

In the words of Engels, scientific knowledge is growing at an ever faster pace, proportional to the mass of knowledge passed on from previous generations. One of the criteria of this acceleration of science is the abbreviation of the transitions from one phase of scientific knowledge to another and from theoretical discovery to practical application. While the latter used to be separated from the former by years and even decades, now that lapse can be a matter of months.

Contemporary science has a large technological base and a vast number of scientists, trained to solve the problems posed by practice. This means that there is less distance between pure and applied science.

Also essential to contemporary science is the fact that it often *outstrips* production. Science has become such a force that it can overtake practice. From being the daughter of production, science becomes its mother. Many contemporary productive processes were born in scientific laboratories. Thus, contemporary science not only meets the needs of production but often serves as a premiss for technological revolution. The great discoveries in the last decades in the leading domains of knowledge have led to a scientific-technological revolution, involving all the elements of the process of production. These include extensive automation and mechanization, mastery of new forms of energy and of raw materials, and penetration into the microcosm and the cosmos. The result is the creation of the premisses for a gigantic development of the forces of production of society.

Contemporary science confronts scientists and society with a series of new and extensive tasks, including that of working through a mass of material. The number of scientific publications is growing at an enormous rate. There are almost two million scientists in the world and they increase at a rate greater than that of the general population. A greater percentage of the Earth's inhabitants are acquainted with science. One could say that scientific activity has doubled in the past decade. All this

means that the sharing of scientific ideas is more difficult, and there is a duplication of effort because scientists cannot read everything and still do their own work. Abstracts and meetings have been designed to overcome this difficulty but there is no real solution in sight since it is estimated that by the end of the century there will be about one million scientific journals and periodicals!

Some Western scientists hold a false 'theory of the limits' of the development of science (Auger, Bush, Price and others), according to which in the not too distant future the progress of science will cease because people will be satiated with science. Louis Marlio writes: "The tragedy of science lies completely in its tremendous speed of development." (*VF*, 1952, 5, 117). Bourgeois ideologists try to interpret this conflict between the progress of science and bourgeois society as a conflict between science and society in general. This is false.

The solution to this problem has to be sought above all in the liquidation of social antagonisms, the rational organization of society and the automation of the search for information, as well as in the rationalization of publications and the use of modern coding technique for information retrieval. All of this presupposes the logical systematization of scientific disciplines. Abstracts, encyclopedias and dictionaries will become of more importance. The *logic of scientific research* will become very important in the elaboration of a 'meta-science' for the various domains of science and the development of formalized languages for the description of scientific facts (cf. *Metatheory*).

Characteristic of contemporary science is the growth of abstract knowledge. The theoretical sectors of science are reaching a level where some of their results cannot be presented concretely. This means that a larger role will be played by abstract, logical-mathematical and semantic models, where some traits of the object modelled are expressed in abstract formulae.

The development of science constantly needs mutual enrichment and the exchange of ideas between different, even widely separated branches of science. There remains the problem of synthetic methods in both natural and social sciences. Those of the natural sciences are increasingly penetrating the social sciences. For example, in historical research they provide the basis for the definition of chronology, for determining the exact time of historical events, and for revealing the possibility for a

rapid analysis of a large number of historical documents and facts.

One of the main paths of the fruitful development of various sciences is that of a cross-fertilization of methods. For example, the use of chemical and physical methods in biology enabled this science to make mighty advances. Biology was able to establish that *heredity* is conditioned by the nucleus of the cell and by the chromosomes – a discovery which was conditioned by chemistry, not just of albumen but also of nucleic acids.

Cybernetics is an important new science which arose from just such a cross-fertilization of sciences – physiology, biology, economics, linguistics, etc. On the other hand, the results of cybernetics applied to biology made it possible to discover the structural principles of technical systems. It has now come to such a pass that the biologist has to know some engineering, the engineer has to know some biology; the mathematician needs some linguistics, and so on.

The interaction of diverse methods in the contemporary sciences, the interpenetration of theoretical and applied sciences, the distribution of the various sciences on different levels of abstraction and the integration of scientific knowledge – all these are concrete manifestations of the dialectical process of knowledge.

The historical trend of the development of science is its movement toward the single science of Communist society. Its basic traits are already emerging. They are expressed in the integration of scientific knowledge on the basis of its differentiation, the disappearance of strict limits between the different branches of science, the formation of sciences with greater range (e.g., cybernetics), the formation of mediating disciplines (like biophysics, bionics, geochemistry and others), the cementing of all scientific knowledge into one whole, and the penetration of the methods of some sciences into others. The science of the Communist future will be a single science about the different domains of nature, society and thought, where the theoretical sections will exist in continuous unity with the empirical sectors and with their practical application. The humanities will be united with the natural sciences, with the historical aspect of science and with the logical and methodological, etc.

From the moment of the emergence of Marxism onto the historical scene of scientific knowledge, there was a clear tendency toward unity in the development of the sciences about nature, society and thought.

“History itself is an actual part of the history of nature; the establishment of nature by man. As a consequence, natural science includes the science about man, just as the latter includes the former; and they will be *one science*.” (*Iz rannix proizv.*, s. 596).

And it seems that this unity conserves the qualitative specificity of each approach and of each object of investigation. This will be a complex unity with rich internal diversity, cementing together a single scientific world-view and a single scientific methodology – dialectical and historical materialism.

F. KONSTANTINOV

HISTORICAL MATERIALISM

Historical materialism is the science of the most general laws and motive forces of the development of human society. It arose in the middle of the 19th Century. Its creators were the heroes and ideologists of the working class, Marx and Engels. Having established a new world-outlook in philosophy – dialectical materialism, Marx and Engels extended it to knowledge of society, history of society and social life.

Histomat is also called the materialist conception of history. Its object is not only the history of society and of the development and displacement of social forms (social-economic formations), but also of the contemporary social life of capitalist and socialist countries and of the laws of human social life in general. As distinct from social sciences like political economy, jurisprudence, ethics, and esthetics – which study one or another aspect or process of social life – histomat studies society and social life as a whole with the interaction of all its aspects. Histomat is a philosophic, methodological science. As a science of the laws of social development, histomat is the only scientific sociology. Since it is a method for the study of the laws of social development and of the contemporary phenomena, processes and tendencies of social life, histomat provides the possibility of predicting events and of directing future social developments.

Histomat is for the Marxist party the necessary method for the elaboration of scientifically grounded policies, strategies and tactics in the class-war, in revolutionary activity, and in plans for the construction of socialism and Communism.

I. THE SOCIAL-ECONOMIC PRESUPPOSITIONS OF THE EMERGENCE OF HISTOMAT

Histomat arose as a natural phenomenon in the development both of society and of philosophical, sociological and historical thought.

Like Marxism as a whole, histomat would not have been able to emerge

in the Middle Ages or even in the 18th Century – before the arrival of the social circumstances for its emergence and the formation of the social class, for which it would serve as an ideology. Such a class had to be looking not back but forward, boldly into the future, and had to be able to carry out revolution and boldly to criticize everything. Fearlessly to investigate the objective laws of the development of society and of social life – this is what was demanded of the creators of the basically materialist science of the laws of the development of society. A social class not interested in the continuance of a social structure, based on the exploitation of man by man, but interested in the destruction of such a structure and in the establishment of a classless, Communist society – such a class, the working class, was able to come to be only when the progressive capitalist countries of the 17th and 18th Centuries had reached a certain degree of maturity.

The emergence of Marxism – with histomat as a component part – marked the conceptual and political maturity of the progressive ranks of the international working class and indicated its historical role as the revolutionary fighter against capitalism and against all types of economic, social, political and spiritual repression – as the creator of the future, classless Communist society.

The presence of the revolutionary working class was important but it was not the only social presupposition for the emergence of histomat. There had to be an acceleration *vis-à-vis* the very slow rate of development of the Middle Ages. The stormy epoch of economic, technological, social and political revolutionary transformations, as well as the profound turnabout in the domain of political, philosophic, historical and economic ideas happened in the period of transition from the 18th to 19th Centuries. This period began with the industrial revolution in England and then the French Revolution at the end of the 18th Century. In the 1830's the Chartist movement began in England and then in 1848 the revolutions took place in France and Germany, where independent action by the proletariat had already been happening. All these events show that social life found itself in a revolutionary development. Earlier the connection between political events and processes in the economic domain was hidden and hard to discover. However, after the industrial turnabout in England and the political revolutions in Europe, this connection could be demonstrated.

The revolutionary events of the transition from the 18th to the 19th Centuries show that the main motive force of the whole historical development was class-conflict. In the previous epoch the classes and their conflict were hidden by the estates and other ideological trappings. The conflict of the peasants and townspeople against feudal oppression was carried out under the religious flag (Reformation, Peasant wars). With the transition into the 19th Century the class-conflict had an openly political character. Engels – one of the founders of histomat – characterizes the social-economic status of the emergence of Marxism, including histomat, as follows: “... while in all the previous periods investigation of these motive forces of history was almost impossible because the causes and their consequences were obscured and hidden, now these connections have been simplified to such an extent that a solution now becomes possible. With the introduction of heavy industry (at least by the European peace of 1815), it was clear to everyone in England that the center of all political conflict in that country was the effort at domination on the part of two classes – the landed aristocracy and the middle class. In France, this same fact surfaced with the Restoration. The historians of the Restoration – Thierry, Guizot, Migne and Thiers – constantly refer to it as the key to understanding post-medieval French history. As of 1830, in both these countries, the working class – the proletariat – was recognized as the third competitor for power. The relationships became so clear that only an intentionally myopic person could fail to see in the conflict of these three large classes and in the clash of their interests the motive force of all contemporary history – at least in these two advanced countries.” (Marx & Engels, *Soč.* 2, t. 21, s. 308).

II. THE CONCEPTUAL PRESUPPOSITIONS OF THE EMERGENCE OF HISTOMAT

Histomat did not emerge on a by-way of the development of scientific thought. Bourgeois critics try to present Marxism-Leninism, first, as a phenomenon which is not Western but Eastern and, second, as a trend which supposedly arose as an ‘irregular’ and ‘accidental’ product of two thinkers who were loners. In his article, ‘Karl Marx’, Lenin regarded this angle of things as follows: “Marx was the genius who continued and

consummated the three main ideological currents of the nineteenth century, as represented by the three most advanced countries of mankind: classical German philosophy, classical English political economy, and French socialism combined with French revolutionary doctrines in general.” (*SW*, vol. 1, p. 7).

And, in his ‘Three Sources and Three Component Parts of Marxism’, he expresses the idea of the historical continuity in the development of the social sciences as follows: “The history of philosophy and the history of social science show with perfect clarity that there is nothing resembling ‘sectarianism’ in Marxism, in the sense of its being a hidebound, petrified doctrine, a doctrine which arose *away from* the highroad of the development of world civilisation. On the contrary, the genius of Marx consists precisely in his having furnished answers to questions already presented by the foremost minds of mankind. His doctrine emerged as the direct and immediate *continuation* of the teachings of the greatest representatives of philosophy, political economy and socialism.” (Lenin, *SW*, vol. 1, p. 41).

What is striking in Lenin’s account is his great confidence in the predecessors of Marxism as great thinkers. Standing on the shoulders of Pygmy and surpassing them is not too difficult. But, to use as models the giants of the past in economic, philosophic and socialist thought and to surpass them in all respects, keeping what was rational and establishing a new world-view – this was the greatest of accomplishments. Previous thought had posed many difficult problems for sociology. In the first place, Hegel had made a grandiose attempt to apply his dialectic to the understanding of the course of world history; an attempt which is expressed in the effort to present historical movement as a necessary and law-bound, gradual process, moving from lower forms to the higher. He mystified this process by representing it as the self-movement and self-development of world spirit, the bearers of which are first one people and then another as they emerge to the fore of the historical stage. Despite his mystification and nationalist distortions, he nevertheless dealt a blow to the naive and vulgar representation of world history as the product of a voluntary activity of the so-called great people. Here is how Engels characterizes Hegel’s effort to explain the historical process: “He was the first to try to show the development and the internal consistency of history and, no matter how strange his

philosophy might look to us now, the grandeur of his basic views still is impressive – especially if we compare them with his predecessors or with those who attempted, after him, general reflections on history. In the *Phenomenology, Esthetics* and *History of Philosophy* – there is the red thread of his grandiose understanding of history; throughout, the material is considered historically, in a definite – although abstractly deformed – relation to history. This notion of history – which dominated an era – served as an immediate conceptual premiss for the new materialist view, thereby providing the point of departure for the new logical method.” (Marx & Engels, *Soč.* 2, t. 13, s. 496), i.e., for the dialectical-materialist method of Marx. The second conceptual presupposition in the matter of the establishment of history was the effort of the historians of the period of the Restoration (Thierry, Guizot, Migne) and of the English historians of this time to consider such historical events as the English revolution of the 17th Century and the French Revolution of the end of the 18th Century from the viewpoint of class-conflict and of the conflict of the bourgeoisie (or, more widely, the third estate in France) against the feudal land-owners. These historians were not able scientifically to explain the nature of these classes but they did reveal the conflict of these classes in society.

The English economists – Perry, Smith and Ricardo – tried to provide the economic anatomy of the classes of bourgeois society. This attempt was not very profound and they were not able to disclose the basic economic causes of the existence of classes. They described classes only from the viewpoint of the distribution of sources of wealth (rent to the landowner; profit to the capitalist; wages to the worker). All the same, they were the first scientifically to ask in their time this question and to answer it from an economic viewpoint. This was also of great importance for the preparation of the conceptual presuppositions of the revolutionary change in social science, effectuated by Marx and Engels. Among these presuppositions we also find the attempts of the classical political economists in England to explain value through work, to define productive labor, etc. While studying the presuppositions for the emergence of the social sciences, Lenin wrote: “*Just as* the classical political economists constructed this science, disclosing the law of value and the basic division of society into classes; *just as* this science was further enriched by the Enlighteners of the 18th Century in conflict with feudalism

and clericalism; *just as* this science was advanced by the historians and philosophers of the 19th Century (no matter how reactionary their views) who further developed the theory of class-war, developed the dialectical method and applied it to social life – so Marxism takes an enormous step forward and is a *higher development* of the whole historical, economic and philosophical science of Europe.” (Lenin, *Soč.*, t. 20, s. 184).

When establishing the connection and continuity of Marxist social science with the previous, progressive currents of social thought, one has to recall that idealism held sway, before Marx and Engels, in the understanding of the history of human thought and in the domain of philosophy and, no matter how important the above attempts at explanation were, they dealt only with isolated phenomena and were only attempts which could not solve the problems. There was no science of the laws of social development before Marx. He had to create one.

In order to understand the importance of Marx' and Engels' revolution in the understanding of the laws of social life, one has to recall the basic outlines of pre-Marxist sociology. In the first place, the idealist sociologists considered historical events above all and even exclusively only from the viewpoint of the ideal motivations of human activity, not looking into the more fundamental determinants of these motivations. Consequently, they remained on the surface of the phenomena. But, science begins only when one penetrates beyond appearances to their essence and discloses their definite causes.

The second basic deficiency of idealist sociology is the fact that it develops a gap between the environment and society, not seeing or understanding that man and in a certain sense society, though specific, are all parts of a single material world. And the laws of social life, though they are special and specific, are still just as objective as the laws of nature. The idealist sociologists think that in nature all events and phenomena are conditioned by laws where causal bonds dominate, and in society the events and phenomena are dominated and determined by goals, spiritual values, ideal motivations, e.g., the will and passions of people.

The third basic deficiency of idealist sociology consists in an ignorance of the decisive role of the popular masses in history and the reduction of history to the activity of the so-called great people. The idealist sociologists and historians consider the masses as the object and not as the

subject of history, as a passive, inert mass or, in the best of cases, the tool of history, and not as the creator of history.

Finally, the fourth deficiency of the idealist views of society is the fact that they are anti-historical and metaphysical. All the bourgeois historians, sociologists and economists before Marx and up to the present consider capitalism as an eternal, natural and changeless form. Not even the classical English economists are an exception. Even for Hegel, the historical process even found its perfection in the Prussian monarchy.

Only by overcoming and eliminating these deficiencies in bourgeois sociology can one establish a genuine science concerned with the laws of social development. This was the revolution in science which was the historical achievement of Marx and Engels. Speaking about the importance of this achievement, Lenin wrote: "Just as Darwin put an end to the view that the species of animals and plants are unconnected among themselves, fortuitous, 'created by God' and immutable, and was the first to put biology on an absolutely scientific basis by establishing the mutability and succession of species, so Marx put an end to the view that society is a mechanical aggregation of individuals, which allows of any kind of modification at the will of the powers that be (or, what amounts to the same thing, at the will of society and the government) and which arises and changes in a fortuitous way, and was the first to put sociology on a scientific basis by establishing the concept of the economic formation of society as the sum total of given relations of production and by establishing the fact that the development of these formations is a process of natural history." (*SW* 2, vol. I, p. 84).

III. DIAMAT AND HISTOMAT. SPECIFICITY OF THE LAWS OF SOCIAL LIFE

Philosophical idealism was not able to explain the real course of world history and of social life. On the other hand, the old, pre-Marxist philosophical materialism was not able to provide a scientific explanation of the history of society. It was inconsistent, one-sided and metaphysical. The same people who gave a materialist explanation of nature – French materialists of the 18th Century and Feuerbach – were idealists when it came to explaining society. Such thinkers as Helvetius, d'Holbach, Diderot and Feuerbach did have isolated ideas of genius about the

dependence of consciousness on social circumstances. All of them were inclined to the basic idea that opinions change the world. While they were determinists in the explanation of the phenomena of nature, they thought that the historical fate of peoples could be a matter of chance, depending on the will of some political leader.

The great historical contribution of Marx and Engels consisted in the fact that they founded a higher form of materialism – dialectical materialism – and were able to extend it to the knowledge of society: “A realisation of the inconsistency, incompleteness, and one-sidedness of the old materialism convinced Marx of the necessity of ‘bringing the science of society... into harmony with the materialist foundation, and of reconstructing it thereupon’. Since materialism in general explains consciousness as the outcome of being, and not conversely, then materialism as applied to the social life of mankind has to explain *social* consciousness as the outcome of *social* being.” (Lenin, *SW*, vol. 1, pp. 11–12).

The extension of philosophic materialism to knowledge and explanation of the phenomena of social life is a difficult and complex matter. Society is the most complex object of scientific investigation. It is no accident that philosophical materialism arose already in antiquity and could count on two centuries of existence while histomat can count only on a century.

In nature phenomena and processes occur blindly without the participation of consciousness and without any will or goal. History is made by people. People set themselves goals and work for their accomplishment.

Histomat explains the goals of people and the ideas which govern parties, classes and different social forces in conflict, in social life and in the material life of people and of social classes. Histomat explains the slogans and programs of parties by revealing the interests of certain social groups and social classes. And these interests, in turn, are determined by the situation of a given class in the system of social production.

“When it is a matter of investigating the moving forces which act on the motivations of historical figures – whether they are conscious or subconscious and are forming the basic moving forces of history – then one has to keep in mind not just the motivations of separate individuals – even the most prominent – which become the movers of the masses and the goals of the people, but also within each people the goals of the classes.

And what is important here is not the momentary and transient but the lasting actions which lead to historical transformation. Investigation of the motive forces which clearly or obscurely, directly or ideologically (in the most fantastic form) are reflected in the form of conscious motivations in the heads of the active masses and their leaders (the so-called great people) – this is the only path to knowledge of the laws which govern history in general and the separate periods in different countries.” (Marx & Engels, *Soč.* 2, t. 21, s. 307–308).

Pre-Marxist and contemporary bourgeois sociologists consider the single individual as the point of departure in the analysis of the causes of social phenomena and of historical events. They thereby exclude themselves from access to the laws of social life. Marx' contribution consists in the fact that he reduced the individual to the social, i.e., to social relations, and in the detection of the complex net of social relations which make up the ensemble of society and which occur at a certain historical stage of development. He detected the material, productive relations as determining the whole structure of a given society. The production of material goods is the foundation of any society. Before they can have science, philosophy, art and politics, people have to eat, be clothed, etc. For this they have to have production. Without a continuous satisfaction of material needs, people are not able to live; they die or are degraded to the level of animals. The development of society is expressed above all in the progress of production, of the tools, and of the forces of production as a whole. From the primitive stone tools, to bronze and then to iron; from the first simple devices and steam engines to gigantic, automated machines – this has been mankind's path for a thousand years. The degree reached by people in their control of the forces of nature is expressed in their tools. These tools are evidence of the social relations which form during work. The great discovery by Marx and Engels of the laws of the existence and development of society turned sociology into a science.

In the introduction to *A Contribution to the Critique of Political Economy* Marx furnishes the classical formulation of histomat: “In the social production of their life, men enter into definite relations that are indispensable and independent of their will, relations of production which correspond to a definite stage of development of their material productive forces. The sum total of these relations of production constitutes the

economic structure of society, the real foundation, on which rises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the social, political and intellectual life process in general. It is not the consciousness of men that determines their being, but, on the contrary, their social being that determines their consciousness. At a certain stage of their development, the material productive forces of society come in conflict with the existing relations of production, or – what is but a legal expression for the same thing – with the property relations within which they have been at work hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an epoch of social revolution. With the change of the economic foundation the entire immense superstructure is more or less rapidly transformed. In considering such transformations a distinction should always be made between the material transformation of the economic conditions of production, which can be determined with the precision of natural science, and the legal, political, religious, aesthetic or philosophic – in short, ideological forms in which men become conscious of this conflict and fight it out. Just as our opinion of an individual is not based on what he thinks of himself, so can we not judge of such a period of transformation by its own consciousness; on the contrary, this consciousness must be explained rather from the contradictions of material life, from the existing conflict between the social productive forces and the relations of production. No social order ever perishes before all the productive forces for which there is room in it have developed; and new, higher relations of production never appear before the material conditions of their existence have matured in the womb of the old society itself. Therefore, mankind always sets itself only such tasks as it can solve; since, looking at the matter more closely, it will always be found that the task itself arises only when the material conditions for its solution already exist or are at least in the process of formation. In broad outlines Asiatic, ancient, feudal, and modern bourgeois modes of production can be designated as progressive epochs in the economic formation of society. The bourgeois relations of production are the last antagonistic form of the social process of production – antagonistic not in the sense of individual antagonism, but of one arising from the social conditions of life of the individuals; at the same time the productive forces developing in

the womb of bourgeois society create the material conditions for the solution of that antagonism. This social formation brings, therefore, the prehistory of human society to a close." (Tucker, pp. 4-5).

IV. THE SOCIAL-ECONOMIC FORMATION

The most important and basic concept of histomat is that of the social-economic formation as the set of historically determined relations of production. In the complex set of social relations Marx and Engels saw those of material production to be primary and to be determinative of all the rest. Bourgeois sociologists define society as a set of individuals. But such a society is a pure abstraction. Really existing society is the chain of successive social-economic formations.

The history of humanity has known the following social-economic formations: primitive, slave-owning, feudal, capitalist. There is now growing and developing in a series of countries in Europe and Asia the new, socialist structure as the first or lower phase of the new, Communist social-economic formation. The Socialist countries count about one billion people. The structure of each social-economic formation is defined by the corresponding mode of production. It is the dominant mode of production at a certain stage of historical development that determines the character of a given society, its structure, the presence or absence of classes, the nature of these classes and their inter-relations, the character and nature of the political structure and the dominant ideas of social theory and ideology. The set of historically determined relations of production dominating a given society, form the economic base of this society, which determines and conditions its correlative political, legal and ideological superstructure, certain forms of marriage and the family, moral norms, etc. A change in the base brings about subsequent changes in the political and ideological superstructure. The economic base itself changes as a result of the development of social forces of production. And the latter are the ultimate and most profound cause of social development.

At a certain stage of its development society appears not as the simple sum of people, things, institutions or ideas. From the viewpoint of histomat, the social-economic formation is the whole social organism that is subject to the appropriate laws of emergence, development and change with other social organisms and with other social formations.

Since in the study of social life and historical events, sociologists and historians turn their attention to certain ideas, views and theories of some leaders, they cannot discern what is correct in the course of development of social life and in the historical process. The establishment of the scientific concept of social-economic formation and the distinction among the social relations of the economic and productive relations as the primary and decisive made it possible to establish the correctness and recurrence of phenomena in the social lives of people of different countries and to formulate certain laws. History shows that as soon as the capitalist mode of production develops in a given country the bourgeoisie and proletariat come with it, and the antagonism and conflict between them influences socialist ideology. Marx expressed this law in the proposition that countries with advanced modes of production show the future of economically backward countries. Contemporary bourgeois sociologists criticize histomat for its use of the concept of social-economic formation because it is contrary to their idea of the permanent and eternal nature of capitalism. The economic and social laws at work under capitalism are as eternal as capitalism itself. And, if capitalism is a historically transitory form, then it will have to be replaced by another, historically necessary and progressive formation, i.e., socialism and Communism. The course of historical development and the emergence of the world system of socialism have confirmed this law. Against the Marxist-Leninist doctrine of social-economic formation, the bourgeois sociologists put forth their theory about the so-called industrial society. Neither capitalism nor socialism but 'a single industrial society' – this is what they see in the future for both capitalist and socialist countries. In order to meet the challenge of histomat on social-economic formations and to 'refute' the uncomfortable doctrine about the historically inevitable replacement of capitalism by socialism, the American economist and sociologist, Walt Rostow, has introduced the doctrine of the five stages of historical development – eagerly grasped at by bourgeois politicians and ideologists. This 'theory of stages' – like its sub-section, the theory of 'one industrial society' – ignores the mode of production, the economic relations and the forms of ownership of the means of production as the decisive and determining elements in the characterization of any society. It is characteristic of the 'theory of stages' that there be a vulgar-technological and purely scholastic approach to the analysis

of phenomena of social life. The 'theory of stages' cannot account for social progress since it lumps together primitive, slave-holding and feudal societies into 'traditional society'. It also tries to gloss over the basic contradiction between the natures and laws of the two world systems: moribund capitalism and nascent socialism. The 'theory of stages' is an ideological construction, adapted to the tastes and needs of the contemporary bourgeoisie and to its fight against socialism and Communism.

Every historically determined mode of production has its specific laws of emergence and development and every social-economic formation has its specific laws of existence, development and transition into another social formation. For example, the capitalist mode of production arose and could rise spontaneously in the bosom of feudal society. In the course of the bourgeois political revolution, the political domination of the aristocracy was crushed and replaced by that of the bourgeoisie; but, the remains of feudal relations in economics were also destroyed (especially, feudal land-holding). The capitalist mode of production and the bourgeoisie as its bearer arose, however, and took over economic power within the feudal structure and under feudal despotism. This could happen because the feudal and capitalist modes of production both rested on private ownership of the means of production, exploitation of workers, class antagonisms, and domination of the exploiting minority over the working majority.

The transition from capitalism to socialism is another matter. The socialist mode of production cannot spontaneously emerge within capitalism. For the emergence of the socialist mode of production and socialist society as a whole, there has to be a socialist revolution of the proletariat, establishing the political domination of the working class, i.e., its dictatorship. The bourgeois, reformist and revisionist theories on the possibility of the transformation of capitalism into something other, i.e., a higher social structure (called 'socialist' by reformists and revisionists) without socialist revolution is one of the utopias of the bourgeois ideologists (and reformists and revisionists) used to tranquillize the consciousness of the working class.

Among the specific laws of capitalist society we find: anarchy of production; separation of direct producers from the means of production; law of surplus value; contradiction between the social character of production and the capitalist form of private appropriation; the crisis of

over-production; deepening of the gulf between the proletariat and bourgeoisie; specific forms of social antagonisms, etc.

Among the specific laws of socialist society are: the planned and proportional character of the development of the economy; lack of crises of production; relations of collaboration and mutual aid between people; lack of class antagonisms; equality; brotherly solidarity and mutual aid of different nations; the conceptual and political unity of the whole society; the movement to classless society, to full social equality and to all-round development of the person, and other laws.

In addition to the specific laws of each social-economic formation there are also general sociological laws which are at work in all social-economic formations. Among these we find: the determining role of the forces of production in respect to relations of production; the determining role of the mode of production in respect to the social structure of society; the determining role of social being in respect to social consciousness; the internal and necessary connection between the economic base and the social superstructure; the determining role of the base in respect to the superstructure; social revolutions as a result of the conflict of forces of production with archaic relations of production; the gradual character of the historical development of society; economic, social and cultural processes of society as sociological laws; people as the basic creator of history.

In addition to these general sociological laws, there are those which are common not to all but only to the antagonistic social formations. Such are the laws of class conflict as the motive force of history. Talking about the importance and role of class conflict in the history of society and the corresponding theory of class conflict in history, Lenin wrote: "It is common knowledge that, in any given society, the strivings of some of its members conflict with the strivings of others, that social life is full of contradictions, and that history reveals a struggle between nations and societies, as well as within nations and societies, and, besides, an alternation of periods of revolution and reaction, peace and war, stagnation and rapid progress or decline. Marxism has provided the guidance, i.e., the theory of the class struggle, for the discovery of the laws governing this seeming maze and chaos. It is only a study of the sum of the strivings of all the members of a given society or group of societies that can lead to a scientific definition of the result of those strivings. Now the conflicting

strivings stem from the difference in the position and mode of life of the *classes* into which each society is divided. 'The history of all hitherto existing society is the history of class struggles', wrote Marx in the *Communist Manifesto* (with the exception of the history of the primitive community, Engels added subsequently). 'Freeman and slave, patrician and plebeian, lord and serf, guild-master and journeyman, in a word, oppressor and oppressed', stood in constant opposition to one another, carried on an uninterrupted, now hidden, now open fight, a fight that each time ended, either in a revolutionary reconstitution of society at large, or in the common ruin of the contending classes..." (*SW*, vol. 1, p. 14).

The bourgeoisie and bourgeois sociologists now regard the class struggle of the proletariat against the bourgeoisie, of peasants against landowners, of poor against rich, and of exploited against exploiters as anomalous and pathological. This means that bourgeois sociological thought is now going not forward but backward in relation to those bourgeois theoreticians and historians who first discovered class struggle. Nothing can be understood in politics or in culture or in ideology if one ignores the conflict of classes, and the conflict of the forces of progress and reaction, of the forces of socialism and capitalism. Classes with their oppositions and irreconcilable interests under capitalism are real. The conflict of classes is one of the most important laws of social development and of social revolution.

V. THE PEOPLE AS CREATOR OF HISTORY

We indicated above that one of the basic errors of the idealist conception of history – in conflict with which histomat emerged and developed – was to ignore the role of the popular masses in history and to explain historical events through the activity of great people, heroes, kings, etc. Histomat, on the other hand, holds the people to be the creator of history. This thesis explains why the production of material goods is the base for the existence and development of society. People who work are the creators of material (and also spiritual) values. It is ultimately the forces of production that determine the development of all of society. And the worker is the most important force of production.

Class conflict is the motive force of history, and this is the fight of slaves against slave-owners, of serfs against lords, and of workers against

capitalists. In all great social and political revolutions the main motive force – at least the decisive one, providing the final blow – was the working masses.

The role of the popular masses in history is not constant. It depends on the degree of consciousness and organization of these masses and on which class and party are leading them. There were times in history when the masses were outside of politics and, in Lenin's terms, slept a historical sleep. But in the stormy periods of world history, when profound contradictions appear and can be solved only violently, then the masses emerge onto the historical scene and drive history unmercifully forward, eliminating all that has outlived its usefulness. The role of the masses is particularly important in the transition from capitalism to socialism and Communism and in the national-liberation movement against colonial imperialism.

The role of the popular masses is growing today because it is led by the working class. Where the working class is led by the Marxist parties – armed with Marxist-Leninist theory – the role, importance, force and power of the working class is multiplied, as is its influence on the masses and on the whole course of history.

The epoch of socialist revolution and of the construction of socialism and Communism is a very significant chapter in the history of the activity of the popular masses, creating a new society – that of socialism and Communism. In the past the masses – suffering from economic, political, social and spiritual oppression – were naturally unable to see their own capacities and powers. Both the bourgeoisie and the land-owners stifled and continue to stifle people's talents. Socialism strengthens the masses and creates room for the development and application of their talents and for the widest creative initiative of the masses. This is mainly conditioned by the gigantic tempos of the technological, economic, political, scientific and cultural development of the socialist countries. The great historical leap from economic and cultural backwardness to the heights of universal progress of the peoples of the U.S.S.R. and of the other socialist countries is due to the creative energy of the popular masses, led by the Communist Parties. The historical practice of the countries of socialism stresses the truth and correctness of history and of its doctrine of the decisive role of the popular masses in history. At the same time, history does not pass over the role of great people in history, in the

development of society, and in the course of historical events and of their outcome. History recognizes the role of the individual in history, but knows that it depends above all on the class and party to which he belongs. The role of the person depends on how deeply he understands the decisive historical tasks and laws of the development of society and the direction of this development, as well as on how energetically he acts under the direction of his class. Finally, the role of the individual in history also depends on how favorable the objective conditions are for his activity. If the conditions are not ripe – or nearly ripe – then no great person can depend on the masses, e.g., in carrying out a revolution. But the role of the historical individual, i.e., of the leader, includes correctly evaluating the situation and the conditions for the activity of the revolutionary class. In the days before October, Lenin wrote in his letters to the Central Committee about the ripening conditions for a successful uprising of the working class and the military masses. Yesterday was too early and tomorrow will be too late, wrote Lenin; the time is now. A slow uprising is death. Whence the importance of the role of a great leader. Throughout the activities of Marx, Engels and Lenin one can see what an important role a great leader plays in connection with the revolutionary class by expressing its will, interests and goals.

Another example is the fact that on the eve of the fascist incursion into the U.S.S.R. the Nazis were talking about an armed attack. Stalin ignored these signals and the country underwent tremendous suffering. Such can be the negative influence of an individual who is isolated from the masses, ceases to speak with their voice, and can no longer incarnate their power. Stalin's personality cult – lessening the role of the party, masses and collective leadership – had very negative consequences and was condemned by the CPSU and Soviet people as contrary to Marxism and socialism.

In his article 'Against Boycott', Lenin wrote: "Marxism differs from all other socialist theories by a remarkable combination of fully scientific soundness in the analysis of the objective state of affairs and of the objective course of evolution with the most resolute recognition of the importance of revolutionary energy, revolutionary creativity and revolutionary initiative of the masses and, of course, of individuals, groups, organizations and parties which are able to link up with one class or another. A high evaluation of the revolutionary periods in the history

of humanity flows from the whole set of historical views of Marx; it is precisely in such periods that the innumerable contradictions which gradually build up in periods of so-called peaceful development are resolved. It is in precisely such periods that the immediate role of different classes in certain forms of social life shines forth, creating the bases of the political 'superstructure' which has to position itself over the renewed relations of production. In contradistinction to bourgeois liberals, Marx sees in just such periods not a deviation from the 'normal' path, not 'social disease', not the results of error, but the most vital, important, essential and decisive moments in the history of human society.' (*Soč.* 4, t. 13, s. 21–22).

VI. THE HISTORICAL LAWS AND CONSCIOUS HUMAN ACTIVITY. NECESSITY AND FREEDOM

In nature phenomena happen blindly without the participation of consciousness. In society, nothing happens without a pre-established goal which directs human action.

But the acts and goals of people are often in mutual conflict, and the social result turns out to be something no one foresaw or desired. Sometimes the results corresponded with the intentions; but they were sometimes contrary. For example, the French bourgeois revolution of 1789 was carried out under the beautiful slogans of freedom, equality and fraternity. The result of this revolution was the destruction of the feudal structure with its privileges and inequality. But, 'freedom' turned out to be that of the merchants and sellers and that of the capitalists to exploit the workers, and in the place of feudal inequality there was capitalist slavery. Or, for example, Hitler Germany intended World War II to establish world domination and came close to this goal when it controlled Western Europe and all of Russia up to the Volga. But this was only the first part of the war. When whole peoples began to move and the Soviet people mobilized all their material, economic and moral forces, they crushed the fascist invaders and freed the peoples of Europe from enslavement. In the end, the war did not disserve the goals of the capitalist participants in the anti-Hitler coalition, for Germany as a world competitor was destroyed and chased from the world markets. But the main goals of fascist and imperialist Germany – to destroy the U.S.S.R. as

the homeland of socialism and to weaken and push back the worker movement, thus strengthening world capitalism – were not achieved. On the contrary, the general crisis of capitalism grew, as did the international socialist system. This could not, of course, please the ruling classes of the U.S.A., England, France, and Germany but it is the infrangible logic of history.

Since the second world war the reactionary goals have been frustrated and the correct and progressive goals have prevailed. And these goals and ideas have to be taken into account in considering social phenomena. But, histomat also sets itself the task of disclosing the basic causes of events and of finding out why people set one goal rather than another. Why in different eras do classes enter into conflict by following goals which are not only different but completely contrary to each other ?

Histomat explains the goals and intentions of people – which direct parties, classes and different social forces into battle – through the material conditions of the lives of people and of social classes. Behind the slogans, ideas, goals and programs of the parties, histomat finds the interests of certain social groups and social classes which, in turn, are determined by the position of a given class in the system of social production.

Since in the study of social phenomena the sociologists are satisfied with looking at the opinions, ideas and goals of the participants in the historical process, they remain in the clutches of contingency. History becomes a mere chaos of events, guesses and errors of people. Explanation of the goals, ideas and consciousnesses of people through the conditions of their material life reveals the real essence of the social phenomena and their real causes, as well as the laws of the activity of large masses of people and of social classes. The history of society as a whole is a law-bound process. Ignorance of the laws of social development condemns the given class and its party to have to act randomly or at best with only empirical data, from case to case.

For the bourgeois sociologist and metaphysician, the historical laws and the conscious activity of people in society are mutually exclusive categories, as are freedom and necessity. Bourgeois sociologists accuse Marxism and histomat of fatalism for ignoring the role of consciousness, will and the subjective factor in history. But since Communists are the most active social force today – acting in the name of the high ideals of

socialism, peace and democracy and ferocious in battle – the bourgeois sociologists and politicians who are against histomat accuse them of internal contradictions and of inconsistency, because of some so-called separation of theory and practice. But this critique is wide of the mark. The great contribution of histomat consists in that it first showed the scientific, dialectical-materialist connection of the material and ideal, the necessary and the free, the objective and subjective in social life.

The presence of historical laws and of objective laws of social development does not at all impede the conscious and free activity of people, social classes and masses, if the freedom of actions is conceived scientifically: not as independence from objective laws but as action on the basis of knowledge of laws and conscious use of them.

Ignorance of the laws of nature makes people slaves of necessity, dependent on its blind and spontaneous forces. But when people know the laws of nature and the essence of the processes going on they can dominate them.

The same is true in the case of the laws of history and of historical necessity. These operate blindly and spontaneously as long as they are not known and as long as people and society are not familiar with the nature of these laws. But if they are known and one acts in accord with them, they guarantee success and one gains control over the social relations which these laws govern; one is then in a position to change society in accord with the laws and conditions of reality itself. "Hegel was the first correctly to present the relationship of freedom and necessity. For him, freedom is knowledge of necessity. 'Necessity is blind only when it is not known.' Freedom does not consist in some imaginary independence from the laws of nature but in knowledge of these laws and in the subsequent ability to use the laws of nature in planning for certain goals. This relates both to the laws of the external world and to those which govern the corporeal and spiritual being of man himself – two classes of laws which we can distinguish one from the other at most in our minds but not at all in reality. Freedom of will... means nothing but the ability to apply the solution to knowledge of facts. Thus, the *freer* the judgement of a man in relation to a certain question, the greater the *necessity* to define the content of this judgement. The lack of confidence based on ignorance and choosing as it were freely between many different and contradictory solutions, shows a lack of freedom and sub-

mission to the thing, to which it has to subject itself. Therefore, freedom consists basically in domination – based on knowledge of the necessities of nature (*Naturnotwendigkeiten*) – over ourselves and external nature; it is, therefore, a necessary product of historical development.” (Marx & Engels, *Soč.* 2, t. 20, s. 116).

Defending Engels’ views from the attacks of the idealists and developing further the materialist doctrine on freedom and necessity, Lenin wrote: “For Engels all living human practice permeates the theory of knowledge itself and provides an *objective* criterion of truth. For until we know a law of nature, it, existing and acting independently of and outside our mind, makes us slaves of ‘blind necessity’. But once we come to know this law, which acts (as Marx repeated a thousand times) *independently* of our will and our mind, we become the masters of nature.” (Lenin, *Works*, v. 14, p. 190). This also applies to the social laws and to the historical activity of people – but there is a complexity and originality which the idealist indeterminists try to exploit.

Knowledge of the laws of social development and of the necessary replacement of capitalism by socialism not only does not liberate but, on the contrary, obliges the progressive social forces, the working class and the Marxist party to conscious activity in the fight for socialism and against capitalism. Only those who undermine the classes and parties – whose activity is directed against the historical laws and the course of social development – come into conflict with historical laws and with the activity of the objective laws. On the contrary, the progressive social forces find in the objective laws firm support for their conscious historical action. The deeper and more correctly these forces understand the historical laws the better they know them and the better they can use them, the more successful they will be. The archaic and false views of Stammler (author of an 1896 book against the materialist conception of history) against histomat and against the doctrine on the historical necessity of the victory of socialism are returning to the scene today. Stammler accuses Marxists of inconsistency. On the one hand, he writes, they assert that the victory of socialism is unavoidable and, at the same time, they organize the party of social revolution. To his mind, one might as well organize for observing eclipses.

Heinrich Falk, the West German philosopher, follows Stammler in his *Ideologische Grundlagen des Kommunismus* (München, 1961) in ac-

cusing historical materialism of inconsistency, fatalism and voluntarism. He writes: "Logic shows that Marxism is not able to avoid fatalism. But Communists refuse to recognize it because, otherwise, any call to agitation or to class war and revolution would be senseless. If Communism were going to come with such inevitability (like a lunar eclipse), no one would have to put himself out and no organization would be needed to bring it about."

Theoreticians like this metaphysically counterpose freedom and necessity. Histomat provides the only scientific understanding of the relationship of necessity to the free and active historical activities of people which is itself a necessary link in the chain of historical development.

Solar and lunar eclipses are independent of the wills and acts of people. They happened before there were people on earth. Things are different in case of historical events and of the development of society. History is made by people. The spontaneous course of social development leads to capitalism wearing itself out and turning from a progressive system into a reactionary and inhuman one. One generation of capitalism has seen two world wars. These wars destroyed nearly ten million people, many historical values and hundreds of towns and cities. There now exist atomic and thermonuclear weapons of mass destruction. Imperialism forces on people unheard-of militarism and debts for armament. All of this happens not because of the ill-will of some members of the imperialist bourgeoisie but because of the nature and laws of imperialism. The people of the world are becoming more and more aware of this, and it is driving them toward war with these reactionary forces. Using the histomat knowledge of the laws of social development, the Marxist parties clearly and deeply understand the essence of imperialism and therefore they are the most active and progressive force in today's world, and express in their activity the historical necessity and will of the popular masses.

Knowledge of the laws of social development not only does not invite the workers to passivity but, on the contrary, inspires them to ceaseless war for socialism and to confidence in the victory of their ideal.

Of vital interest today is the question of war. Imperialist war is not an accident but a natural consequence of imperialism. War flows from the essence and nature of imperialism. And if the socialist countries and the peace-loving peoples of the whole world do not fight against the aggressive forces and if the Soviet Union and the other socialist countries

weaken their military might, then the imperialists can possibly start another world war. Only a conscious and conscientious fight of the peoples against the aggressive forces can avoid a new world war. The balance of forces in the world has changed in favor of the forces of peace and of socialism. Depending on the peace-loving system of socialism, the people can defeat aggression and avoid war.

The doctrine of histomat about the objectivity of the laws of history and about freedom and necessity arms the progressive social forces of today with knowledge of the conditions and means of war for the accomplishment of great goals and ideals – genuine peace, real democracy and socialism and Communism.

VII. THE LENINIST STAGE IN THE DEVELOPMENT OF HISTOMAT

Practice in general, including historical practice, is the criterion of the truth, correctness and scientific character of any theory. The practice of class conflict, the victory of socialist revolution in the U.S.S.R., the transition of the Soviet people to Communism, the successful construction of socialism in the countries of popular democracy, the victories of the national-liberation movement, the successful fight of the working class of capitalist countries, the growth of the influence of the ideas of Marxism-Leninism, the influence of the CPSU, the deepening crisis of capitalism, the deepening of its contradictions – all of this taken together confirms the truthfulness and correctness of histomat. Bourgeois sociologists try to show that the victory of the socialist revolutions in the popular democracies did not happen according to the laws of Marxism and histomat.

The opponents of histomat naively pretend to be experts and judges in the interpretation of the correctness of histomat as conceived by Lenin and the Marxist parties. The bourgeois sociologists try to show that Marx was an objectivist – that he described the natural course and outcome of the development of capitalism, while Lenin, it seems, was a voluntarist who counted on the active participation of the party – like the mensheviks. At the same time, the bourgeois sociologists accuse Marx of being a revolutionary and say that Marx the scholar was injured by Marx the revolutionary. But the strength of both Marx and Lenin lay in their observance of the unity of theory and practice.

Lenin was the greatest and most consistent follower of Marx. He developed all aspects of Marxism, including histomat, and carried it to a higher level. The enemies of histomat try to assert that histomat is dated and that it is dogmatic. In reality, histomat is the enemy of all dogmatism. Following Marx and Engels, Lenin said that Marxism is not a dogma but a guide for action, that there is no abstract truth; truth is always concrete. Lenin and the CPSU he founded were and remain enemies of dogmatism and doctrinairism. There can be no dogmatism where a theory sees its task in correctly reflecting developing reality and sees the criterion of truth in the full correspondence to this developing reality.

Lenin said that Marx and Engels laid the cornerstone of a scientific theory and that the duty of Marxists of all countries lay in developing and furthering this theory. Lenin saw the soul of Marxist theory in the dialectical method. The application of the dialectical method of histomat to new reality, to the era of imperialism, led to the discovery by Lenin of new laws of imperialism and to the disclosure of the law of unequal development of imperialism, as well as to the doctrine of the possibility of the victory of socialism in one country. The Leninist theory of socialist revolution – based on Marx' theory of socialist revolution, on his doctrine about the conflict of the forces of production with the capitalist relations of production as the main cause of revolution, on the doctrine of the working class as the creator of revolutions and on his idea of the union of the working class with the peasantry, etc. – was one of the greatest discoveries and had a mighty influence on the whole course of world history. Lenin discovered new laws and the motive forces of the new Communist formation, at the cradle of which he stood; he also analyzed the real process of its emergence and served as the leader of the CPSU and the head of the Soviet régime in the process of constructing socialism.

Always insisting on the action of the objective laws of the socialist revolution and of Soviet society, Lenin turned special attention to the elaboration of the problems of the union of workers and peasantry, and to relations among the masses, the working class, Party and leadership. Following Marx, Lenin developed the histomat doctrines about the great role of socialist consciousness, of socialist ideology, and about the necessity of bringing it into the spontaneous worker movement. During the construction of socialism, Lenin taught the fight against the remnants

of the old society in the domain of consciousness, as well as against the forces of habit, tradition, custom, etc.

Living socialism is a matter of creativity of the popular masses, according to Lenin. He carefully nurtured this creativity, furthering the cause of the new socialism. Lenin's articles and speeches about Communist volunteers and 'high initiative' are classical examples of the disclosure of the new, Communist relation to work. The same can be said about the essence and meaning of socialist emulation as contrasted with capitalist competition. While developing the plan for the construction of socialism, Lenin remained faithful to the spirit of histomat by bringing to the fore industrialization and electrification of the country as the basis of socialism and basis of the socialist reconstruction of the economy. The Leninist plan for the construction of socialism is a masterly application and development of histomat. The victory of socialism in the U.S.S.R. is a triumph of histomat and of Marxism-Leninism as a whole. The Leninist stage in the development of histomat includes all the new elements contributed by the CPSU and the Marxist parties of all countries through the creative application of histomat to the concrete conditions of their countries.

A special place in the creative development of histomat and of Marxism-Leninism has to be reserved for the Program of the CPSU at the 22nd Congress, called by the fraternal parties the 'Communist manifesto of our era'. This Program is based on the doctrine of Marx-Engels-Lenin about Communism.

The great exploit of the CPSU was the establishment of a scientifically grounded plan for the construction of a classless Communist society.

The profound analysis in the Program of the crisis of contemporary capitalism, and of the laws of development of the international socialist system and of the international worker and national-liberation movement, are shining examples of the application and development of the dialectic and of materialism. The new Program is marked by its strictly scientific character, the range of the phenomena included, the depth of analysis, and the disclosure of immense perspectives which are opening up before humanity in the transition from capitalism to socialism and to Communism. Of particular importance are the sections on the construction of Communism and on the laws of the transition.

The mighty development of the forces of production of present

Communist society is the ground of grounds and the main material driving force. This was the basis for the formation and development of new, Communist social relations. New for the development of history in the Program and in Khrushchev's speech were the theses about the transformation of the dictatorship of the proletariat into a socialist government of all the people with the CPSU as the vanguard of the whole Soviet people, and the thesis on the development of the organs of Communist self-direction.

The problem of the all-round development of the person in Communist society is also regarded strictly materialistically. The person is always in his internal essence the result of the corresponding social relations. Only under Communism will the person be fully developed – physically, mentally, esthetically and morally. The full development of the person is also one of the conditions of the victory of Communism. This contradiction is resolved in the course of Communist construction. In building a new, Communist society, the Soviet people – the people of socialist society – are finally freed from the remnants of the old society, gradually rise to a higher level and achieve a many-sided and then all-sided development.

The importance of the Program consists in the fact that it provides a scientifically grounded answer to the big questions of today – questions which are asked by the whole course of social development. The Program clarifies the big question on the paths of the development of humanity.

This question is answered by bourgeois sociologists and political leaders with the claim that capitalism will last forever and that the people freed from colonial domination should turn to capitalism. Bourgeois ideologists also suggest that the socialist countries are moving toward capitalism. Another section of the bourgeois sociologists (e.g., Aron and other French sociologists) is composed of partisans of the theory of the so-called 'industrial society', claiming that capitalism, too, is evolving to a new, and higher stage of development with some of the traits of socialism (planning) and that the socialist countries are also supposedly evolving in the direction of this stage. In summary, they say that all peoples are moving neither to capitalism nor to Communism, but to some third state, the so-called industrial society. Essentially, this is an effort to eternalize capitalism and the bourgeois theory about the transformation of socialism.

The Program uses its analysis of the laws of the gradual development of society, its analysis of the results of the development of capitalism and socialism over the past decades, its study of the processes and trends in the contemporary world, to show that the path leading to Communism is the path of all mankind.

Socialism has demonstrated its superiority over capitalism. Over a period of 45 years the U.S.S.R. has made a great leap forward along the path of technological, economic, social, cultural and scientific progress: from the cart to the spaceship, from windmills and waterwheels to giant electrical stations, from an illiterate Russia to general literacy and to wide-spread secondary and higher education. The U.S.S.R. is the leading industrial power in Europe and the second in the world. In a few years the U.S.S.R. will overtake the industrial speed and volume of the U.S.A. The U.S.S.R. is already first in the production of engineers. The development of the other socialist countries also follows the historical laws of the gradual development of society. The new, socialist form of society has opened up great perspectives for the development of the forces of production, for the development of science and technology and for the development of man himself.

A tremendous, revolutionary influence on the whole world is being increasingly exercised by the successes of the construction of Communism in the U.S.S.R. and the successes of the construction of socialism in the popular democracies. Generalization of the creativity of the masses enriches histomat with new data and with new theses and thereby makes it able to play a greater transformatory role in the fight for Communism. The most important event of world history and of the present is the victory of socialism in the U.S.S.R., the emergence of the international socialist system and the rapid construction of Communism in the U.S.S.R. This is the biggest result of the development of the Marxist social science, histomat.

VIII. HISTOMAT'S PARTISANSHIP. HISTOMAT AND MODERN BOURGEOIS SOCIOLOGY

Marxism-Leninism consistently maintains the principle of partisanship in histomat and in the social sciences in general. Every class has its own economic, philosophic, and sociological views and convictions which

express the status and interests of this class. Of course, the very spokesmen for these views may be unaware of them. They can consider themselves as uninfluenced, as 'above' and 'higher' than a partisan approach to social phenomena. But this is an illusion. One should keep in mind that the ideologist for a certain class does not have to be a member of that class. For example, he could support capitalism while even belonging to the working class, or vice versa. Far-sighted and honest representatives of the bourgeois intelligentsia – aware of the emancipatory fight of the working class and of the progressive ideology – can come to the side of the people. This is understandable since the classes and social groups are not rigidly isolated from each other. They influence each other both economically and spiritually but, as a rule, the bourgeoisie and its political and ideological representatives are always on the side of the bourgeois ideology. In social theory and in sociology they defend capitalism as human, etc. – as can be seen in their treatment of questions of government and law, democracy and dictatorship, in their relationship to the socialist countries and to the national-liberation movement, and to Marxism-Leninism in general and histomat in particular. While contemporary bourgeois theoreticians, including the sociologists, parade under the false flag of non-partisanship and objectivism, in their lessons to the young bourgeois and in its philosophy they are openly partisan. They criticize those who do not have the courage openly to admit their partisanship.

The founders of Marxism-Leninism openly espoused the principle of partisanship of histomat. This principle characterizes the insoluble bond of histomat with politics and with the interests of the working masses.

Histomat comes out openly as the most objective and, at the same time, partisan science, expressing the interests of the workers of society and above all of the working class, to which the future of the whole world belongs. Since the bourgeoisie is a dying class, it is not able to understand and to recognize the objective laws of social development which are leading to its downfall and taking the workers to socialism and Communism. This is why the bourgeoisie and its ideologists, as a rule, deny the objective character of social laws. Therefore, bourgeois sociology – which is partisan in its essence – is not capable of objective knowledge of social reality. They consciously or unconsciously distort it. On the contrary, the working class as the rising social force is ideologically in-

terested in the most universal and profound understanding of the laws of history, leading to Communism. This is why in history the principle of partisanship is in organic unity with the objective and scientific approach to social phenomena.

A consistent materialism in science – which alone is able to provide a true, accurate and profound knowledge both of nature and of social life – does not negate but includes partisanship. Pitting Marxist materialism against bourgeois objectivism, Lenin wrote: “The objectivist speaks of the necessity of a given historical process; the materialist gives an exact picture of the given social-economic formation and of the antagonistic relations to which it gives rise. When demonstrating the necessity for a given series of facts, the objectivist always runs the risk of becoming an apologist for these facts: the materialist discloses the class contradictions and in so doing defines his standpoint. The objectivist speaks of ‘insurmountable historical tendencies’; the materialist speaks of the class which ‘directs’ the given economic system, giving rise to such and such forms of counteraction by other classes. Thus, on the one hand, the materialist is more consistent than the objectivist, and gives profounder and fuller effect to his objectivism. He does not limit himself to speaking of the necessity of a process, but ascertains exactly what social-economic formation gives the process its content, *exactly what class* determines this necessity.... On the other hand, materialism 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.” (*CW*, vol. 1, pp. 400–401).

Under contemporary conditions, the Communist partisanship of the proletariat and the interests of genuine science require that whoever studies social phenomena do it from the viewpoint of the fight of the workers for peace, democracy and Communism. Lenin and Leninism teach ruthlessness in the class war with the bourgeoisie and with its ideology. “*Not a single one* of these professors, who are capable of making very valuable contributions in the special fields of chemistry, history or physics, *can be trusted one iota* when it comes to philosophy. Why? For the same reason that not a *single* professor of political economy, who may be capable of very valuable contributions in the field of factual and specialised investigations, can be trusted *one iota* when it comes to the general theory of political economy. For in modern

society the latter is as much a *partisan* science as is *epistemology*. Taken as a whole, the professors of economics are nothing but learned salesmen of the capitalist class, while the professors of philosophy are learned salesmen of the theologians.

The task of Marxists in both cases is to be able to master and refashion the achievements of these 'salesmen' (for instance, you will not make the slightest progress in the investigation of new economic phenomena without making use of the works of these salesmen) and *to be able* to lop off their reactionary tendency, to pursue your *own* line and to combat the *whole line* of the forces and classes hostile to us." (Lenin, *Works*, v. 14, pp. 342–343).

IX. THE IDEALIST AND REACTIONARY CHARACTER OF BOURGEOIS SOCIOLOGY

Histomat is the fundamentally scientific and complete theory of the development of society which shows forth the law-bound process of the progressive development of humanity from socialism to Communism. Therefore, the theory of histomat causes fear and anguish among the reactionary bourgeoisie and its ideologists. Seized with fear before the inextinguishable laws of history, the reactionary classes of contemporary capitalist society try in all ways to slow down the flow of history. To accomplish this, they use all means – economic, political and ideological. Sociology is one of the main instruments of this fight. Faced with the deep crisis of bourgeois ideology, the theoreticians set themselves to fabricating all sorts of recipes for the salvation of capitalism.

At different periods in history, the ideologists of the bourgeoisie try to oppose to Marxist sociology, histomat, various sociological theories: the positivism of Comte and Spencer; social Darwinism; neo-Malthusianism and other naturalist theories which eliminate the limits between natural, biological and social laws. The geographical trends, including reactionary geopolitical theories, also try to find the basic causes of the development of society outside of it in the geographical environment. All the naturalist schools rose and disappeared under the influence of events and of life itself.

Another trend – which is opposed to naturalism – consists of the subjective idealist theories. Their characteristic trait is the fundamental

counterposing of nature and society and their separation by a gulf. According to these sociologists, in nature there are causal laws and connections, while in society there are teleological laws, values and goals. But consciousness, goals, the fight for ideals, the role of spiritual and moral values in social life – all these do not eliminate the question about the causal conditioning and objective laws of social phenomena. The subjective-idealist direction and voluntarism in sociology serve as ideological grounding for the adventurism of reactionary imperialist policies.

The spread of the influence of Marxism and of histomat is forcing the bourgeois sociologists to 'reconstruct'. The so-called 'theory of stages of growth', industrial sociology, various sorts of empirical sociology (sociology of labor, of human relations, etc.), – all try to unite eclectically various factors of social life and to give the appearance of completeness in their account of the elements which are influencing the course of social life, including economics, production and technology. But this external realism of approach to the explanation of history and of the present only masks the subjectivism and voluntarism of these sociological schools.

The characteristic traits of contemporary bourgeois sociology include negation of the determining role of the conditions of material life, of the mode of production in social life and in the development of society; negation of the objective laws of the development of society; eclecticism; inability to understand the dialectical connection of economics and politics, of the objective and subjective, of the material and ideal; anti-historicism; negation of the gradual development of society or the 'recognition' of such social progress as sees in capitalism the summit of the development of society.

It is typical of contemporary bourgeois sociology to be ill with anti-Marxism and anti-Communism, and to turn away from the important social and political problems of today. When the bourgeois sociologists are forced by the logic of life itself to deal with these problems, they show themselves incapable of explaining the causes and meaning of the great events of today (the worker and national-liberation movement, social revolutions, the fight for peace, for disarmament, etc.). The need to do this is recognized by eminent bourgeois sociologists. At the 5th sociological congress in Washington (1962), Merton (a leading American

sociologist) bitterly complained: "War, exploitation, poverty, discrimination, psychological insecurity, etc., are the scourge of people in our society. Social scientists cannot supply a scientific solution for one of these problems, since there is no scientific sociological theory.... Sociology is still in travail; in about 40 or 50 years it might have its Newton or Darwin."

Bourgeois empirical sociology has accumulated a great amount of factual material for investigating special and narrow problems of urban and rural life (a problem which does not belong to sociology in the Marxist understanding of the term), but it cannot provide a scientific generalization of this material. Only histomat makes it possible to orient oneself among the complex set of events and to understand the meaning of great contemporary events, as well as the direction of the historical development of peoples.

According to many bourgeois sociologists, the historical process is a chaotic agglomeration of blind contingencies and tragic errors which can be neither foreseen nor controlled. History is a toilsome road which is wearily trod by a powerless mankind, knowing neither whither nor whence. Histomat is marked by optimism and trust in the victory of the forces of progress, i.e., the forces of Communism. Bourgeois sociology is characterized by pessimism and lack of confidence and the feeling of fear before what is to come.

Characteristic for the reactionary ideologists of today is slighting the popular masses which are described as incapable of rational thought and action, as ruined by emotions, etc. All this serves a cult of 'prominent people'. Bourgeois sociologists try to 'prove' the reconciliation of class contradictions, the equilibration of the social situations of people under capitalism, and the development of a beginning of planning in bourgeois economics. But the growing class war refutes these fantasies of bourgeois sociology.

Bourgeois sociologists do not see the profound cause of all social conflicts and revolutions in private property, and in profound economic, social and political contradictions which elicit class war, social revolution and national-liberation movements.

No matter what the defenders of imperialism do, history does its job. With great force and persuasiveness it demonstrates the great rightness of Marxism-Leninism.

POLITICAL ECONOMY

Political economy is the science on the laws governing the production, distribution and exchange of the material goods of human society at various stages in its historical development. "... it is on the conditions and forms of production and exchange in different human societies, wherein the distribution of products occurs in any given society." (Marx & Engels, *Soč.* 2, t. 20, s. 153–154).

Lenin described political economy as the science of the developing historical layers of social production, providing an idea about its different systems and the basic traits of each system. (cf. *Soč.*, t. 4, s. 33). "The object of investigation is above all *material production*", wrote Marx, explaining that it was a question of socially determined production. (cf. Marx & Engels, *Soč.* 2, t. 12, s. 709). Lenin said that the object of political economy is "... not at all the 'production of material values', as is often said (that is the object of technology) but the social relations of people in production." (*CW*, vol. 2, p. 202).

As Engels pointed out, the whole content of the theory of the proletarian party came to be through the study of political economy. (cf. Marx & Engels, *Soč.* 2, t. 13, s. 490 and Lenin, *Soč.*, t. 2, s. 34, 43) Marxism carried out a revolutionary transformation in political economy, turning it from a social science of the bourgeoisie into a proletarian and fundamentally scientific doctrine, putting a political economy of work in place of a political economy of property. (cf. Marx & Engels, *Soč.* 2, t. 16, s. 9).

As an independent branch of knowledge, political economy arose at the end of the 16th Century at the beginning of the capitalist era. Representatives of bourgeois classical political economy tried to uncover the internal structure of capitalist production. The historical importance of Smith and Ricardo lies in the fact that they laid the groundwork for a labor theory of value. The classical political economists described a whole series of 'natural laws' of capitalism but they did not understand its transitory nature and did not see the class-conflict going

on in bourgeois society. With the establishment of bourgeois domination, the emergence of the working class onto the historical stage and the intensification of class-conflict, political economy was replaced by apologetics. According to Marx, vulgar political economy in reality “just doctrinairely interprets, systematizes and justifies the views of the agents of bourgeois production and of the aggressive relations of this production”, pedantically systematizing “... the hackneyed and self-serving ideas of bourgeois agents of production about their own world as the best of all worlds and about their views as eternal truths.” (Marx & Engels, *Soč.* 2, to. 25, č. 2, s. 383 *et passim*).

Throughout the subsequent development of capitalism, bourgeois political economy remained an apology for social relations and the trends of capitalism. At the same time, bourgeois political economy served the needs of commercial monopolies and the economic policies of capitalist regimes (concrete research, the application of mathematical methods, etc.).

Marx wrote that political economy could be made into a positive science only by replacing the conflict of dogmas with a consideration of conflicting facts and actions, i.e., the contradictions which underlie these dogmas. (cf. *ibid.*, t. 32, s. 145) Marx' critique of all previous political economy was a fully creative critique which assessed the place and importance of each school of political economy in the historical flow and constituted a model of the overcoming of the 'bourgeois heritage'.

Political economy is a class science, i.e., a partisan science. Lenin said that even when a bourgeois economist is able to do good work in the domain of facts, one should not trust him when it comes to the general theory of political economy. (cf. *Soč.* 4, t. 14, s. 328 *et passim*).

The device that Marxism used to revolutionize political economy was the materialist dialectic as a whole and the materialist conception of history in particular. The methodological base of Marxist-Leninist political economy is formed by *diamat* and *histomat*. According to Lenin, in Marxism philosophy and political economy “... are united in a *complete* materialist world-view”. (*ibid.*, t. 20, s. 173).

The revolutionary shift in this science involved the whole content, beginning with its object. Marx' predecessors devoted themselves to the study of 'wealth'. As sources of wealth, they usually designated some

particular type of work: agriculture, manufacturing, fishing, trade, etc., until Smith came up with "... work in general, and taken in its social aggregate as the division of labor". (cf. Marx & Engels, *Soč.* 2, t. 13, s. 45).

In contradistinction to his predecessors, Marx set out as the goal of political economy the discovery of the economic laws of the movement of bourgeois society. The classical political economists were committed to rationalist philosophy and tried to infer the economic laws from the nature of 'economic man' entering into economic relations with his fellows. Marxism showed that production is always a social phenomenon and the starting point of political economy should be society and not the isolated individual. Marx carried on the concrete investigation of the social structure of production which determines the psyche, the will, the consciousness, and the activities of people. Where the classical political economists saw relations between things, Marxism sees relations between people who are the producers of commodities. In the commodity and even more in the commodity as the product of capital there is the reification of socially defined production and the subjectification of the material conditions of production, and the fetishism of commodities, characterizing the whole capitalist mode of production. (cf. *ibid.*, t. 25, č. 2, s. 453).

It thus became clear that the object of political economy is the *relations of production* in their contradictory unity with the *forces of production*. The economic categories are the theoretical expression of the productive relations of people. The ensemble of the productive relations of a given society forms its economic structure. Analysis of the relations of production makes possible the generalization of the ordering of different countries under one basic concept of social-economic formation, and to establish that the development and substitution of such formations is a natural-historical process which obeys objective laws, i.e., laws which are independent of people's whims. In contradistinction to the previous economists, who spoke about 'society in general', Marx used in *Capital* the materialist method to provide an analysis of the laws of the functioning and development of the most complex social-economic formation, capitalism.

Marxism explains that the capitalist mode of production is a historically conditioned form of the social process of production. The social pro-

cess of production is also the process of the production of the material conditions for the maintenance of human life. What is more, the process of production is also the production of the very relations of production. Both the material conditions of production and the social relations of people are both premisses and products of a determined process of production, in the course of which they are produced and reproduced.

Before the emergence of Marxism, political economy was limited almost exclusively to the genesis and development of the capitalist mode of production so that the predecessors of Marx thought that capitalism was the natural and eternal state of society.

Marxism showed that political economy is essentially a historical science since it has to do with a matter that is constantly changing. Now political economy provides the deepest grounding in theory for the historical inevitability of the revolutionary replacement of capitalism by a new and higher social formation – socialism. The inevitability is derived by Marxism exclusively from the laws of the economic development of bourgeois society. Political economy also reveals the laws of the movement of socialism – both its functioning and its transition into Communism.

As a historical science, political economy explains the historically transitory nature of productive relations and how they are reflected in economic categories. By studying the sequence of social-economic formations, political economy can detect the laws proper to each and only on this basis the laws which they share. Any other procedure can lead to the utterance of trivialities. (cf. *ibid.*, t. 20, s. 150–1).

Political economy studies the social relations of production which also determine other sides of the economic life of society: distribution, exchange and consumption (with its social aspect). In any given society the nature of the relations of production determines the forms of distribution, exchange and consumption. The principle of the primacy of production serves to distinguish Marxist-Leninist political economy from the bourgeois forms which stress relations of distribution, exchange and consumption and cannot explain capitalist reality.

In a society divided into classes with contradictory interests the relations of production represent, in the final analysis, the relations between *classes*. The relationship of the classes to the means of production is confirmed and formulated in laws about one or another form of owner-

ship of the means of production. *Property* relations are the juridical expression of the existing relations of production, their real content.

Lenin saw the class division of society as the 'basic economic structure' of every antagonistic social-economic formation (cf. *Soč.*, t. 20, s. 179). In every such formation the conflict between the forces of production and the relations of production is expressed in *class-war* which is the main motive force of antagonistic societies.

Political economy explains the objective character of the economic laws it uncovers and their different modes of operation in different historical settings.

In every social-economic formation the relations of production form a sort of unified system which corresponds to a certain set of economic categories. The categories of political economy are the theoretical expression of the most basic, essential and extensive relations of production. Political economy carries out its analysis from the viewpoint of massive economic phenomena and not from that of single events or superficial phenomena. In political economy one talks about "... the direction, by and large, of development and by no means of particularities and superficial manifestations, which *no* theory can take into account in all their great variety." (Lenin, *CW*, vol. 4, p. 198).

For the study of the relations of production of a given society political economy uses the method of scientific abstraction (cf. Marx & Engels, *Soč.* 2, t. 23, s. 6).

Among the variegated properties and traits of economic phenomena political economy finds the essential and necessary relations which play a determining role in these phenomena. The abstract categories of political economy are a reflection in consciousness of really existing relations and bonds and serve as a tool for the greater understanding of reality and the discovery of the essence of economic phenomena and processes. Ascending from the abstract to the concrete, political economy does not begin with the truth but moves toward it. In this way, political economy reproduces in thought the model of reality and explains the modes of appearance of the economic laws. Like any science, political economy, in Lenin's words "... shows us the appearance of basic laws in a seeming chaos of phenomena". (*Soč.* 4, t. 20, s. 181).

Describing Marx' application of the materialist dialectic to political economy, Lenin defined the content of *Capital* as follows: "The history

of capitalism and the analysis of the *concepts* summing it up.” (Lenin, *Works*, v. 38, p. 320).

In Marxist-Leninist political economy the theoretical investigation reproduces in a generalized form the historical course of development, cleansed of contingency and the non-essential. Every stage in the analysis, i.e., the transition from the consideration of one category to that of another, reproduces a broad historical material and corresponds to a certain stage in the development of the economic life of society. Thus, the *logical method of investigation* applied to political economy appears as nothing other than the reflection of the historical process in an abstract and logical form. The laws which political economy discovers are the laws of movement of a given mode of production. Explanation of these laws provides the key to understanding the processes of development in all their complexity and contradictoriness. Marx said that “... the development of the contradictions of a certain historical form of production is the unique historical path of its disintegration and of the formation of a new one.” (Marx & Engels, *Soč.* 2, t. 23, s. 499).

The foundations of Marxist political economy were laid by Marx in *Capital* and by Engels in some of his works. The economic doctrine of Marxism was thoroughly developed and enriched by Lenin on the basis of new historical developments. By profoundly studying and generalizing the half-century of capitalism's development since *Capital*, Lenin was able to establish the Marxist theory of imperialism. On the basis of the experience of the socialist revolution in Russia, Lenin worked out the main theses of the political economy of socialism: change in the goals of production and the character of work because of the liquidation of exploitation; establishment of social ownership of the means of production; planning of economic development; democratic socialism and socialist management; the socialist organization of work; material incentives; joining of the material and moral stimuli to work, etc. The further development of the political economy of contemporary capitalism and the political economy of socialism is reflected in the resolutions and documents of the CPSU, the fraternal Communist parties and the international Communist movement, in the Program of the CPSU, in the documents of meetings of socialist leaders, and in the works of Soviet economists and other Marxist economists.

ETHICS

Ethics is the philosophical science which studies *morality* in general and morals as one of the most important aspects of the life-activity of man, as a specific phenomenon of history, and as a form of social consciousness. Ethics explains the place of morality among the other social relations and analyzes its nature, internal structure and role as a social institution. It studies the origins and development of morals in the history of mankind and it provides theoretical grounding for a particular system of ethics.

I. THE ORIGIN OF THE TERM AND THE NOTION

The term 'ethics' is found in Greek literature of the fourth century B.C. It is first used to designate a special field of research by Aristotle (e.g., in the titles of his *Nicomachean Ethics*, etc.). ἠθικά is derived from ἦθος (manners, habits, customs) and later came to mean psychological make-up, morals, character, whence ἠθικός meaning 'moral' (a character trait, corresponding to a generally accepted way of life). This was reflected in the theory of that time which viewed morality as a personal property that can be acquired by education. The original notion of ethics, however, did not differentiate between moral precept and ethical theory. Ethics in the latter sense is found in Plutarch and used by the Stoics, especially the Romans, and from Latin the term became a constant in the languages of Europe. In addition to 'etika' which it received from the European languages, Russian has 'ethika' and 'ithika', direct from Ancient Greek. When morals and moral theory are not clearly distinguished, 'ethics' is used for both. In European languages 'moral' and 'ethical' are used interchangeably.

II. THE OBJECT AND TASKS

The theory of morals begins to separate itself from the practical-ethical

consciousness of people during the establishment of class society and the division of labor into material and spiritual, when theoretical and ideological activity becomes differentiated from the spontaneously formative, directly practical consciousness of the masses. In ancient and Eastern thought, ethics was originally indistinguishable from philosophy and had the character of practical postulates for physical and mental hygiene. The principles of ethics were directly inferred from the nature of the universe, of all living things, including man; this was connected with the cosmological character of ancient and Eastern philosophy. Under these circumstances, even the turn to the spiritual world of the individual (Socrates, Buddha) did not distinguish ethics from philosophy but gave philosophy an ethical cast. Aristotle isolated ethics as a special discipline dealing with virtues as the moral qualities of the person. The Stoics launched a tradition of dividing philosophy into logic, physics (including metaphysics) and ethics. This division was retained by Kant in the form of the doctrine of method, nature and freedom (of the ethical). Right up to modern times, Ethics was often taken as the science dealing with the nature of man and with the causes and goals of his activity in general. In other words, it is identified with anthropology (e.g., the French Enlightenment and Hume) or with philosophy of nature (Robinet, Spinoza, whose *Ethics* deals with substance and its modes). This broadening of the subject-matter of ethics flowed from considering its object: it was to study good human life on the basis of man's own (natural or divine) nature. Therefore, ethics came to include the theory of man's being (ontological, naturalistic, or religious-eschatological), the study of the passions and affects of the psyche (soul), and simultaneously the study of the ways of attaining the good life (the common good, happiness, salvation). Thus, pre-Kantian ethics unconsciously used the thesis of the unity of fact and value to solve a dual problem: the explanation of the actual situation of man in the world and of the causes of his activity, and the grounding of the ethical principles, as well as indications of how one should act – i.e., it mixed theoretical with 'practical' philosophy.

Kant criticized the confusion in ethics of philosophy of nature with ethical considerations; moral philosophy should be '... freed from everything which may be only empirical and thus belongs to anthropology ...' (*Meta. of Morals*, (trans. L. W. Beck) p. 5). According to Kant, ethics is

the science uniquely about the ought and not about what is and is causally conditioned. It has to find its ground not in what exists – nature, society or man – but in the pure, extra-empirical postulates of reason. Kant's effort to distinguish a specific object of ethics (the domain of the ought) eliminated the problems of the origins and social conditioning of morality. At the same time, 'practical philosophy' (which is what Kant called ethics) proved incapable of solving the problem of actualizing its principles in actual history (which Kant himself had to admit and which is reflected in his notion of the moral ideal).

The Kantian conception of the object of ethics is widespread in bourgeois ethics of the 20th century, where the description of the essential forms of morality and the explanation of their origins belong to totally distinct disciplines (sociology, psychology, anthropology, *ethnography*). Only two domains properly belong to ethics. First, the discovery and formulation of ethical imperatives which express an ought and are not connected with a reality over against them. Consequently, they are not deducible from the 'facts' described by science. Such is the object of normative ethics which is considered extra-scientific. While the positivists exclude it from scientific philosophy, the ethical irrationalists deny the possibility of a normative ethics as a general theory and assign the solution of ethical problems to personal moral consciousness which acts in the context of the unique situations of life. Secondly, there are the philosophical problems of ethics which the positivists reduce to logical-epistemological questions and to analysis of moral language, ethical judgments and concepts, demanding 'neutrality' in relation to all moral positions. In opposition to this formalist interpretation of ethics the ethical irrationalists consider ethics a vital-practical philosophy but reduce its task to revealing the tragedy of human existence in general, as well as the ambiguity and absurdity of any concrete social morality – no matter what its content. Thus, both hold theory and practice to be incompatible.

Marxist ethics finds its object in another way: it refutes the counterposing of the 'purely theoretical' and 'practical' in both traditional and bourgeois forms, holding that all knowing is but an aspect of man's practical activity in mastering the world. While the majority of sciences (especially the natural sciences) study their objects in isolation from the subject's activity and from his needs and goals, philosophic theory (in-

cluding ethics) is capable not only of reflecting external reality without relation to the subject, but also of formulating goals for his activity (including ethical ideals). The latter are not simply opposed to actuality in the form of the ought and what is desired, but also express objective tendencies of history. The differentiation and close links of theoretical and normative ethics are conditioned by the fact that ethics emerges simultaneously as moral theory with ethical consciousness as its object, and moral consciousness in theoretical form. While normative ethics of itself can only generalize and systematize the moral notions that arise spontaneously, the ethics based on historical materialism's method can theoretically explain and deduce the moral principles of various eras from the objective laws of historical development. It can scientifically ground them and thereby detect the basic elements of the general logic of the establishment of the moral consciousness of mankind. In the grounding of the principles of Communist morality Marxist normative ethics uses the historical analysis of the genesis of generally human morality; i.e., it uses the data of theoretical ethics. The isolation of the object of ethics in Marxism is bound up with the scientific analysis of the specific nature of morality as a special way of regulating activity and as a correlative form of world-view. On this level, morality includes the general norms and principles of behavior, the goals of social movements (expressed in social and moral ideals), the criteria of orientation in social reality in the form of the concepts of good and evil, the consequent understanding of the purpose of man and the meaning of his life, expressed in normative form. As to the more concrete details, the question of the limits of morality has not yet been definitively answered. There is a question, for example, as to whether morality is only a form of social consciousness or also includes special social *ethical relations* and *ethical activity*. The general traits of historically constituted *ethical consciousness* form a single system for all concrete moral notions of eras and classes. This system of ethical categories historically grows, differentiates itself and constructs new categories. Analysis of the logic of morality cannot be limited to a mere description thereof, but needs an explanation of the structure and mechanics of those relations and forms of activity which this logic expresses. One can also discuss whether and how morality and ethics differ. This involves the problem of the relationship within morality of the functions of regulating the daily behavior of people in society and

the general world-view orientation of man. Since the second function is a development of the first, the discussion has to deal not simply with distinguishing the two spheres of morality, but with explaining in them as distinct the integrity of different levels and the forms of regulation and notions. There is also the question of the isolation in ethics of the sociology of morals as the concrete study of the process of the formation of customs and moral representations in the various spheres of life and small groups of socialist society. As a whole, the Marxist understanding of the object of ethics is very diversified and includes as an organic whole normative, historical, logical and sociological aspects.

III. THE BASIC PROBLEMS OF ETHICS AND TYPES OF ETHICAL THEORY

The basic problem of ethics has always involved the nature and origins of morality but in the history of ethical doctrines it has usually taken the form of a question about the grounding of the notions of moral consciousness about the ought and about the criterion of ethical values. Depending on how they view the grounding of morality, there are two types of ethical doctrine. The first type includes theories which derive moral demands from the present reality of human existence, from the 'nature of man', the natural needs or strivings of people, the innate feelings or facts of their lives. They fix an immediately given fact in the present reality of human existence and then consider this fact as the self-evident, extra-historical ground of morality. Such theories usually gravitate toward bio-anthropological or psychological naturalism; sometimes toward social determinism. They contain elements of materialism (the ancient Greeks, *Aristotle*, *Spinoza*, *Hobbes*, the French materialists, the utilitarians, *Feuerbach*, the Russian Revolutionary Democrats) but there is often a tendency toward subjective idealism (Butler, the English moralists of the 17th and 18th centuries; today, Dewey, Perry, Westermarck, Durkheim, Pareto, Sumner, etc.). In theories of the other type, the grounds of morality are found in some unconditional and extra-historical principle – in the external being of man. This principle can be understood naturalistically (the 'natural law' of the Stoics; the law of 'cosmic teleology'; the evolution of organic life; cf. *evolutionary ethics*) or idealistically: the "highest good" (*Plato*); the absolute idea (*Hegel*); God's law

(Thomism), a priori moral law (*Kant*); simple and self-evident ideas or relations which do not depend on the nature of the world-view (the Cambridge Platonists). The history of ethics has also seen authoritarian conceptions of morality, according to which the natural foundation of morality is authority – natural or divine (cf. *Moral Sanction Theory*).

The problem of the ground of morality is generally unresolved in contemporary bourgeois ethics. For intuitivism the basic moral concepts are not connected with the nature of all that exists – whence they are self-evident, indemonstrable and irrefutable. The neopositivists (cf. *Emotivism*) oppose ‘facts’ to ‘values’ and conclude that it is impossible to ground moral judgements scientifically. The representatives of *existentialism* consider that the essence of man has no universal determinations and, therefore, cannot provide a basis for the formulation of any concrete moral principles. It is true that in the naturalistic ethics of the 1950’s and 60’s (A. Edel, R. Brandt, and others) irrationalism and formalism in ethics were rejected and the grounds of morality were inferred from the needs of social life, and from the data of anthropology, ethnography and sociology.

The question of the nature of morality has also taken the historical form as to whether ethical activity is essentially intentional, serving the accomplishment of certain practical goals and the attainment of concrete results, or is completely non-directional, consisting in the mere fulfillment of the law and the demands of some absolute volition which precedes any needs and goals. This either-or takes the form of the question of the relationship in morality of the concepts of extra-moral good and moral obligation. Either the requirements of duty are based on a good that can be attained (the point of view of the overwhelming majority of ethicists) or, on the contrary, the very concept of duty has to be defined and grounded through the ought (Kant, Broad, Ewing). The first solution usually leads to the so-called consequentialist ethics (from the Latin, *consequentia*), according to which moral actions have to be selected and evaluated in terms of the practical results to which they lead (*hedonism, eudaemonism, utilitarianism, etc.*). Such an approach simplifies ethical problems; it considers the motives of acts and the following of a general principle to be unimportant. In this regard, there is in contemporary bourgeois ethics a discussion between ‘extreme’ and ‘moderate’ utilitarians; according to the latter, only the general principles and norms of

morality count; not every single act. The opponents of consequentialist ethics have demonstrated that what is important in morality is first of all the motive and the very act of obeying the law: not the consequences (Kant). It is purpose, effort, forces expended that count and not the final result – which does not always depend on man (D. Ross, E. Carritt). It is not the content of the act that is important but the relationship to it of the subject (i.e., that the choice be made freely (for Sartre); that man relates critically to his own moral activities and motivations, no matter what they may be (Barth and Brunner)). Finally, the question on the nature of the moral has often taken the form of the question of the character of ethical activity itself and of its correlation with the rest of man's everyday life. Since antiquity two contrary traditions have been in conflict: the hedonistic-eudaemonistic and the rigoristic. The first confuses the problem of the grounding of *morality* with that of the paths of realizing moral demands. Since morality is deduced from the 'nature' of man and his vital needs, it is assumed that people are ultimately interested in satisfying their needs. This tradition found its highest expression in the idea of 'rational egoism' (cf. Theory of Egoism in Ethics). However, in the history of class-antagonistic societies, the demands of morality often come into sharp conflict with the *efforts* of the individual. This was reflected in moral consciousness in the form of the age-old conflict between impulse and duty and between practical calculation and *motivational drive*; thus laying the ground for the second tradition, within which one finds *Stoicism*, Kantianism, most trends in *Christianity* and the religions of the East. The representatives of this tradition consider it impossible to ground morality in the "nature" of man and they take morality to be something basically opposed to the practical interests and natural inclinations of people. The first consequence is an asceticism of severe repression of natural drives and there is a scepticism about a spontaneous *drive* toward the good (Luther, Kant, Barth). The second consequence is a pessimistic evaluation of man's moral ability (the thesis of Protestant neo-orthodoxy concerning the impossibility of being truly moral in this life, and the insistence by existentialism on man's basic inability to achieve his ideals). All of these notions have led, in bourgeois ethics of the 20th century, to the notion of the autonomy of ethics and to the denial of the social-*intentional* character of moral activity (existentialism, neo-Orthodoxy, deontology, intuitionism).

The relationship of the universally human to the concrete-historical in morality is a serious problem for non-Marxist ethics. Since they do not understand the objective nature of the gradual development of morality, in the course of which the universal human progress of morality is actualized through the contingent views of different eras and conflicting class positions, these ethicists either consider the concrete content of ethical demands eternal and universal (ethical absolutism), or see in them something only partial, relative and transitory (ethical relativism).

One of the most important problems of ethics is the construction of a system of categories. This is usually done by using a value-criterion: one postulates something primitively valuable in human life (happiness, pleasure, obedience to the will of God, etc.) and then derives from this *summum bonum* all the other categories, which are then organized according to what one takes as most important (the good or duty; the motivation or the deed, etc.). Hegel took another path, trying in his system of ethical categories to reflect the inner logic of the historical development of ethical consciousness. Such a tack is also taken by the linguistic positivists; but their system of categories lacks a historical, law-governed ground and reflects only the modes of moral judgement in general use. The defect of such a formulation of the question by the positivists is their purely descriptive and narrowly empiricist approach to the problem of analysis of the structure of moral consciousness, as a result of which they replace ethical categories with those of everyday consciousness.

IV. MARXIST ETHICS

Using the whole previous history of ethical thought, Marxist ethics carries to a new level the tradition of materialism and humanism in ethics, on the basis of the organic unity of an objective study of the laws of history and a recognition of the interests and rights of men. At the same time, Marxist ethics critically reworks the ideas of idealist ethics and restates its problems.

Marxist ethics considers morality to be a very specific phenomenon of social culture, defined by the needs of social existence and by the need to regulate the common activities of people in the most diverse domains of social being. An understanding of the social nature of morality permits Marxist ethics to overcome the naturalist and idealist interpretations of ethical phenomena. Morality is isolated out from the set of forms of

social regulation (cf. *custom, ritual*) at the time of the downfall of ancient communalism and the formation of classes as a result of which one henceforward met not only with general human morality but also with the class forms of morality. Morality as a means of regulating human activity is specific in that moral demands and values are elaborated directly by mass consciousness (which is not the case with legal norms, cf. *right*), its sanctions are ultimately grounded in the will of all of society and claim universal validity. These values are known and formulated in the form of norms of homogeneous behavior as well as of principles and ideals having the character of impersonal obligations. They are grounded in value (cf. *value*), in the actualization of which each individual has to perceive them as personal drives and motivations. Finally, they have to do not with isolated acts but with the whole society as a living structure. Thanks to these traits of morality as a regulator of activity, it also appears as a specific form of social consciousness which has as its object the moral aspects not only of individual and social life in the day to day, but also the social structuring and restructuring of the relations between individuals in the course of historical development as well as problems of the ultimate meaning and justification of human life. Thus, morality is one of the most universal forms of the social and individual world-view concerning man, society, and history.

Thanks to its social-historical approach to the analysis of morality, Marxist ethics overcomes the conflict between ethical relativism and absolutism. A given class morality expresses the status of various social groups in the process of social production of culture and of their historical development and, in a sense, also reflects the objective laws of history. But, if the social position of a certain class is historically progressive and especially if it is the position of the working masses – taking onto itself all the weight of social contradiction, exploitation, inequality, violence and other forms of oppression, and therefore interested objectively in the establishment of more human, equal and free relations – then this morality, though it remains related to a class, has the character of a stage in the moral progress of mankind as a whole and contains elements of universal human morality. This is especially true of the revolutionary morality of the working class which “... because of its *special position*, undertakes the emancipation of the whole of society.” (Marx in Marx, Engels, *Soč.*, izd. 2, t. 1, s. 425.

It was the first to proclaim the goal of elimination of classes and thereby asserted genuine human morality. Thus, the concrete historical approach of Marxist ethics to the phenomena of morality makes it possible to understand the relationship of the particular and class viewpoints in morality to the laws of the gradual progress of morality and to discover in the contradictory character of the formation of morality in class society the sole line of universally human moral progress.

Marxist ethics discovers the grounds of morality – moral ideals, goals and striving – in the objective laws of the gradual progress of mankind. In this sense moral notions are one way for people to know their social reality. The question as to whether moral concepts and judgements can have the attribute of truth has not yet been resolved in Marxist ethics because although they represent knowledge about their object and content, their logical form is not adequate to this content. Moral consciousness reflects social development in the form of values or in the form of the ideas of good or the obligatory which are not derivable directly from the laws of history. Moral consciousness itself, to the extent that it is spontaneously formed, cannot arrive at an understanding of the real ground and content of its notions. This is reflected in ethics in the form of a search for the extra-historical sources of morality. Only Communist moral consciousness which is based on the scientific world-view can know the real basis of morality as the historical necessity of the construction of Communist society.

Marxist ethics rejects the authoritarian interpretation of moral grounds. No moral principle can have force just because it is promulgated or sanctioned by some social or individual authority. The social will expressed in morality has not an institutional or corporate basis but a universal social one; one can command concrete individuals, groups and organizations only in the name of society as a whole (a class can sometimes express general interests of the people and even of all of mankind). But, since the social will itself has an objective foundation and does not depend on anyone's views or power, collective and individual consciousness have equal power in solving moral problems. The moral authority of someone depends on how correctly he understands the general moral principles and ideals of a given society (or revolutionary movement) and the historical necessity reflected in them. The objectivity of the moral ground also allows freedom to the individual so that he can perceive and

actualize the demands of society, and work out for himself the rules of life and modes of evaluation; submission of the individual to society occurs here as a result of individual recognition of the historical need for it.

This brings up the problem of freedom and necessity which is being studied in contemporary Marxist ethics in three basic directions. First, there is the explanation of the measure of real freedom of men as their interests and efforts correlate with the objective laws of history and existing social relations. Secondly, there is the question of the dependence of the individual free human being on the degree of his social-spiritual development, his moral maturity, awareness, etc. Finally, there is the problem of free choice (of an act, a mode of behavior, a social status). Correct resolution of the problem of moral ground does not yet solve all concrete problems of individual norms or of the 'trend of history'. Since "... all history is made up of the acts of individuals..." (Lenin, *Soč.*, t. 1, s. 142), moral activity includes not just fulfillment but also creation of new norms and principles as well as the ideals most suited to today. This defines the state of the question of the moral criterion in Marxist ethics. The laws of historical development condition the content of moral ideas only in the most general way and do not determine their specific forms. Since each concrete social activity is morally rated and judged in terms of a single law for all people and many particular situations (i.e., norms, principles, ideals which emerge as moral criteria), the economic, political, ideological and other concrete tasks not only do not determine the solution of each moral problem but, on the contrary, the means and methods of carrying out these tasks are morally evaluated through the criteria of the good, the just, the humane, the honorable, etc. The relative independence of these criteria is not due to their emergence from any other root than social need, but to the fact that they reflect this need in a very general form and have in view not just the attainment of concrete goals but the diverse needs of social life at a given stage of cultural development. This is why morality often prohibits and condemns what seems most effective from the viewpoint of the moment. In the face of this contradiction, non-Marxists often turn to utilitarianism or consider the conflict to be insoluble. As a matter of fact, this contradiction is not absolute, but expresses a certain social-historical contradiction. In the course of the progress of society – especially through

revolution – one notices at every step that the requirements of social efficiency from the viewpoint of the gradual development of society ultimately coincide with the criteria of justice, freedom, etc., expressed by the consciousness of the masses but in a more universal form. The history of socialist society clearly shows that a purely utilitarian and opportunistic approach to concrete tasks is not only contrary to Communist morality but turns out to be politically inexpedient, i.e., from the viewpoint of the broader and more long-term consequences. Violation of Communist humanism, justice, legality, consistency and use of amoral criteria in the name of 'higher interests' always harms the development of Communism and harms the complex process of forming the new man. An understanding of the indissoluble unity of the universally social and the moral permits Marxist ethics to provide the first rational solution of the contradiction between morality and politics, between ends and means, between practical needs and ethical requirements, between social necessity and criteria of humanity, and between the general moral principle and particular expediency. This contradiction was absolutized by an ethics which preferred 'worldly practice' to higher moral principles and was ignored by an ethics which apologetically took class morality for the whole of morality. Therefore, foreign to Marxist ethics are both utilitarianism and the so-called absolute moralizing which claims to have a moral judgement which is higher than the objective necessity of the laws of history.

Marxist ethics also solves the paradox of motivation and action in the evaluation of moral activity. Man's moral acts must be taken as wholes, as a unity of purpose and achievement, and of intention and execution. However, this is possible only if one considers the act as a part of the whole social activity of man. If the value of an act appears only in its social usefulness or harm, then the analysis of the overall conduct of man (of the individual, party, group) reveals and exposes the motivations, the goals pursued, the general relationship of this subject to society as a whole, and the different classes surrounding him. Such an approach to the problem enables Marxist ethics to overcome the traditional opposition between the 'external' act as obvious to the onlooker and the 'inner' drives which are not accessible to the objective knowledge of others. The real problem of the relationship between motivation and act takes on the form of the connection between the general and par-

ticular in conduct, and between a single act and the total moral activity. Explanation of the character of the motive which moves a man reveals the broader social meaning of the act: how conscious and complete are the acts of a given man; does it have the character and conviction of the person; how will the individual behave under other circumstances? Asking the question about the nature of motivation makes it possible to view man as endowed with an individual moral consciousness, possessing free will and capable of setting goals autonomously or independently. Communist morality ascribes primacy in the evaluation of acts to deeds and their consequences, not in the sense, that what agrees with social norms is considered moral, even though motivated by amoral impulses (considerations of egoistic calculation, opportunism, and careerism). What is at issue here is that every man should be conscious of the objective meaning of his acts and should check his 'good intentions' against the real needs of people, society, and revolutionary historical practice. Thus, it is not a question of reducing the importance of individual motivation but rather of increasing individual conscientiousness and responsibility.

Marxist ethics overcomes other traditional either/or's in moral theory: hedonism and asceticism, egoism and altruism, the spontaneous morality of desire and the rigorist morality of duty. Revealing the source of these alternatives in the contradictory nature of antagonistic society and the presence of conflicting interests, Marxist ethics poses this problem not on the level of the moral preachers of pleasure or asceticism but on the social-historical plane of elimination of their contradictions as absolute and universal. "... Communists urge neither egoism against self-deprecation nor self-deprecation against egoism and they take theoretically this opposition neither in its sentimental nor in its grandiloquent ideological form; they reveal its material roots, with the disappearance of which they themselves will disappear". (Marx and Engels, *Soč. iz.* 2, t. 3, s. 236.). The relative opposition between self-deprecation and self-assertion remains even in socialist society as long as there is a difference between individual and social interests. Occasionally it will arise even in the life of Communist society since there will always be minor conflicts between people, between different aspects and demands of social life, and between the individual and society as a whole. But, the choice between the accomplishment of external duty and the satisfying of internal needs

must somehow always be resolved in view of the solution of another problem, that of finding the most adequate reconciliation in each case of social and individual interests so that in the end one finds the historical perspective leading to their unity. The move toward this goal is also a moral justification of self-sacrifice, the necessity for which arises in certain contradictory and crisis situations. This is the path to the scientific, Marxist solution of the problem of humanism.

Thus, the solution of all these problems in Marxist ethics is not a simple correction of theoretical errors of the past. As distinct from all previous ethical thought and from contemporary bourgeois ethics, basing itself on existing relations and contradictions (which are otherwise rationalised), Marxist ethics moves toward the historically necessary resolution of these contradictions. It is this that marks the practical character of Marxist ethics.

Marxist ethics also has its own solution to the construction of the system of ethical categories. Even here, however, there are different approaches. Evidently, one must reject as unacceptable solution of this question by appeal to a value-criterion, and also by just adding some new concepts of Communist morality (collectivism, internationalism, etc.) so that the theoretical categories of ethics are in a series with the concepts of ethical consciousness. The most promising perspective seems to be the establishment of a system of categories of ethics, representing the structure of morality as a complete social structure with many aspects and sides. Basic to such a system would be the three basic categories of ethics: the content of prescribed and evaluative moral activities and their ethical motivation as a specific aspect of social activity as a whole; means of regulating this activity morally, as expressed in a set of social bonds aimed at directing and controlling individual and collective behavior; finally, the ideal reflection of the activity and relations of morality in consciousness and their specific moral grounding. A category of moral activity has to include the following: the structure of a single act and the elements making it up (motivation, desire, intention, choice, solution, etc.; end and means, consequences); the general tendency of the conduct of the individual (including his moral inclinations, habits, convictions, feelings, etc.); the norms and mores of the society, which in their totality make up his moral way of life as a whole. Analysis of the structure of ethical relations and ethical consciousness will make

it possible to establish the real relations between such categories as moral demand, obligation, duty, responsibility, dignity of the person, conscience, which reflect different forms of the individual relation to society, as well as the correlation of such categories as norm, moral quality, valuation, moral principle, social and moral ideals, good and evil, justice, the meaning of life, man's mission and happiness, which make up the logical carcass of any moral system and which take on a different content at each occurrence. One has to keep in mind that these categories of moral consciousness and relations are used by moral consciousness and are categories of theoretical study. In the former instance, they appear as normative; in the latter, they express in their logical form the hidden structure of moral relations that has to be expressed in an appropriate set of categories. Marxist ethics which was the first to solve scientifically the problem of the correlation of moral theory and moral consciousness can not only ground a given ethical representation (normative ethics) but can investigate its peculiar mode of reflection, as well as the logic of the historical development of morality, the laws of the formation of the moral consciousness of the individual, etc.

Recently the attention of Marxist researchers has turned to ethics with increasing frequency. In the Soviet Union and abroad in the 1960's a whole series of publications dealt with the general content of Marxist ethics and with its special problems, revealing the humanist meaning of the Communist ideal, the moral side of Communist education, and providing a critique of contemporary bourgeois ethics and morality. In 1960 the Institute of Philosophy founded a section on ethics and chairs of ethics at various universities. The practical importance of ethics for the solution of the social problems of today and, in particular of the problem of the formation of the well-rounded individual can be actualized only in close collaboration with other sciences – *sociology*, *psychology*, theory of social up-bringing, pedagogy, *aesthetics* – with which ethics shares a series of borderline problems.

ESTHETICS

Esthetics (from the Greek αἰσθητικός, sensible) is the philosophical discipline having as its object the domain of expressive form of any sphere of reality (including the artistic), given as an independent and directly perceptible value. The term 'esthetics' was first used by Baumgarten (*Aesthetica*, Bd. 1–2, Fr/M., 1750–1758) to designate the 'science of sensible knowledge' which, as an 'inferior theory of knowledge' (*gnoseologia inferior*), was to complement the logic of Wolff. It was in this sense that Kant called it the science of 'the rules of sensibility (*Sinnlichkeit*) in general' (a meaning preserved even in *Husserl's* works). However, along with this meaning derived from Baumgarten, there is the other use of 'esthetics' to designate the philosophy of artistic creativity – a definition reinforced by Hegel's *Lectures on Esthetics*.

For a long time, esthetics developed mainly as the philosophy of the *beautiful*. Now such a definition is no longer adequate since the beautiful is recognized as only one type of the esthetic, alongside the *sublime*, the *base*, the *tragic*, the *comic*, the *ugly*, the *ironic*, the *humorous*, the *burlesque*, the *grotesque*, etc.

The esthetic as something expressive is a dialectical unity of the internal and external, of what is expressed and what expresses it, and also as a unity which is experienced as an independent given, i.e., as an object of disinterested contemplation.

In the history of esthetics one can distinguish many forms of categorial synthesis, analogous to the dialectic of internal and external in the esthetic phenomenon and revealing the two-level character of the esthetic object.

I. THE HISTORY OF ESTHETICS

The key trait of ancient esthetics and art was that they centered around the image of a visible, audible and, in general, sense-perceptible cosmos which was impersonal, materially objective and essentially unchangeable;

it moved only in a circle of 'eternal return'. Since beauty was inseparable from the body, ancient esthetics was inseparable from cosmology and astronomy. Esthetics was not an independent science, but primarily a philosophy of art, like modern European esthetics, an aspect of a general dialectic of the cosmos. Art (which even verbally was not distinguished by the Greeks from artisanry and science: τέχνη) was considered almost exclusively in terms of formal and technical structure and not of its semantic content (in late antiquity we find scrupulously developed formal theories of various arts: poetry by Aristotle, Longinus, Horace and Quintilian; music by Aristoxenes, Euclid, Ptolemy and *Boethius*; architecture by Vitruvius – plus an enormous number of earlier and later treatises on rhetoric). In antiquity, art did not stand over against nature as the product of free imagination as it later did for the Europeans, but was seen as an imitation of nature (*mimesis*) so that the accent was on the coincidence of products of art with the phenomena of nature and on the proximity to the natural models (Socrates: art imitates nature but is inferior to it – Xen. Memor. I 4, 3–4). Characteristic of ancient esthetics was a heteronomous and utilitarian notion of art as well as a conception of it as something passively given and unchangeable. The ancient cosmos had no history and represented an eternal cycle of bodies and souls – whence its esthetics was static and ahistorical.

Plasticity as the principle of the ancient esthetic consciousness is not merely an external, formal peculiarity of the style of ancient art, but marked its internal content as well; for example, the plasticity of the ancient gods indicated their inconstant affectivity, their psychic instability, their impersonality and generic character as generalized personifications of some sphere of being. Since the living ensouled body appeared not only as the form but also as the content of esthetic expression, the structure, proportions, correlations of parts of the body acquired the significance of basic esthetic principles. Therefore, even early classical esthetics (the Pythagoreans, Anaxagoras, Heraclitus, Democritus) was above all a doctrine of the abstract formation of the cosmic body, i.e., a doctrine of the number, measure, rhythm and harmony of the elements comprising the cosmic whole. Ancient esthetics was generally a matter of numerical harmony and bodily symmetry, which logically follow from the plasticity of the classical ideal (this is also

characteristic of Greek culture of the classical period). In the Hellenistic period number, measure, rhythm and harmony ceased to be the categories of the objective world and became a method for internal appropriation and self-study (Stoicism, Epicureanism, scepticism). In the later Hellenistic period these principles were reestablished in a purely logical way as formal schemata both of the being of the cosmos and of the subjective human life, i.e., as mental schemata of ancient mythologizing.

The early classical (pre-Socratic) period with its hylozoism did not yet have the separation into spiritual and material, and internal and external. This opposition first arose in *Plato* and was further developed by Aristotle in his doctrine of the relation of matter and form. One should note that the Platonic 'idea' and Aristotelian 'form' are not individual and spiritual categories, but only generic ones – only types or prototypes.

As opposed to the ancient world, at the center of medieval attention was not the sensible, material cosmos but a spiritual, personal absolute. External materiality here expresses not plasticity but some extracorporeal, spiritual content which can be expressed in sensible matter only approximately and symbolically. This is why the problem of the symbol became one of the central concerns of medieval esthetics; everything sensible in nature as well as in art was only a reflection of a supra-sensible world beyond. The artistic form is supposed to stand over against the natural not as an image (*imago*) thereof but as a likeness (*similitudo*) which is supposed to link the two. 'Imperfect' sense-perception is to be replaced by 'perfect' sense-perception. Such esthetic criteria as 'lucidity', 'wholeness', 'proportion', and 'harmony' were introduced by the most eminent authority in medieval esthetics and philosophy, *Thomas Aquinas*, and were part of a spiritualization of all material and sensible components, making them an expression of the spiritual ideas in them.

Medieval esthetics took on two ancient traditions of idealism: the Platonic and the Aristotelian, reinterpreting them in the spirit of Christian spiritualism. The most eminent representatives of medieval Platonism were Augustine, Eriugena, Bonaventure; and of Aristotelianism, Aquinas. In Byzantium there was Denis the Areopagite and many treatises by the so-called icon-worshippers of the 8th and 9th centuries who said that it was possible for the Divine essence to appear in the sensible forms of the icons.

With the breakdown of the traditional forms of medieval life and culture, the human subject gradually came to the fore, displacing the medieval orientation toward an otherworldly. Art for the first time became an autonomous realm, independent of nature (the cosmos) and of religion. The connection between the external and internal, which medieval art had established on the basis of the symbolic likeness between the sensible and a supra-sensible absolute, was now sought anew. On the one hand, the internal was brought to the human level, understood as the internal world of the absolutized human subject; on the other, the external was more greatly idealized than, for example, in medieval Gothic art, where the accent on materiality emphasized, as it were, the transcendence of the spiritual content which it expressed. During the Renaissance, attention turned back to a purely optical wholeness and to the ordering of the artistic image; the linear perspective was introduced, and human proportions were put into canonic form (Alberti, Leonardo da Vinci, Dürer), etc. However, in contradistinction to antiquity, rhythm, proportion, etc., related not to the objective plasticity of the cosmos but rather to subjective optical visibility. Therefore, the esthetic consciousness of the Renaissance was not plastic (as in antiquity) but representational (cf. Leonardo's doctrine of painting as the highest art). However, as a transitional period, the Renaissance as a whole shared characteristics of both the previous and subsequent periods.

The subjective aspect of esthetic expression was the center of attention in the next period of modern European esthetics. Depending on which human capacity or faculty is emphasized, one can distinguish in the 17th and 18th centuries the tradition of 'sense-datum' empiricism (F. Bacon and English esthetics of the 18th century: Hutcheson, Burke and also Shaftesbury who drew much support from Plato: the French 'lumières' of the 18th century, Condillac, Diderot, etc.) which sees the source of the esthetic in sensibility and, on the other hand, the rationalist tradition, stressing the intellectual, rational and cognitive aspects of the esthetic (the esthetics of French classicism based on Cartesianism; *Boileau*, etc.; the Leibniz-Wolff school, from which A. Baumgarten came; Moses *Mendelssohn*, etc.).

The empiricist and rationalist traditions reached their critical summit in the esthetics of *Kant*. Kant clearly formulated the principle of the autonomy of art and of the esthetic and demonstrated its irreducibility

to the sensuously pleasant, the utilitarianly expedient and rationally discursive (*Critique of Judgment*, 1790). Purposiveness of the esthetic is found not in things or their objective properties but in the relation they have to the subject and his faculties, in the feeling of pleasure resulting from a free exercise of the understanding and imagination in direct intuition. Thus, for Kant the beautiful is purposiveness without any real purpose and an object of disinterested pleasure. Kant's idea of the autonomy of the esthetic and its conception as the mediating link between empirical necessity and moral freedom was developed further by Schiller (*Letters on Esthetic Education*, 1795) in the interpretation of the esthetic as an autonomous sphere of 'play' and 'appearance', as living image, joining matter and form, i.e., the material and spiritual sides of man. This notion of the esthetic as something whole and as an intermediate being, linking spirit and nature, idea and matter, dominates the subsequent development of German idealism and accounts for the large role played by esthetics in the constructive overcoming of Kantian dualism. Thus, Schelling sees in the esthetic a 'neutral' or 'indifferent' identity of the 'real' and the 'ideal'; 'the infinite reflected in the finite'. For Hegel it was the unity of the idea and its individual embodiment in reality: 'the sensuous appearance of the idea'. In the systems of Schelling and Hegel esthetics is formulated chiefly as the philosophy of art and has the form suggested by Vico and developed by Herder, Schiller, the Schlegel brothers and other Romantics (cf. *Romanticism*), i.e., the historical approach to art. The unification of the historical and systematic approaches to art – a problem which arose as a result of Schiller's and Schlegel's development of a typological opposition between ancient Greek and European artistic culture – is achieved in Hegel's philosophy through use of the idea, derived from *Winckelmann*, of the normative value of ancient art as the only possible adequate embodiment of the esthetic ideal.

Typical of Romantic esthetics, which replaced the classicism of the 17th and 18th centuries, was attention to the intuitive bases of creativity, to myth as the integral expression of the subconscious depths of man and the source of artistic images: there was also a renunciation of plastic perfection and the harmonious ordering of the internal and external in art (as in the Renaissance and classicism), in favor of a stress on the dynamic quality, incompleteness, and 'openness' of artistic statement (in

Schopenhauer's esthetics the allogical elementality of music is proclaimed the exemplar for all the arts).

With the exhaustion of the Romantic movement and the dissolution of German classical idealism in the Hegelian school (whose most eminent representative in the esthetics of the 19th century was F. T. Vischer), *positivism* became the main trend in the official philosophy and esthetics of the 19th century; in many respects it is still with us. The problems which earlier esthetics had studied were either completely eliminated from theoretical consideration or were assigned to such disciplines as theory of art, empirical sociology, etc. There was a broad dissemination of physical, biological, psychological, psycho-physiological, sociological, and other empirical theories which attempted to explain esthetic phenomena with the data of the special sciences. Herbart, as early as the beginning of the 19th century, had opposed the content-stressing esthetics of Schelling and Hegel and had brought to the fore the sense-perceptible, formal aspect of the esthetic (symmetry, proportion, harmony, rhythm, etc.). His ideas were further developed by Unger, *Zimmerman*, etc. The idea of art as play, derived from Schiller, was interpreted in a biological sense by *Spencer* and *Gross* and *G. Allen* tried to apply Darwin's theory to esthetics. In the 1870's *Fechner* demanded a so-called 'esthetics from below' (again in contrast to speculative, philosophical esthetics) based on psycho-physiological experimentation. This trend was developed in the works of *Helmholtz*, *Kulpe* and *Meiman*.

Since the psychological trend was most influential in positivist esthetics, its leading representative, *T. Lipps*, could talk about the transformation of esthetics into 'applied psychology'. One should also mention the theory of *Einfühlung* (of *Lotze*, *Vischer* and *Lipps*), according to which esthetic feeling is the result of projecting the perceiving subject onto the work of art (*Lipps*: "esthetic pleasure is objectified enjoyment of self"). Esthetic perception and esthetic pleasure are considered by the representatives of psychological esthetics as the satisfaction of the elementary needs of the psychic life (*Volkelt*), as 'conscious self-deception' (*K. Lange*, who gave a new interpretation to Schiller's 'beautiful appearance'), as 'internal imitation' (*Gross*), as pleasure (*Müller-Freienfels*).

In the positivist tradition derived from *Comte*, the sociological approach to art was developed by *Taine* who introduced the notion of the dependence of art on racial and geographical conditions and the social

milieu. J.-M. Guyot went on to treat art as the highest level of biological intensity and social solidarity. Finally, one should mention the influential movement in theory of art which was concerned with the formal problems of the structure of works of art in abstraction from their meaning. This group included Hanslick, *Fiedler*, Hildebrand, Wölfflin (with his theory of the basic forms of esthetic 'seeing') and Riegl, founder of the Vienna school, who explained the change in styles of art by changes in the direction of the 'artistic will', etc. The science of art which had developed in the early 19th century came to isolate esthetics as a 'value' discipline (M. Dessoir, Worringer, etc.). The insufficiency of the purely formal and stylistic study of art drove some members of the Vienna school, like M. Dvorak, to move to the study of the history of art as the 'history of spirit' (*Kunstgeschichte als Geistesgeschichte*, München 1924) and Seldmayer developed a method of structural analysis of separate works as concrete, individual structures (*Gebilde*).

In the tradition derived from Romanticism, with its typical absolutization of the esthetic sphere (cf. Schopenhauer's theory of art as a palliative for life, etc.), there arose in the middle of the 19th century widely accepted theories of art for art's sake which saw in artistic creativity the highest value and set it over against life and morality. Kierkegaard criticized this esthetic immoralism in the middle of the 19th century. It was developed in a way by Nietzsche who was at the same time a critic of estheticism, and by Flaubert, Baudelaire, Gautier and the Goncourt brothers in France, and by Wilde and Pater in England.

At the end of the 19th century there were attempts to construct and ground esthetics as a philosophical discipline. These attempts were made by various trends in late bourgeois philosophy, either intellectualist (*neo-Kantianism, phenomenology*), irrationalist (*Lebensphilosophie* and *existentialism*), capriciously combining both elements (*neo-Hegelianism*, etc.). Neo-Kantian esthetics had in general a formalistic and normative character. Hermann Cohen, a representative of the Marburg school, logically constructed an art of so-called 'pure feeling', i.e., free of all empirical elements. Less rigorous were the representatives of the Baden school who proposed a value-understanding of the esthetic (Cohn and Christiansen). Cassirer, who came out of the Marburg school, after the crisis of neo-Kantianism in the 1920's, developed a theory of the symbolic nature of culture and art. These ideas permeate the works of

the Warburg school, among which one finds the works of Panofsky on iconology of art and perspective as symbolic form. There was also Susanne Langer on the specific semantics of artistic language as a semantics of 'expressive form' (cf., e.g., S. Langer, *Feeling and Form*, N.Y. 1953). Semantic analysis in the narrower sense reached its extreme limits in Anglo-Saxon literary criticism and theory, e.g., in J. Wood, Ogden and Richards (*The Foundations of Esthetics*, N.Y. 1925) and Empson.

A new and completely original trend in 20th century bourgeois esthetics is the effort to achieve a neutral description of the esthetic object and the refusal to make any judgement about its reality, thus eliminating the problem of the relationship of subject and object in esthetics. This trend appears with great clarity in the phenomenology of Husserl and his school, which was limited to a pure description of the 'eide', i.e., essences which appear to consciousness. One of the leading representatives of phenomenological esthetics is M. Geiger who marks out an 'esthetics of influence' which studies the problems of esthetic perception and 'esthetic value' (*Zugänge zur Aesthetik*, Leipzig-Berlin 1928). *Ingarden* provides a phenomenological analysis of the structure of works of art in various art-forms. The influence of phenomenology is also strong in the esthetics of Nicolai *Hartmann* (the theory about the strata of the esthetic object) which as a whole is permeated with the spirit of the so-called 'real ontology'.

Bergson developed an intuitivist theory of art as an expression of 'pure duration', of an undifferentiated and unreflective *élan vital*. But Croce's system has proved to be the most influential attempt at a new metaphysical grounding of art as a purely 'intuitive activity'. For Croce the esthetic is pure expressiveness, and works of art are individual beings, irreducible one to the other. Santayana, a disciple of Croce, tried to develop a positive doctrine of beauty as the highest form of man's intellectual relation to reality and as 'objectified pleasure'.

An extraordinary popularity in the esthetics of the 20th century was enjoyed by *Freud* and his followers in *psychoanalysis* with its interpretation of artistic images as symbolic realizations of repressed drives. The methods of the psychoanalytic interpretation of works of art have been used in one form or another by many philosophers and theorists of art who have held the most diverse views and even come into direct conflict with orthodox Freudianism. *Jung's* school makes an extensive study

of the 'archetypes' of the 'collective unconscious' as components and materials of artistic images, introducing a vast amount of material from the field of comparative mythology.

At the end of the 19th century *symbolism* was formed, restoring the understanding of art as myth (derived from Romanticism and the philosophy of Schelling). The founder of this movement was Richard Wagner and Nietzsche, his critic, who developed the theory of 'Dionysian' and 'Apollonian' principles as the two primordial mythological bases of all art. Nietzsche's esthetic ideas were taken up by a whole series of very different trends in bourgeois esthetic thought. Nietzsche was also a founder of *Lebensphilosophie* which had its methodological grounding in Dilthey in the form of the integral *Verstehen* of spiritual (including artistic) structures based on an adequate 'experiencing' of them (*Das Erlebnis und die Dichtung* Leipzig 1906). The principle of semantic 'wholes' of culture and the immanent interpretation of their different historical types is basic to the *geistesgeschichtlich* trend in esthetics and literary criticism, which derives from Dilthey and has much in common with neo-Hegelianism. The idea of a historical typology of spiritual or cultural and artistic forms was carried out capriciously in Spengler's so-called morphology of cultures, with the ideas of the mutual irreducibility and closedness of the various historical cultures (e.g., the ancient or 'Apollonian' and the West-European or 'Faustian'), rooted in some primordial and unrepeatable mythological 'pre-symbol' of each culture.

Lebensphilosophie – in particular Dilthey's hermeneutic method of interpreting artistic texts – was one of the intellectual origins of the esthetics of the major representative of German existentialism, Heidegger, who conceives art as the revelation of the hidden 'meaning' of historical being which dwells in 'language' and 'speech'. Not only the 'creators' of art but also its "preservers", i.e., interpreters, take part in the revelation of this meaning. Therefore, the problem of an adequate philosophic-mythological 'interpretation' of works of art is at the center of Heidegger's attention. Jaspers also develops the notion of art as a 'cypher' of human existence. As a whole, the esthetics of German existentialism represents one of the variants of late bourgeois *nihilism*, in which modern European subjectivism reaches its logical conclusion and is exhausted.

Alongside the intellectualist and irrationalist trends in contemporary bourgeois philosophy and esthetics noted above there are some efforts

at restoration of the archaic systems of antiquity and the Middle Ages. The most influential of these is *neo-Thomism*, which restores the philosophical and esthetic system of Thomas Aquinas, thus trying to provide a universal, orthodox-Catholic synthesis of knowledge and faith. In addition to neo-Thomism, there is in esthetics the tendency of Catholic *neo-scholasticism*. In a number of trends of contemporary bourgeois philosophy and esthetics, art is considered as something applied and functional. Such, for example, is pragmatism with its 'instrumental' understanding of art as a practical activity which realizes the purely utilitarian goals of a biological order (*Dewey*, etc.).

II. ESTHETICS IN RUSSIA

The development of esthetic thought in Russia began in the 18th century under the influence of the esthetics of French classicism and the Enlightenment (Battle and others), and then in the 19th century under the influence of German classical and Romantic esthetics, particularly of Schelling and Hegel (the first Russian systematic work on esthetics was *Opyt nauki izjaščego* (An Essay in the Science of the Beautiful) by *Galič* (SPB 1825), which develops a Schellingian viewpoint). A characteristic trait of Russian esthetics of the 19th century is the critique of estheticism, the effort to overcome the purely 'esthetic' or speculative approach to artistic creativity and to consider esthetic questions in their organic connection with moral and social problems. This appeared mainly in the esthetics of the Russian revolutionary democrats: in *Belinskij* as an adaptation of Hegelian esthetics to *realism* in art; in *Černyševskij* as critique of the idealist interpretation of the beautiful as idea (e.g., F. Vischer); in *Dobroljubov*, who developed the principles of *narodnost'*, ideological content, and social tendency of literature. Defining the beautiful as 'life, as it should be according to our concepts' (which reopens the question about the ideal – about the 'ideal' life), Černyševskij considered the object of art to be not only the 'beautiful' but also everything 'interesting' in life. In his preaching of the utilitarian significance of art, Pisarev went so far as to reject art and esthetics as a science. On the other hand, in his *What is Art?* Leo Tolstoy came out with a violent attack not only on estheticism but also on any art which is not oriented toward immediate moral influence. For him, the main task of artistic creativity is the moral

and religious bringing together of people through emotional 'infection'.

The esthetics of the Slavophiles developed under the sign of the conservatively conceived idea of the *narodnost*' and the distinctiveness of art, seen as the preservation and expression in art of the 'organic' national way of life and character, i.e., the 'spirit of the people' (Ivan *Kireevskij et al.*). In conjunction with the esthetics of the Slavophiles, Apollon *Grigor'ev* developed the principle of the 'organic' critique of art, overcoming the onesidedness of both 'utilitarian' and purely 'artistic' critiques of art, and considering the work of art as a 'living organism' and an integral expression of 'the life of its creators and the life of the epoch'. The ideas of *Dostoevsky* make contact in many respects with those of *Grigor'ev* and especially his follower, *Straxov*. Characteristic of *Dostoevsky* is a stress on the moral-religious meaning of beauty and art cast in the peculiar tonalities of esthetic eschatology ('beauty will save the world'). The ideas developed by Vladimir *Solov'ev* on art as a 'transfiguration' of life and also his conception of beauty as a material embodiment of the symbol of the absolute have greatly influenced the formation of Russian symbolism (*Vsjač. Ivanov* with his definition of the task of art – "From the real to the more real", *A. Belyj*, *A. Blok* and others). Consideration of the esthetic sphere from the viewpoint of its place in the wholeness of 'spiritual existence' is also characteristic of other philosophers of a religious-idealistic bent, who speak of the antinomies of the ethical and esthetic, the esthetic and the religious, etc. (*Berdajev*, *Vyšeslavcev*, and others).

A special form of estheticism, related to that of Nietzsche and *Lebensphilosophie* is to be found in the works of *K. Leont'ev* and *V. Rozanov* who anticipated certain motifs of late bourgeois esthetics: Freudianism and intuitivism (*Rozanov*), the critique of mass art and the levelling of culture (*Leont'ev*), etc.

The influence of positivism in Russia in the second half of the 19th century took the form of the dissolving of esthetics into history of culture and 'poetics' in *Veselovskij* (the 'historical school' in theory of literature) and others. A theory of the artistic image based on philosophy of language is developed in the works of *Potebnja* and his students (the *Charkov* 'psychological school'). The 'formal school' in theory of literature which developed in the first two decades of the 20th century studied the construction of artistic form and the factors which make it up.

A holistic interpretation of the meaning-content and formal traits of works of art in their interplay was provided by M. M. Baxtin, who also introduced the idea of 'dialogical consciousness' into esthetic analysis. The phenomenological viewpoint in esthetics was developed by Špet. A. F. Losev elaborated the dialectic of artistic form and esthetic categories; he also was concerned with problems of symbol and myth.

III. EMERGENCE AND DEVELOPMENT OF MARXIST ESTHETICS

The new approach to esthetic problems in Marx and Engels is bound up with their development of the materialist conception of history. In the *Economic-Philosophical Manuscripts of 1844* Marx expressed important ideas about the formation of esthetic feelings in the process of man's labor practice, the objectification of man and the humanization of nature, the differentiation of man from animal through his free approach to any object according to its 'measure', and about the forming of matter according to the 'laws of beauty'. In the *German Ideology* and other works of the 1840's, Marx and Engels formulated their ideas on the class nature of every ideology and its connection with the material conditions of its emergence, about art as a special form of cultural production and its connection with different forms of the division of labor, about the hostility of private property to the free development of human abilities, about the mercantilism of commodity and money relations and their incompatibility with the development of esthetic emotions. In the correspondence of Marx and Engels with Lassalle there is discussion of a wide circle of questions having to do with the theory of the tragic. Between 1848 and 1870, Marx and Engels revealed the social-critical significance of the works of a series of major European writers of that time. In the introduction to *Toward a Critique of Political Economy* Marx introduces the notion of 'artistic appropriation of reality' and uses the notion of the materialist conception of history to indicate the incompatibility of general social (as well as technological) development with artistic development (certain high and 'classical' artistic forms are possible only under less-developed social relations; e.g., the Greek epic). He also notes the hostility of capitalist means of production to art and poetry. In connection with this evaluation of the esthetic potential of

bourgeois society, Marx in the third volume of *Capital* talks about the possibility of the blossoming of art in Communist society, tied to the shortening of necessary labor time. In the 1870's and 80's Marx and Engels made more precise the complex character of the relationship between base and superstructure. In letters to M. Harkness and M. Kautsky, Engels defends 'tendentious' and realistic art.

Among the immediate followers of Marx and Engels those who worked in esthetics at the turn of the century were Labriola, Lafargue, Bebel, Mehring, Luxemburg, Liebknecht, Zetkin and especially Plekhanov, who developed a 'labor theory of the emergence of art in primitive society' (*Letters Without an Address*, 1899–1900) and grounded the sociological approach to art in his works on the esthetics of literature. Plekhanov's 'two-act' critique of art (searching for the 'sociological equivalent' of an artistic phenomenon and then its esthetic evaluation) lent itself to simplification and to mechanical separation of the two aspects – which later led to the *vulgar sociology* of the 1920's, which reduced art to 'psycho-ideology' (V. Friče, V. Pereverzev, and others).

The methodological bases of Marxist esthetics were deepened and developed on a series of essential points by Lenin. This is especially true of the Leninist theory of reflection, and of his elaboration of the dialectic of universal and particular, internal and external, subject and object, essence and appearance, form and content, without which one could not conceive the essence of the esthetic and the character of the artistic image. In his articles on Tolstoy, Lenin provides an example of the dialectical analysis of the contradictions between an artist's method and his world-view. Lenin's ideas about realism in art and his statements about the place of 'dreams' and 'fantasies' are basic to socialist realism. Important contributions to the development of Marxist-Leninist esthetic thought were made by Vorovskij, Ol'minskij, Lunačarskij, Gor'kij, and others.

In the process of criticizing 'vulgar sociology' in the 1930's the problem of the objective truth of the work of art was raised (Lukács, Lifschitz, Grib and others), which was accompanied by a more and more fundamental return to the esthetic heritage of the classics of Marxism (first edition of *Marx and Engels on Art*, Moscow, 1933), the study of which still continues today. In the 1930's and 40's the theory of socialist realism was definitively established as the method of socialist art, with a working out of the problems of partisanship, *narodnost*, and realism in art.

In the 1950's there were discussions in Soviet esthetics – on the essence of the esthetic; on the object and specific character of art; on realism; on the connections between esthetics and cybernetics and semiotics, etc. In the discussion of the nature of the esthetic (for a survey of which, see *The Esthetic*, M., 1964) there appeared a split between the so-called 'naturalists' who take the esthetic to be a property of the object on a level with its physical, biological, and other properties (G. N. Pospelov, I. F. Smol'janinov, P. S. Trofimov and others) and the so-called 'socializers' who defend the social nature of the esthetic as a product of man's labor activity, i.e., of his collective historical practice (L. N. Stolovič, S. S. Gol'dentrixt, V. V. Vanslov, V. I. Tasalov, Ju. B. Borev and others). The esthetic is characterized by the latter as that aspect of human activity in which man's freedom from coarsely utilitarian needs and their animal satisfaction is reflected and where there is a disinterested approach to the object appropriated by man and enjoyment of it as an independent value. The elaboration of axiological problems in the 1960's and exposure of the values of the nature of the esthetic (M. S. Kagan, L. N. Stolovič, N. Čavčavadze, N. S. Krjukovskij and others) gave new currency to the question on the specific character of esthetic values and their connections with other classes of values: the relationship of the esthetic and the ethical, the esthetic and the useful, etc. (K. Kantor, G. Apresjan, and others).

The question of the essence of the esthetic was raised in close connection with that of the nature and specific character of art (A. I. Burov, and others) and the interconnection of the esthetic with the artistic (G. N. Pospelov and others). A series of works were devoted to the problem of the beautiful (N. A. Dmitrieva, V. V. Vanslov), regarded as one of the manifestations of the esthetic (L. N. Stolovič and others), the problems of the esthetic ideal (Ju. N. Davydov, cf. *Voprosy estetiki* (Questions of Esthetics) Vyp. 7, M., 1965; O. V. Larmin, V. M. Murian), the artistic appropriation of reality (V. I. Tasalov, cf. *Vop. est. vyp. 1*, 1958; S. S. Gol'dentrixt), realism in art (V. Dneprov, S. Vajman and others), the artistic image, its structure and historical forms (P. Palievskij, V. Kožinov, G. Gačev and others), content and form in art (V. Vanslov, I. Vinogradov, K. Goranov), the psychology of art (B. M. Teplov and the recently published *Psychology of Art* (Moscow 1965), written in 1925 by L. S. Vygotskij), the esthetic problems of the various arts and their

specific character (S. Rappoport, A. Zis' and others), application to the analysis of works of art of the methods and concepts of semiotics and cybernetics (Ju. Lotman, V. Zareckij, L. Pereverzev, R. Zaripov and others; (cf. *Trudy po znakovym sistemam* (Works on Sign-Systems) Tartu, 1964–69)). There have also been general works and surveys in esthetics, providing systematic exposition of esthetic categories (M. S. Kagan, Ju. B. Borev and others). A series of works are devoted to the history of esthetics (A. F. Losev, V. F. Asmus, M. F. Ovsjannikov); to the critique of contemporary bourgeois esthetics (M. A. Lifschitz, A. Karapetjan, A. G. Egorov, Ju. N. Davydov and others). Finally, there have been works on problems of technological esthetics: esthetic and sociological aspects of technology; the relation of man and machine, machine and nature (V. Tasalov, K. Kantor); and questions of the esthetics of daily life; education of esthetic taste and esthetic education in general (cf. *Esthetika povedenija* (Esthetics of Conduct) M. 1964, etc.).

IV. THE ESTHETIC AS OBJECT OF ESTHETICS

According to Marx's theory, developed in the *Economic-Philosophic Manuscripts of 1844*, *objectification* and *de-objectification* as the active process of human self-generation represents the most universal trait of man's mode of existing in the world. Taken in their esthetic aspect, they represent the process of expression and self-manifestation of man and of his 'essential powers' through the object and in the object – and the process is embedded in the sense-perceptible, external forms. For Marx, “*the human essence is the true sociality of people*” (Marx and Engels, *Soč.*, iz. 2, t. 1, s. 447) and “*the human essence of nature exists only for social man...*” (Marx & Engels, *Iz rannix proiz.*, 1956, s. 589) so that nature appears as the objectified social essence of man and society as humanized nature (*ibid.* 591–2). To the extent that these ideas of Marx are basic to the understanding of the esthetic by contemporary Soviet estheticians, the esthetic or the object of esthetics could be characterized as follows: it is the immediately given or the externally sensuous expressiveness of the internal life of the object which includes in itself the two-level process of the ‘objectification’ of the social essence of man and the ‘humanization’ of nature, and which is perceived as an independent and disinterestedly contemplable value of life.

The expressiveness of the objective forms as the result of a process of expression is always a synthesis of two levels: the external or manifesting and the internal or manifested. The very term "expression" indicates an active process of self-conversion of the internal into the external, man's self-revelation in the external world; thus, expression is always something symbolic since one of its levels (what expresses) is a sign of the other (what is expressed). Since the esthetic is an expression, it is not a purely material given (naturalistic objectivity), but its sensuous and material-natural characteristics appear as the bearers of a certain sense (meaning, value) which is revealed through things and their sense properties. The overcoming of the naturalistic understanding of the esthetic in Soviet esthetics took place during the late 1950's and 60's and the relegation of the esthetic to the domain of values raised the question of the specific character of esthetic value.

The esthetic is first of all a certain sensible-objective existence, i.e., a certain empirical fact with a complex physical-psychological-physiological-social structure. This empirical existence in its sense properties has a meaning intimately fused with it (while still distinct from it), and it is only as the manifest givenness of this meaning that it is the esthetic. Thus, the specific character of the esthetic has to be sought in this intimate fusion of the sensuous, material aspect with the ideal, meaningful aspect, as a result of which it is in a state intermediate between the sphere of individual material objects and that of abstract thought. In the history of esthetics, the esthetic was often described as an intermediate being between the 'ideal' and the 'real', between the level of 'sensation' and that of 'meaning' (unity of theoretical and practical faculties in the power of esthetic judgment in Kant; the beautiful as identity of real and ideal in Schelling; as 'the sensuous appearance of the idea', the intimate and balanced unity of the spiritual and bodily in Hegel, and so on). In the esthetic everything is sensuous and tangible and, at the same time, everything is meaning and expression. By separating in the esthetic conceived as expression what is expressed (essence, meaning, signified) from what expresses (appearance, fact, signifier) one can distinguish in the history of the esthetic the following characteristic types of doctrine, from the viewpoint of understanding the correlation between these two:

First, one can conceive the essence (what is expressed) and the appearance (what expresses) as existing, the essence being what appears in

the appearance (Plato, Plotinus, Proclus, Fichte, Schelling, Hegel). From this viewpoint, the esthetic will not be the mere thing or body, symmetry or any external form, since the body can also be non-esthetic and the non-symmetrical can be esthetic. On this account, the esthetic will be only the perfect presence of the appearing essence in things and in matter; it is the extreme organization of matter from the viewpoint of apparent meaning or expressiveness of essence.

Second, one can conceive of essence and appearance as existing with the appearance not revealing essence and essence not appearing in appearance – either in being or in consciousness (Kant and the neo-Kantians). From this viewpoint, the esthetic as something manifested but also essential can only be a possible ‘grounding’ of the appearance (Cohen), its hypothetical presupposition (i.e., appearance viewed by us ‘as if’ it contained some essence, although no reality can be attributed to this representation).

Third, one can conceive only essence as existing and deny that there is anything distinct from it which manifests it. In an extreme form this abstract rationalism has rarely appeared in the history of esthetics and appears rather as a tendency than as a completed system (Descartes and the esthetics of his followers). Typical of this kind of theory is the identification of the esthetic with the logical, moral or other kind of ideal essence, because of the denial of any kind of external manifestation of internal content (the identification of the esthetic idea with ‘common sense’ in Cartesian esthetics; with ‘truth’ in Shaftesbury; reduction of the esthetic to the moral in Tolstoy, etc.).

Fourth, and last one can deny the presence of any essence at all and conceive only the appearances as existing (this is the viewpoint of empiricist psychologism and positivism in natural science). To the extent that the appearance takes on the function of essence, it is inevitably absolutized. The esthetic is here derived from the empirical peculiarities of certain observed facts so that this view can be called naturalistic. Such were, for example, the psychologistic theories of beauty in 18th century English philosophy (Hobbes, Berkeley, Hume); the physical, acoustic explanation of the phenomena of consonance and dissonance of Helmholtz; and Spencer’s naturalistic theory which defined the beautiful as that which provided the excitation of the greatest number of nerves without over-exhaustion. Finally, to this group belongs the reduction of

the esthetic to social-economic relations and interests which is typical of vulgar sociology. It is clear that these four basic types of relationship between what is expressed and what expresses make possible only the basic logical types of this relation and these are never met in pure form in history; they appear as dominant tendencies, often combined with each other in actuality. Each of the types develops a specific aspect of the esthetic. For example, the fourth type records the sense-perceptible, spatio-temporal aspect of the esthetic; the third, those abstract generalizations which enter into its structure; the second, the separation of its sensible, material aspect from its formal, semantic expression, offered as 'foundational' for the esthetic; and only the first provides the necessary dialectical connection and mutual generation of all aspects which constitute the esthetic.

On this basis one can specify the nature of the esthetic and its correlation with the logical, the ethical and the useful. The immediately intuitable obviousness of the esthetic distinguishes it from the discursive, mediated obviousness of the logical which is reached by a whole series of inferences and reasonings of different kinds. As something immediately given in intuition the esthetic is distinct from the ethical which is based on effort of will, acts of choice and the realization of moral values. The esthetic can come into conflict with the moral as, for example, when vices, immoral acts, etc. become objects of immediate admiration. In bourgeois esthetics in the middle of the 19th century, the theory of esthetic amoralism, which cultivated a purely 'esthetic' attitude toward the world in its perverse isolation from and opposition to the ethical attitude was fairly widespread. However, a normal understanding of the esthetic and the moral requires their harmony where intuitive admiration and moral efforts of will are in harmony with each other.

The intrinsic value of the esthetic distinguishes it from the useful, where the object is considered not as object of disinterested admiration but only as means for realizing some end. The collision between the esthetic and the useful is unavoidable when one takes a one-sidedly "consumer" approach to things and a purely utilitarian approach to production; the utility of an object does not exclude it as an esthetic value, and vice versa. The task of reconciling the esthetic and the useful is constantly being carried out in architecture, applied art, industrial arts, etc.

Finally, one should consider the question of the relationship between the esthetic and the artistic. The esthetic is broader than the artistic: it can refer to nature, society and the human person while the artistic refers only to the objects of human creativity, i.e., to works of art. The esthetic is the immediate expressiveness of any phenomena of reality, while the artistic is specific to man's embodiment of the esthetic in a specific material. Alongside the universally esthetic categories – the beautiful, the sublime, the ugly, etc. – the artistic is also characterized by a series of specific categories which have to do with the structural, ideal-material realization of works of art (image, style, genre, etc.).

In general, the esthetic is characterized by the inseparable connection of aspects which, to abstract metaphysics seem incompatible: it represents the undivided wholeness of the subjective and objective, thought and sensation, essence and appearance, idea and image, ideal imagery and emotion, emotional-ideal imagery and act of will, the unconscious and the conscious, the irrational and the rational, the organically alive and the technologically produced, as well as the contemplative and the active. The non-dialectical promotion to the fore of one or another one-sided opposite is often a long since superseded stage in the history of esthetics and witnesses to an inability to understand the esthetic as an integral and living unity.

The esthetic cannot exist outside of the social – particularly social-individual existence (which can be in itself non-esthetic). It is objectified social-individual existence, appearing as the object of disinterested and self-contained admiration and, as such, it plays an important role in the harmonious ordering of all social-historical existence. This trait of the esthetic was excellently expressed by Marx in one of the discussions of 1844–45 which, for more than a century, has set the tone for the whole of Marxist esthetics.

Marx says: “Suppose we had produced things as human beings: in his production each of us would have twice affirmed himself and the other.

(1) In my production I would have objectified my individuality and its particularity, and in the course of the activity I would have enjoyed an individual life; in viewing the object I would have experienced the individual joy of knowing my personality as an objective, sensuously perceptible, and indubitable power.

(2) In your satisfaction and your use of my product I would have

had the direct and conscious satisfaction that my work satisfied a human need, that it objectified human nature, and that it created an object appropriate to the need of another human being.

(3) I would have been the mediator between you and the species and you would have experienced me as a re-integration of your own nature and a necessary part of your self; I would have been affirmed in your thought as well as your love.

(4) In my individual life I would have directly created your life; in my individual activity I would have immediately confirmed and realized my true human and social nature.

Our productions would be so many mirrors reflecting our nature.” (MEGA, Bd. 3, Abt. 1, B., 1932, S. 546–47; Easton & Guddat, p. 281).

In this discussion Marx outlines the life of the Communist society of the future. He means to say that individual-social life and beauty will here be one and the same, i.e., a dialectical unity of opposites. According to his conception, this unity will consist in an expression of the internal subject in the external object or in a reproduction of life such that the product of this expression or reproduction will contain within itself the inner true essence of the creator; in other words, the creator will disinterestedly love what he has created and the created will represent the objectified sense-perceptible, evoking the pleasure of life with indubitable force or, in other regards, in this product immediately vital interestedness will coexist with the principle of the self-contained and entirely disinterested contemplative value of the creator for the created and of the created for the creator in their common species.

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Publications and Monographs of the Institute of East-European Studies
at the University of Fribourg/Switzerland
and the Center for East Europe, Russia and Asia
at Boston College and the Seminar for Political Theory and Philosophy
at the University of Munich

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