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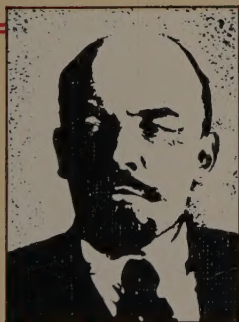
Lenin's "Materialism and Empirio-Criticism"

Progress Publishers

ВЛ. ИЛЬИНЪ.

МАТЕРИАЛИЗМЪ И ЭМПИРИОКРИТИЦИЗМЪ

критическія замѣтки объ одной
реакціонной философіи.



ИЗДАНИЕ „ЗВЕНО“
МОСКВА
1909

Lenin's "Materialism and Empirio-Criticism"

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Introduction

Every book has a life of its own. Most of them fail to stand the test of time: as they become outdated and people stop reading them, they are gradually forgotten. But some books remain topical even when times and generations change, when an old historical epoch gives way to a new and essentially different one. Lenin's *Materialism and Empirio-Criticism* is just such an abiding philosophical classic.

Today, as in 1909, the book is spearheaded against the latest versions of Machism (i.e., idealism), against every kind of idealist trend in present-day philosophy.

Over the past three quarter-centuries, physics has made a gigantic stride forward. But in this field as well Lenin's work is still as relevant as ever. Of course, not in particular matters relating to the actual state of physics at that time, but in the general methodological approach to the cardinal problems of 20th-century physics. Take, for example, Lenin's idea that the electron is inexhaustible and that matter in general is infinite in depth, an idea which has in effect become programmatic for the whole of present-day physics, especially the physics of elementary particles.

Naturally, some particulars of the book are now outdated, but its creative spirit of dialectical materialism is historically immortal. In studying that work,

one should never lose sight of that crucial and abiding point. That is exactly what Lenin himself said in the preface to the second edition of his book in September 1920, 12 years after it had been written. He hoped that, irrespective of the dispute with the Russian "Machists", the new edition would "prove useful as an aid to an acquaintance with the philosophy of Marxism, dialectical materialism, as well as with the philosophical conclusions from the recent discoveries in natural science" (p. 21).¹

¹ Here and elsewhere in the text, pages in parentheses stand for V. I. Lenin, *Collected Works*, Vol. 14, Progress Publishers, Moscow, 1977. References to other volumes are footnoted.

I. THE HISTORICAL SETTING FOR LENIN'S WORK

Materialism and Empirio-Criticism was written in February-October 1908 and was published in Moscow in 1909. Its appearance was necessitated by definite historical conditions.

At the turn of the century, mankind entered upon an epoch of imperialism and proletarian revolutions. In that period, Lenin wrote, the bourgeoisie in all countries was turning away from democracy to "reaction all along the line"—in economics, politics and ideology. Intimidated by the rise of the proletariat's revolutionary movement, the bourgeoisie began to spread diverse forms of idealism and religion, regarding these as an instrument for exerting an influence on the masses and shielding them from the influence of revolutionary ideas.

At the end of the 19th and the beginning of the 20th century, empirio-criticism, or Machism, known as the philosophy of "critical experience", spread across Europe. Emerging as a variety of positivism, it claimed to be the "only scientific" philosophy, which had allegedly overcome the oneness both of materialism and idealism, although in actual fact it was an essentially reactionary, subjective-idealist trend. A number of Social-Democrats who saw themselves as "Marx's disciples" came to regard empirio-criticism as "the latest word in science" meant to replace the dialectico-materialist philoso-

phy of Marxism, and some prominent scientists fell under its influence as well.

The spread of idealist theories did not meet with due resistance on the part of many leaders of the Second International¹ who stood at the head of the international working-class movement. Moreover, Karl Kautsky² declared that the Marxist world outlook did not contradict the theory of knowledge expounded by the Austrian idealist philosopher Ernst Mach. Kautsky totally denied the importance of philosophic theory for the working-class movement.

Other leaders of the Second International also sympathised with idealist views. Lenin wrote in February 1908: "Materialism, as a philosophy, was everywhere pushed into the background by them. *Neue Zeit*, that most sober and well-informed organ, is indifferent to philosophy, was never a zealous supporter of philosophical materialism, and of late has been publishing the empirio-critics without a single reservation.... All the philistine trends in Social-Democracy are most of all at war with philo-

¹ *Second International*, an international association of socialist parties set up in Paris in 1889 with the close participation of Frederick Engels. Upon his death in 1895, right-wing opportunist trends within it began to gather momentum and gained the upper hand with the onset of the imperialist epoch. The opportunism of the Second International's leaders was opposed by the revolutionary trend, whose leading force was Lenin's Party of Bolsheviks.

² *Karl Kautsky* (1854-1938), a leader and theoretician of the German Social-Democrats and the Second International. His philosophical views were an eclectic combination of materialist and idealist elements. With the start of the First World War (1914-18), he finally broke with Marxism, taking a hostile stand with regard to the October Socialist Revolution in Russia in 1917. His betrayal of Marxism was denounced by Lenin in *The Proletarian Revolution and the Renegade Kautsky* and in other works.

sophical materialism, they lean towards Kant, neo-Kantianism, the critical philosophy.”¹ In other words, Lenin pointed to the direct connection between opportunism and philosophical idealism. The Social-Democratic leaders’ stand disarmed the proletariat in ideological terms and obviously harmed the workers’ class struggle in all countries.

Hence the urgent need to come out in defence of the materialist Marxist philosophy. The ideological struggle in Russia, especially following the defeat of Russia’s first bourgeois-democratic revolution of 1905-07, made that even more imperative. The motive force of the first Russian revolution was the proletariat, which rose up in arms in Moscow and other cities. The revolutionary movement involved the army, the navy, the peasantry, and the oppressed peoples of the national outskirts. Intimidated by the scale of the revolution, the bourgeoisie went over to the counter-revolutionary camp and helped the tsarist government to put down the insurgents. The revolution of 1905-07 was brutally suppressed, and police terrorism set in throughout the country: tens of thousands of those who took part in the revolutionary struggle were condemned to penal servitude, thousands were executed, workers’ periodicals were banned, and mass worker and peasant organisations were disbanded. The tsarist government took particularly brutal action against the revolutionary working-class party, which had to go underground.

Bourgeois intellectuals, many of whom sympathised with the revolutionary movement when it was on the rise, now lapsed into despondency, pessimism and loss of faith in the forces of the revolution. They saw the defeat of the revolution as the defeat and collapse of the whole revolutionary ideology, of

¹ V. I. Lenin, *Collected Works*, Vol. 34, 1977, p. 386.

Marxism and materialism in general. Dialectical materialism was said to be old-fashioned and outdated, while religion was proclaimed to be the "supreme achievement" of the human spirit. There was a mushrooming of various religious-idealist societies, circles and trends.

In 1909, religious and idealist-minded writers and philosophers put out *Vekhi* (Landmarks), a "Collection of Articles on the Russian Intelligentsia", in which they came out against the revolutionary-democratic traditions and Marxism. As Lenin put it, the articles were "a veritable torrent of reactionary mud poured on the head of democracy".¹ There was a spread of "god-seeking", a philosophico-religious trend advocating a withdrawal from social problems. "God-seekers" maintained that the Russian people had "lost their God" and that the task was to "find Him"; that the class struggle and revolution were senseless, and that the only way to save the society was to rebuild it on the basis of a renewed Christianity. The ideological attempts to justify the counter-revolution and the revival of religious mysticism left an imprint on science, literature and the arts. Here is how Lenin described the connection between political and ideological reaction after the defeat of the revolution: "The years of reaction (1907-10). Tsarism was victorious. All the revolutionary and opposition parties were smashed. Depression, demoralisation, splits, discord, defection, and pornography took the place of politics. There was an ever greater drift towards philosophical idealism; mysticism became the garb of counter-revolutionary sentiments."²

What was particularly dangerous for the Russian

¹ V. I. Lenin, *Collected Works*, Vol. 16, 1977, p. 129.

² V. I. Lenin, *Collected Works*, Vol. 31, 1974, p. 27.

revolutionary movement was that even some Russian Social-Democrats, both Bolsheviks¹ (Bogdanov, Bazarov, Lunacharsky, and others) and Mensheviks (Valentinov, Yushkevich, and others) were influenced by religious-idealist views.

In their works, they either tried to “combine” Marxism with Machism, a confused version of subjective idealism, or openly “replaced” the philosophical doctrine of Marx and Engels with Mach’s views, whose versions were known as empirio-criticism, empirio-monism or empirio-symbolism, or went under some other pretentious name. They claimed they were fighting against obsolete dogmas in Marxism, for a creative development of Marxist philosophy. But here is how Lenin characterised the Machist stand: “In deed—a complete renunciation of dialectical materialism, i.e., of Marxism; in word—endless subterfuges, attempts to evade the essence of the question, to cover their retreat,... and a determined refusal to make a direct analysis of the innumerable materialist declarations of Marx and Engels... This is typical philosophical revisionism, for it was only the revisionists who gained a sad notoriety for themselves by their departure from the fundamental views of Marxism and by their fear, or inability, to ‘settle accounts’ openly, explicitly, resolutely and clearly with the views they had abandoned” (p. 20).

The Machist revision of Marxism was a grave danger for the revolutionary movement, since it under-

¹ “As a current of political thought and as a political party, Bolshevism has existed since 1903” (V. I. Lenin, *Collected Works*, Vol. 31, p. 24). At the Second Congress of the RSDLP in 1903, the revolutionary Social-Democrats—Lenin’s followers—got a majority, *bolshinstvo*, in the elections to the Party’s central organs (hence the term Bolsheviks), while the opportunists got a minority, *menshinstvo* (hence the term Mensheviks).

mined the theoretical foundations of the proletarian party. That danger was aggravated by the fact that some Social-Democrats, especially Lunacharsky, tried to turn socialism into a new religion (so-called god-building), believing that socialism in a religious form would be "more congenial" to the Russian people and easier for them to understand. They saw "god-building" as building a new society on the basis of their new religion.

The Russian Machists vigorously advertised their anti-Marxist views. As Lenin noted in the preface to the first edition of his book, "in the course of less than half a year four books devoted mainly and almost exclusively to attacks on dialectical materialism have made their appearance" (p. 19).

The conciliatory attitude to Machism on the part of some ideologically unstable Marxists was also highly dangerous for the revolutionary movement. Some Russian Social-Democrats who did not share Machist views at the same time failed to understand the connection of the philosophical disputes of the day with burning political issues, with the class struggle. These shortsighted people believed that Lenin's struggle against Machism was a struggle over secondary matters, something of a storm in a teacup. They even suggested combining the "good aspects" of empirio-criticism with dialectical materialism.

Another important feature of the historical setting in which Lenin wrote his work was the genuine revolution in natural science that broke out in the late 19th and early 20th centuries (for details see Chapter V of this pamphlet). Rapid development of physics altered many of the earlier notions about the structure of matter and its properties. That entailed a radical review of many physical concepts, theories and laws.

Idealist philosophers tried to use these revolu-

tionary changes in physics in their own interests, claiming that these “refuted” materialism and “demonstrated” the truth of idealism. They used scientific discoveries for highly reactionary purposes. Lenin wrote that “one cannot take up any of the writings of the Machists or about Machism without encountering pretentious references to the new physics, which is said to have refuted materialism, and so on and so forth” (p. 251). The idealists, Lenin emphasised, were obviously trying to “connect” their views with the new physics, to use its achievements and difficulties in the interests of reactionary philosophy. These speculations had to be rebuffed.

In these conditions, true Marxists were faced with an urgent task: to protect the Marxist theory—and the Marxist philosophy in the first place—from the revisionists’ subversive activity, uphold the purity and integrity of Marxism as an ideological weapon of the working class and its party, cut short the attempts to distort and pollute it with subjectivist Machist conceptions, and interpret the latest discoveries in natural science in a dialectico-materialist light. A consistent struggle against political revisionism in the West and in Russia was impossible without a struggle against philosophical revisionism, and it was Lenin who tackled that imperative task. Nadezhda Krupskaya, Lenin’s wife and close associate, recalled: “Lenin decided that at that moment the struggle on the philosophical front was the link that had to be grasped in order to combat opportunism.”¹ So, he laid down the guidelines for the Party’s struggle in the sphere of ideology. That struggle was of im-

¹ Nadezhda Krupskaya, “On the 25th Anniversary of the Publication of Lenin’s *Materialism and Empirio-Criticism*”, *Pod znamenem Marksizma*, No. 4, 1934, p. 4.

mense importance for the subsequent activity of the revolutionary working-class party in Russia, for the future of the Russian revolution and the whole international working-class movement.

As he worked on *Materialism and Empirio-Criticism*, Lenin used a wealth of literary and historico-philosophical material (over 200 books and articles), which took a lot of effort to collect. He even went to London to work at the British Museum Library. He worked very hard and wrote the book over a short period, from February to October 1908. In April 1908, Lenin said in a letter to his sister Anna Ulyanova-Yelizarova: "It is ... important to me for the book to appear sooner. I have not only literary but also serious political commitments that are linked up with the publication of the book."¹

A point to note is that Georgi Plekhanov, an outstanding Russian Marxist, had also come out against the Machist revision of Marxism. As Lenin wrote in his article "Marxism and Revisionism" (1908), Plekhanov was "the only Marxist in the international Social-Democratic movement to criticise the incredible platitudes of the revisionists."²

However, Plekhanov's critique of Machism had certain essential flaws, and so could not deal a decisive blow at the Machist revision of Marxism. Plekhanov ignored the indisputable connection between Machism and the crisis in physics; he failed to understand the need for a dialectico-materialist interpretation of the latest discoveries in natural science or clearly to expose idealism as an ideological instrument in the ruling classes' struggle against the revolution.

"Plekhanov remained an enlightener, a populariser,

¹ V. I. Lenin, *Collected Works*, Vol. 37, 1975, p. 426.

² V. I. Lenin, *Collected Works*, Vol. 15, 1977, p. 33.

a brilliant polemicist against Machism," wrote the prominent Soviet researcher M. B. Mitin, adding that "the new stage in the development of dialectical materialism began with the publication of *Materialism and Empirio-Criticism*."¹

Lenin's book played an immense role not only in defending and developing the Marxist theory or in a philosophical generalisation of the latest scientific achievements, but also in the Party's practical revolutionary activity. In June 1909, soon after its publication, the editorial board of the newspaper *Proletary* (playing the role of the Bolshevik centre at the time) met in Paris for an enlarged conference. It discussed "god-building" tendencies among the Social-Democrats and pointed out that "god-building" and Machism were harming the revolutionary movement of the working class, and that the Bolsheviks had nothing in common with the Machist and "god-building" distortions of scientific socialism. The Party got rid of ideologically unstable elements and so closed ranks. As Nadezhda Krupskaya noted, "the struggle on the philosophical front played an important role in helping the Bolsheviks to formulate clear-cut goals for the October Revolution and enabled them to foresee the course of events, to find the correct way of struggle".²

¹ *Pod znamenem Marksizma*, No. 4, 1934, p. 22.

² *Ibid.*, p. 6.

II. LENIN'S CRITIQUE OF SUBJECTIVE IDEALISM

The very title of Lenin's book—*Materialism and Empirio-Criticism*—clarifies his goal: to show the irreconcilable contradiction between the two trends in philosophy, between materialism and idealism, for empirio-criticism is a variety of the latter. So what are materialism and idealism?

Here is how Frederick Engels answers that question in his *Ludwig Feuerbach and the End of Classical German Philosophy*: “The great basic question of all philosophy, especially of more recent philosophy, is that concerning the relation of thinking and being.... The answers which the philosophers gave to this question split them into two great camps. Those who asserted the primacy of spirit to nature and, therefore, in the last instance, assumed world creation in some form or other ... comprised the camp of idealism. The others, who regarded nature as primary, belong to the various schools of materialism.”¹

Idealism has two main forms: *objective* and *subjective*. *Objective idealism* believes in a spiritual prime cause which determines and creates everything in the world and which exists outside and independently of man and nature.

Subjective idealism denies the existence of any

¹ Karl Marx and Frederick Engels, *Selected Works* in three volumes, Vol. 3, Progress Publishers, Moscow, 1983, pp. 345-46.

reality outside the human consciousness, outside the subject. Subjective idealists hold that reality is a creation of the individual's consciousness. Subjective idealism ultimately leads to *solipsism*, the view that the self is the only thing that actually exists. According to a consistent solipsist, the objective world, including other people, exists solely in his consciousness (solipsism derives from Latin *solus* alone + *ipse* self).

In spite of differences on some issues, both forms of idealism are closely interconnected by their basic premise: the primacy of the ideal over the material, something which inevitably leads to fideism, to recognition of religion.¹ That kinship between the two forms of idealism and their subservience to religion are repeatedly emphasised in Lenin's book.

The book is spearheaded against Machism (or empirio-criticism), which Lenin proved to be a variety of subjective idealism.

First of all, Lenin seeks to expose the ostensible novelty of the various theories propounded by the Machist philosophical revisionists, who described their philosophy as "recent" and "modern", as the "philosophy of modern natural science", "recent positivism", and so on. Lenin's ideas on the ideological sources of Machism are set out in the introductory chapter of *Materialism and Empirio-Criticism*, "How Certain 'Marxists' in 1908 and Certain Idealists in 1710 Refuted Materialism", and also in Section 1 of Chapter Four, "The Criticism of Kantianism from the Left and from the Right". Lenin

¹ "Fideism," Lenin explained, "is a doctrine which substitutes faith for knowledge, or which generally attaches significance to faith" (p. 19). As Lenin's letter to his sister Anna Ulyanova-Yelizarova makes it clear, in his book he used the term "fideism" in a broader sense, implying any adherence to religion.

provides well-argued proof that Machist philosophical doctrines are in effect a repetition of old *agnostic and subjective-idealist doctrines*. “His [Kant’s]¹ critical idealism,” says Mach, “was, as I acknowledge with the deepest gratitude, the starting-point of all my critical thought. But I found it impossible to remain faithful to it. Very soon I began to return to the views of Berkeley ... [and then] arrived at views akin to those of Hume.... And even today I cannot help regarding Berkeley and Hume as far more consistent thinkers than Kant” (p. 194). Thus, one of the founders of empirio-criticism admits that, having started with the philosophy of Kant (agnosticism), he soon returned to the views of Berkeley and Hume, 18th-century idealist philosophers.

So what is the philosophy of Berkeley and Hume?

1. The Ideological Precursors of Machism

The Irish philosopher and bishop *George Berkeley* (1685-1753) was an opponent of materialism and atheism. In attacking materialism, he used a weapon which had previously been used mostly by the materialists themselves: the weapon of sensationalism, which holds that sensations are the main source of knowledge. But sensationalism, which in certain conditions leads to materialism (as in the doctrines of Locke, Holbach, Helvetius and Feuerbach), was interpreted by Berkeley in an idealist spirit. Sensations for him were not only the prime source of knowledge, but also the *sole reality* with which man has to deal.

¹ Interpolations in square brackets (within passages quoted by Lenin) have been introduced by Lenin, unless otherwise indicated.

Berkeley's main work, *A Treatise Concerning the Principles of Human Knowledge*, came out in 1710. Lenin shows that many of this philosophising bishop's propositions were repeated 200 years later by Russian and foreign positivist-minded Machists as part of their "modern" philosophy. The Russian Machists Bogdanov and Bazarov, just as their teacher Mach, criticised the materialists for recognising matter, for saying that things exist outside and independently of us. But that is exactly how materialism was criticised by Berkeley. Lenin quotes him at length,¹ clearly showing that Berkeley denied the main premise of materialism and of any natural science: the real existence of the surrounding world.

Any sensible person knows that the objects of our knowledge, of our sensations are the things and processes of reality. Berkeley, however, maintained that the objects of our knowledge were our own "ideas", feelings and sensations instead of objective reality. What we actually perceive, he said, is not things but our own sensations (Berkeley called them "ideas"). That assertion has definite epistemological roots. In his *Philosophical Notebooks* ("On the Question of Dialectics"), Lenin showed that idealism, however false its views, is not sheer nonsense, as it is seen by metaphysical materialism, but a one-sided exaggeration of a certain aspect or trait of knowledge, so that this aspect or trait is turned into an absolute divorced from matter, from objective reality. We know things only through our sensations, and there is no knowledge without sensations. From that indisputable fact Berkeley and other subjective idealists draw the conclusion that without sensations there is no world at all, that sensations are the only real world.

¹ See "In Lieu of an Introduction", *Materialism and Empirio-Criticism* (Vol. 14, pp. 22-39).

For Berkeley, that which people call things are not real objects but *groups of ideas*. Things, he believes, are simply *collections of ideas* or *combinations of sensations*. Thus, “a certain colour, taste, smell, figure and consistence having been observed to go together, are accounted one distinct thing, signified by the name *apple*; other collections of ideas constitute a stone, a tree, a book, and the like sensible things” (p. 24). Here is how Berkeley formulated the basic dictum of his philosophy: “To exist means to be perceived”¹ (*ibid.*). As we shall find later, the Machists in effect say the same thing. If one seriously adopts Berkeley’s formula, the world did not exist until the emergence of beings capable of perceiving it. Elementary particles did not exist until they were discovered, and whole continents did not exist until they were visited by people. Berkeley’s theory directly leads up to solipsism, the doctrine that the only thing that exists in the world is the cognising subject, the self, whereas everything else is nothing but his sensations and notions. Berkeley flatly denied that sensations, feelings, concepts, etc. (which he called “ideas”) are reflections of objectively existing things. He addressed the materialists: “But, say you, though the ideas themselves do not exist without the mind, yet there may be things like them, whereof they are copies or resemblances; which things exist without the mind, in an unthinking substance. I answer, an idea can be like nothing but an idea”² (p. 25). The materialists hold that if sensations did not give a true reflection of things, if they did not “resemble” the latter, people could not succeed in their practical activity, create the new things they require, use these for their

¹ George Berkeley, *A Treatise Concerning the Principles of Human Knowledge...*, London, Tonson, 1734, §1 and §3.

² *The Works of George Berkeley*, Vol. 1, Oxford, 1871, § 8.

purposes, or solve production problems.

Berkeley's denial of the existence of matter is a central tenet of his philosophy. He suggests expelling that concept from philosophy altogether. Berkeley substantiates his criticism of matter by giving a distorted interpretation of the principle of sensationalism: since we cannot see, touch or feel "matter in general", matter as such, but perceive by our senses only the singular, it is only the singular, Berkeley concludes, that actually exists, and there is nothing except singular things perceived by the senses which are nothing but "complexes of sensations". For Berkeley, matter is nothing, it is a meaningless and harmful abstraction. It is harmful for two reasons. First, it has always been a "great friend" to materialism and atheism, to all kinds of "absurd" doctrines denying faith in God. And second, matter is connected with "an incredible number of disputes and puzzling questions" (p. 28). It is very important, Berkeley believed, to expel matter from philosophy, for that would *simplify thought*. Lenin notes that on the issue of matter Berkeley is a direct precursor of the Machists. Their denial of matter and their principle of "economy of thought" in effect repeat Berkeley's idea that it is highly convenient to conceive the world without matter.

The "recent" positivists, i.e., the Machists, declared their doctrine of "empirio-symbolism" to be a great discovery. According to that doctrine, our sensations are not copies of reality, but only signs or symbols of things. As Lenin shows, that Machist doctrine goes back to Berkeley. Thus, Berkeley did not regard the "notion of cause" as a reflection of the real cause of a phenomenon, but reduced it to a "mark" or "sign", and this mark or sign did not necessarily have to resemble the thing it signified. Practice proves, however, that causality, like other

scientific concepts, is no mere sign, but reflects the actual law-governed connections of objective reality.

On the question of truth (reality), Berkeley can also be regarded as the teacher of the Machists. Thus, the Machist Bogdanov maintained that a proposition recognised by many people, by a collective, should be recognised as true (for details see Chapter VII of this pamphlet). Berkeley argued along similar lines.

So, denial of the real material world, refusal to regard our sensations as a reflection of external objects, the "economy of thought" principle, "empirio-symbolism", the view that general perception of the same sensations is a criterion of truth, and other tenets of "recent" philosophy turn out to have been borrowed by Machism from Berkeley's 200 year-old idealist philosophy.

Being a bishop, Berkeley could not be a totally consistent subjective idealist, for consistent subjective idealism denies the existence of any objects outside the self, outside man. But how about God, the creator of the Universe, without whom the bishop cannot do in his philosophy? Lenin shows that on the issue of the creation of the world Berkeley obviously moved away from subjective idealism to objective idealism, which holds that the world was created by an idea existing independently of the subject.

Starting with a denial of material substance (actually existing things), Berkeley goes on to assert the existence of an eternal spiritual substance.

According to Berkeley, the external world, nature, is a combination of human sensations (conception of subjective idealism), but these combinations of sensations are induced in human beings by a deity (conception of religion as a variety of objective idealism).

According to Berkeley's muddled theory, things have no real existence outside man, but, at the same time, they exist as a sum-total of ideas in the mind of God.

So, the Russian Machists, who saw themselves as Marxists, had a predecessor who openly advocated religion, a crude and primitive form of objective idealism.

Hume and Kant, the 18th-century agnostics, were also among the Machists' teachers.

The Scottish philosopher *David Hume* (1711-1776) was Berkeley's younger contemporary. His main works include *A Treatise of Human Nature* and *An Enquiry Concerning Human Understanding*.

In contrast to Berkeley, Hume gives no simple answer to the question about the origins of sensations and perceptions. Whereas Berkeley believes that human sensations are induced by God, Hume takes a sceptical view of such beliefs. "To have recourse to the veracity of the Supreme Being, in order to prove the veracity of our senses, is surely making a very unexpected circuit"¹ (p. 34). He says that once we call in question the external world, we cannot allow the existence of a "Supreme Being" outside of us. He maintains that the causes of sensations, perceptions, etc., cannot be deduced from experience. It is impossible to prove, he says, that perceptions in our mind are caused by external objects (that is, it is impossible to prove the materialist tenet). But it is just as impossible to prove, according to Hume, that perceptions are produced by the energy of the mind itself, or by some invisible and unknown spirit, or else by some other cause still more unknown to us. In other words, he believes that none of the known explanations (either materialist or idealist) of the source of our knowledge can ever be proved: the problem is insoluble, and the source of our knowledge is unknowable. Reality for him is just a *stream of "impres-*

¹ David Hume, *An Enquiry Concerning Human Understanding. Essays and Treatises*, Vol. II, London, 1822, pp. 150-53.

sions", whose causes are unknown and unknowable.

Another ideological source of Machism is the philosophy of *Immanuel Kant* (1724-1804), the founder of classical German idealism. The teachers of the Machists—Mach and Avenarius—started out with Kant.¹

Here is how Lenin characterises Kant's philosophical doctrine: "The principal feature of Kant's philosophy is the reconciliation of materialism with idealism, a compromise between the two, the combination within one system of heterogeneous and contrary philosophical trends. When Kant assumes that something outside us, a thing-in-itself, corresponds to our ideas, he is a materialist. When he declares this thing-in-itself to be unknowable, transcendental, other-sided, he is an idealist. Recognising experience, sensations, as the only source of our knowledge, Kant is directing his philosophy towards sensationalism, and via sensationalism, under certain conditions, towards materialism. Recognising the apriority of space, time, causality, etc., Kant is directing his philosophy towards idealism. Both consistent materialists and consistent idealists ... have mercilessly criticised Kant for this inconsistency" (p. 198).

The materialist tendency in Kant's philosophy manifests itself in his assumption that real objects, "things-in-themselves", exist independently of the cognising subject. A study of the forms of cognition and the limits of our cognitive abilities lead Kant to *agnosticism*, to the assertion that the nature of things as they exist by themselves ("things-in-themselves") is in principle inaccessible to human knowledge, and that it is only possible to know "phenomena", i.e., the means through which things

¹ See *Materialism and Empirio-Criticism*, Chapter Four, "The Criticism of Kantianism from the Left and from the Right" (Vol. 14, pp. 194-205).

reveal themselves in our experience. Kant's agnosticism leads him to idealism, which takes the form of *apriorism*, the doctrine that authentic knowledge is obtained prior to and independently of experience, constituting *a priori* forms of consciousness. For Kant, space and time are not objective forms of the existence of matter, but forms of human consciousness inherent in it prior to any experience. He saw causality as an *a priori* form of human reason instead of an objective connection, a law of nature.

The materialists criticised Kant for his view that the essence of things is unknowable (agnosticism), for his apriorism and his denial of the objective nature of time, space, causality and necessity, that is, for his idealism. The idealists, including Mach and Avenarius, criticised Kant for his concessions to materialism, for his assumption of the "thing-in-itself". Consistent agnostics also criticised Kant for his recognition of necessity and causality, albeit only in human consciousness. "The Machists," Lenin emphasised, "criticise Kant for being too much of a materialist, while we criticise him for not being enough of a materialist. The Machists criticise Kant from the right, we from the left" (p. 199).

Here is how Lenin concludes his analysis of the doctrines of Berkeley, Hume and Kant, the teachers of "recent" and "modern" philosophers: "For the present we shall confine ourselves to one conclusion: the 'recent' Machists have not adduced a single argument against the materialists that had not been adduced by Bishop Berkeley" (p. 38). He goes on: "Thus the *entire school* of Feuerbach, Marx and Engels turned from Kant to the left, to a complete rejection of all idealism and of all agnosticism. But our Machists followed the *reactionary* trend in philosophy, Mach and Avenarius, who criticised Kant from the standpoint of Hume and Berkeley" (p. 204).

2. Lenin's Critique of the Philosophy of Mach and Avenarius

Having examined the philosophy of the precursors of Mach and Avenarius and brought out their idealist essence, Lenin goes on to show the unscientific, idealist doctrines of *the founders of empirio-criticism themselves* (Chapter One).

Ernst Mach (1838-1916), the Austrian philosopher, was also a prominent physicist. As a scientist, however, he was somewhat limited and conservative, largely as a result of his idealist views. Thus, together with Wilhelm Ostwald, whom Lenin described as "a very great chemist and very muddled philosopher" (p. 168), Mach denied the real existence of atoms. Albert Einstein attributed their bias against the atomic theory to their positivist philosophical tenets.

Mach put forward the idea of "purely descriptive science", which does not even try to explain but only describes the data of sensuous experience. Mach regarded the "explanatory" part of any science, including physics, as "parasitic" and believed that it should be excluded from science, for it contradicts the "economy of thought" principle. For Mach, causality, matter, substance and other notions were parasitic elements.

The Russian Machists could not separate Mach's positive contribution to physics from his unscientific reactionary philosophy, as Lenin used to do in assessing Mach, Ostwald and other scientists. Alexander Bogdanov wrote in 1908 that Mach's philosophy was "necessary and useful for the consciously fighting proletariat", and that there was much to be learned from him. Mach, he said, "ruthlessly exterminates all idols of thought, and carries on a relentless struggle against all kinds of fetishes in scientific and philosoph-

ical cognition, against ossified notions".¹

In saying that Mach was carrying on a struggle against all "ossified notions", Bogdanov did not pay attention to Mach's own repeated admissions that he goes back in his philosophy to Kant's inspirers: Berkeley and Hume. In other words, Mach goes back to the truly "ossified", obsolete notions of the 18th-century idealist philosophers instead of combattng such notions. Mach's Russian followers were remarkably shortsighted in assessing the philosophy of their teachers.

Lenin criticises Mach as a philosopher of the positivist school. *Positivism* was founded in the 1830s by the French philosopher *Auguste Comte* (1798-1857). The English philosophers John Stuart Mill and Herbert Spencer also played an important role in elaborating positivist views in that period.

Comte and his followers called their philosophy "positive" to emphasise that philosophy should not go beyond the framework of positive knowledge, i.e., knowledge verified by the empirical sciences. They said that the only task of philosophy was to generalise scientific data, and dismissed as artificial and meaningless all the major problems philosophers had dealt with over the centuries (such as the relation between thinking and being).

The positivists in effect denied the knowability of the world, for science and human experience, they believed, could not penetrate to the essence of things. Science could only describe the external connections between the phenomena. The positivists denied any "metaphysical" speculation outside experience, *which they interpreted as human sensations*. For

¹ Alexander Bogdanov, "What Should the Russian Reader Look for in Ernst Mach's Writings", in: Ernst Mach, *Analysis of Sensations*, Second Edition, St. Petersburg, 1908 (in Russian).

them, any assumption of a real world outside our sensations was “metaphysical”.

Lenin wrote in that context: “A familiar argument. The recognition of an objective reality outside man is termed metaphysics. The spiritualists agree with the Kantians and Humeans in such reproaches against materialism” (p. 277). He said that “modern positivism is agnosticism and that it denies the objective necessity of nature, which existed prior to, and apart from, all ‘knowledge’ and all human beings” (p. 168).

Lenin shows the unscientific nature of Mach’s philosophical positivism. At the beginning of Chapter One (the section “Sensations and Complexes of Sensations”), Lenin quotes Mach as saying that the subject-matter of physics is the connection between sensations, which allegedly constitute the world. In his *Mechanics* (1883), Mach wrote that sensations are not “symbols of things”; the “thing” is rather a mental symbol for a complex of relatively stable sensations; not the things (bodies) but colours, sounds, pressures, spaces, times (what we usually call sensations) are the real elements of the world (p. 40). The Machist theory, in effect, repeats Berkeley’s doctrine of things as combinations of sensations. “If bodies are ‘complexes of sensations’, as Mach says, or ‘combinations of sensations’, as Berkeley said, it inevitably follows that the whole world is but my idea. Starting from such a premise it is impossible to arrive at the existence of other people besides oneself: it is the purest solipsism” (p. 42).

But Mach also introduces a “new” term as compared with Berkeley, the term “element”. He sees the world as a complex of diverse “elements”, both physical and psychical. “Physical elements” are those which do not depend on human nerves or on the human body in general, while “psychical elements” do.

Lenin invalidates the Machist theory of world-elements. If elements are sensations (and that is how Mach regards any elements, including “physical” ones), we have no right even for a moment to accept the existence of elements (sensations) independently of our nerves and consciousness. Indeed, can the sensation of light exist outside the eye, the optic nerve, or the sensation of smell outside the nose? Mach’s “physical elements” turn out to be an empty invention without any real content. The term “physical element” does not at all make Mach’s doctrine more scientific or materialist. “It would, indeed, be childish to think that one can dispose of the fundamental philosophical trends by inventing a new word” (p. 55).

As for Mach’s “psychical elements”, i.e., sensations which create the surrounding world, that is sheer idealism vainly seeking to hide its nakedness behind words about physical elements independent of man.

Both Mach and Avenarius declare that they are fighting both idealism and materialism, regarding these doctrines as “one-sided”. By one-sidedness, the Machists and empirio-criticists mean a consistent answer to the basic question of philosophy: either materialist or idealist. But such “one-sidedness” is a necessary condition of any consistent philosophy, while any attempt to overcome that “one-sidedness” is eclecticism, with opposite points of view lumped together in a single doctrine. Such attempts were made both by Mach and Avenarius.

Lenin exposes Mach’s confused and half-hearted views on many issues. Thus, Mach writes in his *Analysis of Sensations*: “The world consists only of our sensations. In which case we have knowledge *only* of sensations” (p. 43). Lenin points out that in this context the word “our” is illegitimate and il-

logical from the standpoint of Mach's own philosophy. For consistent subjective idealism, only "I" and "my sensations" actually exist, so that Mach should regard other people merely as the subject's sensations. He admits, however, that other people also exist independently of our sensations. In other words, his views are contradictory and half-hearted.

In his *Knowledge and Error*, Mach declared that "there is no difficulty in constructing every physical element out of sensation, i.e., out of psychical elements"¹ (p. 64). The assertion that the objective world can be "constructed" out of sensations is patently idealist. In the same book, however, Mach also admits the existence of physical elements outside the boundary of "psychical elements", i.e., outside sensations, outside and independently of the subject. Here again he "lapses" into materialism. These contradictions are explained, in particular, by the fact that Mach is a physicist, as well as a philosopher. Lenin points out that when dealing with various problems of physics, Mach "*forgets* his own theory and ... speaks plainly, without idealist twists, i.e., materialistically. All the 'complexes of sensations' and the entire stock of Berkeleian wisdom vanish" (p. 65).

Lenin goes on to show that such eclecticism is characteristic of Avenarius as well.

The German philosopher *Richard Avenarius* (1843-1896) elaborated (parallel with and independently of Mach) the basic propositions of the subjective-idealist theory which he called empirio-criticism ("philosophy of critical experience"). His philosophy centres on the concept of experience, which he saw as reconciling such opposites as consciousness

¹ Ernst Mach, *Erkenntnis und Irrtum*, Leipzig, Barth, 1906.

and matter, the psychical and the physical. The main philosophical ideas of Mach and Avenarius coincide to such an extent that Lenin uses the terms "Machism" and "empirio-criticism" as synonyms.

Avenarius saw the task of his philosophy in *purifying experience* from such "illegitimate" concepts as matter (substance), necessity and causality, for these cannot in principle be validated by experience. Like all positivists, Avenarius interpreted experience as nothing but human sensations. Lenin noted that the whole of Machism "is nothing but a distortion, by means of imperceptible nuances, of the real meaning of the word 'experience'!" (p. 293).

In accordance with Avenarius' idealist view of experience, the whole world appeared in his philosophy as a complex of sensations. Since he saw the main task of philosophy in analysing sensations, he confined his analysis to the individual's subjective world, directing philosophical research along a false road. Meanwhile, the true task of philosophy is to study both the general laws of development, the movement of the world (nature, society), and its reflection in the human consciousness (thought), and also to study the laws of human cognition of objective reality.

Avenarius' philosophy is pivoted on his doctrine of "the principal co-ordination". He recognises both the existence of the "self", i.e., the subject, the observer, and the existence of the environment in which the subject lives, i.e., the "non-self". But that reasonable assumption (recognition of a real external environment) is followed by an incongruity. Avenarius says that there is a principal co-ordination, or an *indissoluble correlative connection*, between the "self" and the "non-self". The environment, he says, never exists without some "self"; we always find together the "self" and the environment. Here is

how Avenarius calls the indissoluble “self” and “non-self”: “The *self* is called the *central term* of the co-ordination, the environment the *counter-term*.” In other words, the “self” (the subject) is the leading term of the constant pair, while the “non-self” (the environment) is the secondary, derivative term. For Avenarius, there is no “non-self” without the “self”, no surrounding world without the cognising subject. His theory does not differ in any essential way from Berkeley’s idea that the world is my sensation, the product of my mind.

In criticising Avenarius, Lenin focussed on the contradiction between his views and some self-evident facts of natural science, on his connection with fideism. “Did Nature exist prior to man?”—that question is a “particularly annoying one for the philosophy of Mach and Avenarius” (p. 75). Natural science asserts that the Earth did exist prior to man and to the emergence of any creature on it in general. That cannot be denied either by Mach or Avenarius. But how about the indissoluble connection between the “self” and the “non-self”, if the “non-self” (i.e., the Earth, the environment) existed even when there was still no “self”, i.e., no subject, or “central term of the co-ordination”? Avenarius tries to salvage his system, to eliminate its contradiction with generally recognised scientific propositions by introducing the concept of a “potential central term” in the co-ordination. Even when man (the central term) is still unborn, he is “never equal to zero”; he already exists, though only potentially rather than actually, so conditioning the existence of the whole world, i.e., of the “non-self”, the environment.

Lenin shows that the “potential term” theory is very close to the religious doctrine of life after death. According to Avenarius, the “potential central term” in the co-ordination exists at all times; this means

that man exists even before his birth. But from here it is only a short step to the conclusion that man also exists after his death, that is, to the conclusion that the soul is immortal. Lenin writes: "Is this not mysticism, the very antechamber of fideism? If it is possible to think of a potential central term in relation to a future environment, why not think of it in relation to a *past* environment, that is, *after* man's *death*? You will say that Avenarius did not draw this conclusion from his theory? Granted, but that absurd and reactionary theory became the more cowardly but not any the better for that" (p. 76).

Avenarius did not succeed in eliminating the contradiction between his theory and scientific data. His mythical "potential term in the co-ordination", with its potential consciousness, was bound to come into contradiction with the scientific fact that nature existed prior to man, prior to his consciousness. Consequently, there is no indissoluble connection between the "self" and the "non-self".

Bogdanov, Yushkevich and other Russian Machists regarded Avenarius' theory as "new", "modern" and quite "realistic", i.e., materialist. They were perfectly satisfied with his recognition of the "non-self", although, as we find, his "non-self" is derived from the "self", from the subject. In comparing Avenarius' theory with the views of the German subjective idealist *Johann Gottlieb Fichte* (1762-1814), Lenin shows there is nothing new or materialist about that theory. He quotes a dialogue between a philosopher and his reader taken from a work by Fichte published in 1801. The philosopher, that is, Fichte himself, asks the reader: "Tell me, and reflect well before you answer: Does a thing appear in you and become present in you and for you otherwise than simultaneously with and through your consciousness of the

thing?"¹ (p. 68). The reader agrees, evidently meaning that it is impossible to know a thing without sensations, without its reflection in the human mind. From the correct premise that the thing "appears" before us, i.e., that we cognise it solely through our consciousness, Fichte, like all other subjective idealists, draws a patently false conclusion: the thing does not exist without the consciousness. He advises the reader not to look for things outside his consciousness: "Take care, therefore, not to jump out of yourself and to apprehend anything otherwise than you are able to apprehend it"² (p. 68). In other words, do not think that there is anything outside you, that there is an external source of your sensations, some kind of real things; in actual fact, there is only something integral and indissoluble, some kind of "consciousness and the thing" and "the thing and consciousness", the "subjective-objective and objective-subjective". All that Fichtean jibberish, Lenin shows, expressed (long before Avenarius) the essence of the "recent" empirio-critical theory of "principal co-ordination". Avenarius' theory is nothing but a paraphrase of Fichte's idealist theory.

Both Fichte and Avenarius claim to defend ordinary human views undistorted by any philosophical speculation, to defend "naïve realism". Lenin refutes their sophistry. He shows that people's "naïve", "natural" convictions do not in the least correspond to idealist theories. "The 'naïve realism' of any healthy person who has not been an inmate of a lunatic asylum or a pupil of the idealist philosophers consists in the view that things, the environment, the world, exist *independently* of our sensation, of our con-

¹ Johann Gottlieb Fichte, *Sonnenklarer Bericht an das größere Publikum über das eigentliche Wesen der neuesten Philosophie*, Berlin, 1801, S. 178-80.

² Ibid.

sciousness, of our *self* and of man in general. The same *experience* (not in the Machist sense, but in the human sense of the term) that has produced in us the firm conviction that *independently* of us there exist other people, and not mere complexes of my sensations of high, short, yellow, hard, etc.—this same *experience* produces in us the conviction that things, the world, the environment exist independently of us. Our sensation, our consciousness is only *an image* of the external world, and it is obvious that an image cannot exist without the thing imaged, and that the latter exists independently of that which images it. Materialism *deliberately* makes the ‘naïve’ belief of mankind the foundation of its theory of knowledge” (pp. 69-70).

Let us also take a look at Lenin’s criticism of Avenarius’ doctrine of *introjection*. Avenarius reproached natural scientists who believed thought to be a function of the brain for an inadmissible “introjection”, that is, for “the insertion of thought into the brain, or of sensations into us”¹ (p. 88). For Avenarius, the brain is not the organ of thought, and thought is not a function of the brain. “Take Engels,” Lenin writes, “and we immediately find directly contrary, frankly materialist formulations. ‘Thought and consciousness,’ says Engels in *Anti-Dühring*, ‘are products of the human brain.’² This idea is often repeated in that work. In *Ludwig Feuerbach* we have the following exposition of the views of Feuerbach and Engels: ‘...the material, sensuously perceptible world to which we ourselves belong is the only reality’, ‘our consciousness and thinking, however suprasensuous they may seem, are the product of a material, bodily

¹ Richard Avenarius, *Der menschliche Weltbegriff*, Leipzig, Reissland, 1905.

² Karl Marx, Frederick Engels, *Collected Works*, Vol. 25, Progress Publishers, Moscow, 1987, p. 34.

organ, the brain. Matter is not a product of mind, but mind itself is merely the highest product of matter. This is, of course, pure materialism'.¹" (p. 87). "The brain,' says Avenarius in *The Human Concept of the World*, 'is not the habitation, the seat, the creator, it is not the instrument or organ, the supporter or substratum, etc., of thought'"² (p. 87). According to Avenarius, to say that thought is somewhere in the brain is an inadmissible "introjection", i.e., an insertion into the brain of something that is not there. In order to crush materialism, Avenarius denied an elementary and long-established physiological truth that thought is a product of the brain.

Avenarius held that "introjection" deviates "in principle" from the "natural conception of the world" and that it leads to idealism. He called himself an antagonist of idealism on the grounds that he recognised the "self" and the environment as equally real. In actual fact, Avenarius fought against the true "natural conception of the world", i.e., against materialism, and defended idealism, since both the "self" and the environment are for him mere complexes of sensations. "Since we do not yet know all the conditions of the connection we are constantly observing between sensation and matter organised in a definite way, let us therefore acknowledge the existence of sensation alone—that is what the sophism of Avenarius amounts to" (p. 52).

All these confused theories of Avenarius should be analysed, first, to pinpoint the essence of empirio-criticism and, second, to realise how muddle-headed were the teachers of the Russian Machists, who called themselves materialists, and how absurd was

¹ Karl Marx and Frederick Engels, *Selected Works*, Vol. 3, p. 348.

² Richard Avenarius, *Der menschliche Weltbegriff*, S. 76.

the philosophy accepted by these "would-be Marxists" as Lenin called them.

Among the empirio-criticists and Machists Lenin also ranks Alexander Bogdanov, although the latter denied he was a Machist. Bogdanov called his philosophy *empirio-monism*, so emphasising its distinction from empirio-criticism. In his *Empirio-Monism*, he wrote that the only thing he had borrowed from Mach's general philosophical conception was the idea of the neutrality of the elements of experience (i.e., sensations) in relation to the "physical" and the "psychical", and the dependence of these characteristics solely on the connection of experience. He did not notice, however, that what he actually borrowed from Mach was the main thing: his identification of the physical and the psychical, the idea that the physical and the psychical are essentially the same, that they are merely different attributes of one and the same thing. As for the primacy of the physical over the psychical, Bogdanov recognised that primacy only in word.

Here is what Lenin says in this context: "This is as though a religious man were to say—I cannot own myself a believer in religion, for there is 'only one thing' I have borrowed from the believers—the belief in God. This 'only one thing' which Bogdanov borrowed from Mach is the *basic error* of Machism, the basic falsity of its entire philosophy" (p. 58).

Lenin's criticism of the subjective idealism of Mach and Avenarius convincingly invalidates their doctrines and refutes the assertions of the Russian Machists that the philosophy of Mach and Avenarius is a "third method" in philosophy, that it is "the truth transcending materialism and idealism" (p. 90). In actual fact, it is nothing but a "senseless jumble of materialism and idealism" (ibid.).

Lenin's criticism of the subjective idealism of the past is still relevant today. Subjective idealism has a prominent place in present-day bourgeois philosophy, developing ideas whose unscientific and reactionary nature was exposed by Lenin in his *Materialism and Empirio-Criticism*.

Berkeley's idea of the world as a combination of human judgements recurs in neo-positivism, the modern form of positivism. That idea was revived in the 1920s and 1930s by the so-called Vienna Circle, a group of philosophers who developed modern positivism.

Some of David Hume's agnostic views criticised by Lenin are still alive in present-day philosophy. Most positivist doctrines of the 19th and 20th centuries developed under the influence of Hume's ideas, inheriting his denial of substance (matter), his agnostic conclusions from sensationalism, and his denial of objective causality. Moritz Schlick and Bertrand Russell, the leaders of neo-positivism, openly acknowledged Hume as their spiritual father.

The English philosopher Bertrand Russell took a sympathetic view of Hume's basic propositions, saying that he did not see any way of getting rid of them. He particularly praised Hume for his denial of substance, i.e., matter, for that, in Russell's view, had given rise to fruitful debate.

Present-day bourgeois philosophy has also revived some of Kant's idealist views criticised by Lenin. Neo-Kantian subjectivism, agnosticism and apriorism are essential prerequisites for a number of modern philosophical schools. Neo-Kantian theories are widespread among the Social-Democrats. These are based on "ethical socialism", which replaces the Marxist theory of class struggle with a call for the society's moral

re-education. Traces of Kantian idealism are evident in existentialism, which is also marked by agnosticism. One should note here that present-day bourgeois philosophers seek to vindicate the weaker points of Kant's philosophy, criticise his doctrine from the right, and reject its materialist and dialectical elements.

The doctrine of Mach and Avenarius has clearly influenced the basic principles of neo-positivism. One of the latter's main ideas is a denial of the whole of preceding philosophy as allegedly devoid of scientific sense, for that philosophy seeks to express its own view of the objective world. From the stand-point of neo-positivism, philosophy cannot have anything new to say about the world in addition to what is being said about it by the various particular sciences. The only task of philosophy is to analyse the logic of thought or the language of science. According to Russell, for instance, logic is the essence of philosophy. The neo-positivist Rudolf Carnap narrowed down the subject-matter of philosophy still further, saying that its goal is a logico-syntactic analysis of the language of science. The basic question of philosophy, the neo-positivists believe, is a false one, a pseudo-question, and it is futile to try to resolve the question of the relationship of consciousness to being, for the only thing given to man is his consciousness. Our thoughts, logical constructions, sensations and feelings are the only things which are given to us and which we can discuss and examine. All neo-positivist schools—logical positivism, logical empiricism, linguistic philosophy, analytic philosophy, etc.—quite in the spirit of Mach and Avenarius purge philosophy of "metaphysics", by which they mean statements on the objective world and recognition of its reality.

Some ideas of Avenarius are also reflected in pres-

ent-day philosophy. Thus, his "principal co-ordination" has been elaborated by existentialism, which puts man's existence at the centre of being, so that the whole world is seen as a derivative of man himself. Karl Jaspers, a prominent German existentialist, repeated some of Avenarius' formulas almost word for word. He said that the "non-self", i.e., the objective world, is inconceivable without the "self", i.e., the thinking subject.

Obviously, the ideological essence of present-day subjective idealism, just as its class essence, has remained the same as it was in Lenin's day. Irrespective of the personal subjective wishes and desires of this or that idealist philosopher (some of them, like the English philosopher Bertrand Russell, are known to hold progressive social views), the idealist philosophy objectively serves fideism and opposes the revolutionary Marxist world view. Lenin's arguments exposing the reactionary nature of idealist epistemological scholasticism still hold good in the struggle against present-day idealism.

III. LENIN'S DEVELOPMENT OF THE MARXIST THEORY OF KNOWLEDGE

In his *Materialism and Empirio-Criticism*, Lenin focussed on the problems of the theory of knowledge (epistemology, or gnoseology). Thus, the first three chapters of the book are entitled "The Theory of Knowledge of Empirio-Criticism and of Dialectical Materialism". Epistemological problems are also examined in other chapters. In Chapter Four, Lenin criticises Kant's theory of knowledge and the theory of symbols (or hieroglyphs) of Helmholtz. Chapter Five deals with the relativity of knowledge and the epistemological roots of "physical" idealism. Chapter Six is a critique of Machist epistemology, with its distorted view of social phenomena.

Lenin's focus on epistemology as a central philosophical problem was dictated by the historical conditions at the time. The theory of knowledge became crucial to philosophy in view of the growing importance of science in social life. The ongoing revolution in science called for more profound methods of scientific cognition, and also for a new philosophical interpretation both of scientific methods and the latest discoveries. It was also highly important to examine epistemological questions in view of the need to combat idealist speculations in this field, Machist doctrines, and spreading "physical" idealism.¹

¹ For "physical" idealism see pp. 95-109 of this pamphlet.

Lenin elaborates the Marxist theory of knowledge on the strength of the dialectico-materialist theory of reflection, which is *pivotal to the theory of knowledge*. Showing how Engels refuted agnosticism, Lenin writes: "The materialist theory, the theory of the reflection of objects by our mind, is here presented with absolute clarity: things exist outside us. Our perceptions and ideas are their images" (p. 110). The theory of reflection is closely connected with the answer to the basic question of philosophy, the question of the relationship of consciousness to being, of thought to matter (nature). That question is seen from two angles: first, what is primary—nature or spirit, matter or consciousness—and second, how does our knowledge about the world relate to the world itself or, in other words, does consciousness correspond to material being, that is, can it give a correct reflection of the world? Materialists say that the world exists objectively, independently of consciousness, while people are a part of nature and *reflect it in their consciousness*. Hence it naturally follows that materialists recognise the possibility of knowing the world and its laws. All idealists (those who hold that spirit existed prior to matter) are unanimous in rejecting the idea that knowledge is a reflection of objective reality.

The theory of reflection studies properties which are common to all forms of reflection. It studies reflection in inanimate nature, in the simplest forms of life, and *examines the emergence and essence of the highest, psychic form of the reflection of reality, the emergence and essence of man's cognition of reality*. Epistemology and the theory of reflection are closely connected, but not identical.

That close connection explains why in his chapters on the theory of knowledge Lenin considers a number of non-epistemological problems. In Chapter

Two, for instance, he makes a detailed analysis of the “thing-in-itself”, which relates to the basic question of philosophy. In Chapter Three, he deals with matter, causality, necessity, space and time, which are so-called ontological categories, i.e., those primarily relating to material being. Lenin is perfectly justified in examining these categories as he criticises idealist epistemology, which declares these concepts to be a pure product of the human mind.

Of the three chapters dealing with epistemology, Chapter Two is richest in actual epistemological material. In that chapter, an analysis of the “thing-in-itself” is followed by an in-depth analysis of the dialectics of the subjective and objective in cognition, various aspects of truth (objective, absolute, relative), and practice as a criterion of knowledge. Lenin raises a wide range of issues relating to the dialectics of knowledge, eventually elaborated in his *Philosophical Notebooks*.

So, let us examine the main propositions of Chapter Two.

1. The “Thing-in-Itself”. Three Major Epistemological Conclusions

The “*thing-in-itself*” is a philosophical term used to designate things as they exist by themselves, independently of us and our consciousness. Subjective idealists, who deny the existence of any things outside our consciousness, have always been highly irritated by such a reading of the term. The Russian Machists, in particular, wrote a great deal about the “thing-in-itself”. “Our Machists have written so much about the ‘thing-in-itself’ that if all their writings were to be collected it would result in mountains of printed matter” (p. 98). As Lenin put it, the “thing-in-

itself” was a veritable *bête noire*, a bugbear, detested by Bogdanov and Valentinov, Bazarov and Chernov, Berman and Yushkevich. Their struggle against the “thing-in-itself” betrayed both their failure to understand Marxism and their own idealism. That is why Lenin devotes a special section of Chapter Two to that issue.

Ignoring the fact that Marx and Engels recognised the reality of the “thing-in-itself”, Bogdanov called it an “idol” and a “fetish”, and praised Mach for dismissing it as an illusion and for departing from Kant. Lenin gives a detailed account of Engels’ position of that issue. In his *Ludwig Feuerbach and the End of Classical German Philosophy*, Engels points out that materialism regards nature as primary and spirit as secondary. Nature, concrete things, exist prior to any spirit, to any knowledge about them. “Things-in-themselves” do exist, and it is only in the process of cognition and practice that they become known to us, turning into “things-for-us”. To demonstrate these propositions, Engels gave the example of the dye alizarin. So long as people did not know its chemical composition and could not produce it, alizarin was a “thing-in-itself”, but as soon as organic chemistry began to produce it artificially, it became a “thing-for-us”, i.e., a known thing. Kant’s elusive, ungraspable “thing-in-itself” comes to an end, for the thing is comprehended by the human mind and practice. Clearly, this means an “end” to the unknowability of the “thing-in-itself”, which is no longer incomprehensible to us, and not an “end” to its real existence.

According to Engels, “things-in-themselves” actually exist, and here Marxist views coincide with those of Kant. But Marxists give an essentially different reading to the “thing-in-itself”. For Kant, the objectively existing “thing-in-itself” is closely connected

with his agnosticism, with the idea that the essence, the inner nature of things is inaccessible to human knowledge and that the latter always remains "beyond" essence, in the sphere of "phenomena", i.e., the external, sensuous side of things. According to Kant, the "thing-in-itself" can never become a "thing-for-us", a thing known to man. No materialism, to say nothing of dialectical materialism, has ever recognised that aspect of Kant's doctrine of the "thing-in-itself". For Marxism, the "thing-in-itself" is an objective but as yet unknown thing, which can be cognised in its essence and so turned into a "thing-for-us". Marxism does not recognise any "impassable gulf" between essence and appearance, between the "thing-in-itself" and the "thing-for-us" (p. 118).

In summing up Engels' arguments on the "thing-in-itself", Lenin formulates three epistemological conclusions, which are a valuable contribution to the dialectical materialist theory of knowledge.

The *first conclusion* says that things are objective and independent of our consciousness.

Using the alizarin example, Lenin writes: "Things exist independently of our consciousness, independently of our sensations, outside of us, for it is beyond doubt that alizarin existed in coal tar yesterday and it is equally beyond doubt that yesterday we knew nothing of the existence of this alizarin and received no sensations from it" (p. 103).

The *second conclusion* says that things are knowable and refutes agnosticism: "There is definitely no difference in principle between the phenomenon and the thing-in-itself, and there cannot be any such difference. The only difference is between what is known and what is not yet known. And philosophical inventions of specific boundaries between the one and the other, inventions to the effect that the thing-in-itself is 'beyond' phenomena (Kant), or that we

can and must fence ourselves off by some philosophical partition from the problem of a world which in one part or another is still unknown but which exists outside us (Hume)—all this is the sheerest nonsense, *Schrulle*, crotchet, fantasy” (p. 103).

The *third conclusion* deals with the connection between the theory of knowledge and dialectics, the doctrine of development, of the unity and struggle of opposites. Without dialectics it is impossible to understand the essence of human knowledge, to take a firm materialist stand. Materialism without dialectics is incomplete, unscientific and metaphysical. Lenin writes: “In the theory of knowledge, as in every other sphere of science, we must think dialectically, that is, we must not regard our knowledge as ready-made and unalterable, but must determine how *knowledge* emerges from *ignorance*, how incomplete, inexact knowledge becomes more complete and more exact.

“Once we accept the point of view that human knowledge develops from ignorance, we shall find millions of examples of it just as simple as the discovery of alizarin in coal tar, millions of observations not only in the history of science and technology but in the everyday life of each and every one of us that illustrate the transformation of ‘things-in-themselves’ into ‘things-for-us’... The sole and unavoidable deduction to be made from this—a deduction which all of us make in everyday practice and which materialism deliberately places at the foundation of its epistemology—is that outside us, and independently of us, there exist objects, things, bodies and that our perceptions are images of the external world” (pp. 103-04).

The Marxist theory of knowledge utterly rejects the agnostic view that the essence of things is unknowable. In the second section of Chapter Two, Lenin

examines so-called “transcendence” (“‘Transcendence’, or V. Bazarov ‘Revises’ Engels”).

The Machist Bazarov accused the materialists of inadmissible “transcendence”. He said that Engels was not guilty of it, while other materialists were.

By “*transcendence*” Bazarov meant (like Kant and Hume) a transition from sensations to judgements about things outside us, about existing reality. The assertion that sensations can give a picture of that which exists outside sensations is seen by Kantians and Humeans as illegitimate “transcendence” (passage) from one sphere to another, fundamentally different sphere. Lenin explains: “The very idea of ‘transcendence’, i.e., of a boundary *in principle* between the appearance and the thing-in-itself, is a nonsensical idea of the agnostics (Humeans and Kantians included) and the idealists” (p. 116).

Bazarov tries to present Engels as an agnostic and subjective idealist, and Lenin exposes these attempts. Practice, Engels writes, proves that our sense-perception coincides with (corresponds to) the actual nature of the things perceived. From that proposition, Bazarov draws this monstrous conclusion: according to Engels, he says, “sense-perception *is* the reality existing outside us”. Bazarov interprets the word “to coincide” as meaning “to be identical”, instead of “to correspond”, i.e., to represent correctly. Engels says that sensation represents reality correctly, that it gives a true image of reality, while Bazarov claims that Engels identifies sensation and reality. “Engels has been treated *à la* Mach, fried and served with a Machist sauce” (p. 114)—such is Lenin’s scathing comment. Bazarov’s entire falsification is based on his misreading of a quotation from Engels.

2. Sensation as a Reflection of Reality, “a Subjective Image of the Objective World”

Having examined the “thing-in-itself” question and criticised the “transcendence” doctrine, Lenin proved the basic proposition of the materialist theory of reflection: our sensations (and all our knowledge) are a reflection, an image of reality. He goes on to examine the problem of the complexity of that image (or copy) of reality and substantiates the dialectico-materialist stand on that problem. The theory of knowledge of pre-Marxist materialism regarded sensations as a dead, mirror-like reflection of surrounding reality, and held that such passive reflection was the only function of human consciousness. Such views corresponded to the contemplative nature of the old materialism.

Present-day philosophical revisionists are known to impute the epistemological flaws of metaphysical materialism to Lenin’s theory of reflection, saying that he also assumes the subject to be totally passive and denies the activity of the human mind. However, the flimsiness of these attacks upon Lenin’s theory will be evident to anyone who takes the trouble to read, say, Chapter Two of *Materialism and Empirio-Criticism*, particularly its third section, which deals with the subjective aspect of sensations. The problem of the subject’s activity is also considered in the sixth section of that chapter, which examines the role of practice in cognition.

Here is Lenin’s main idea: our feelings and ideas reflect reality and give a more or less correct picture of it. At the same time, the “objects of our ideas are distinct from our ideas, the thing-in-itself is distinct from the thing-for-us” (p. 119). Sensations, just as the whole of human consciousness, always include a subjective element. Lenin demonstrates that by quot-

ing Ludwig Feuerbach, who said: "The taste-nerve is just as much a product of nature as salt is, but it does not follow from this that the taste of salt is directly as such an objective property of salt, that what salt is merely as an object of sensation it also is in itself (*an und für sich*), hence that the sensation of salt on the tongue is a property of salt thought of without sensation... Saltiness, as a taste, is the subjective expression of an objective property of salt"¹ (p. 119).

Feuerbach means that any sensation, like that of taste, is experienced by the subject. But sensation also expresses the objective properties of things, which are outside man and outside any sensation. The taste of salt is a subjective reflection of the objective properties of salt.

Lenin formulates the materialist understanding of sensations as a unity of the objective and the subjective. He says that "sensation is a subjective image of the objective world" (p. 119). That formula is a precise expression of the dialectically contradictory essence of sensation. If one fails to point out the objective aspect of sensation, it will appear to be purely subjective, without reflecting the external world, and if one fails to point out its subjective aspect, one could lapse into a crude mechanistic understanding of sensation as a dead, mirror-like reflection of reality. In actual fact, the properties of things, acting upon human receptors (the receiving part of nervous tissue) with the help of physical (mechanical, thermal) or chemical energy, stimulate a nervous response, and the resultant sensation is by no means a simple passive repetition of the properties of external objects. Sensation is a copy, a picture of the object, but it is a specific, *psychical copy*, a subjective

¹ Ludwig Feuerbach, *Sämtliche Werke*, Bd. VII, Stuttgart, 1903, S. 514.

image of the object.

The subjective aspect of sensations is determined by a number of factors. Sensation is the result of interaction between the object and the subject, and both of these influence that result. The image formed in the human mind depends not only on the properties of the object that has engendered it, but also on the material in which the image is being formed, on the screen, so to speak, on which the image appears. Sensation largely depends on the peculiarities of the analyzer (the sense-organ) and its physiological characteristics.

A definite role in the subjectivity of sensations belongs to the fact that signals from the objective world are perceived by the sense-organs only within definite limits. Thus, people hear sounds as a result of elastic vibrations in a material environment within a frequency range of 16 to 20,000 hertz. Light and colour sensations are aroused by electromagnetic waves within a wavelength range of 380 to 760 millimicrons acting upon the retina. Beyond these limits, light and sound phenomena are not perceived by the human sense organs.

The nature of the analyzer can have a significant effect on human sensations and perceptions. The subjectivity of the human vision of the world is evident, for instance, in the marked distinction of human sensations and perceptions from those of animals. The sight organs of some animals (fish, turtles, lizards) and most birds do not perceive such colours as light and dark blue, while bees do not see red and orange, and the world for them has a violet tinge. Ants are known to see chemical rays invisible to man. Obviously, the ant's vision of the world differs from that of man. Engels said in this context that those who want to see the world through the eyes of an ant cannot be helped.

An exceptionally important role in the formation of an image is also played by experience, by a repetition of sensations. Some psychologists believe that "pure" sensation from an object occurs only once. The next time, the image of that specific object is influenced not only by the object itself, but also by developing conditioned reflexes, by past experience, which leaves its own traces upon the image. Thus, objects of a definite length, height or volume are always seen as constant, as being roughly the same, although their apparent size keeps changing with the distance. As we move away from a house, for instance, its impression on the retina will become smaller, while the mental image of the house and our idea of its size will remain the same. Our consciousness, guided by experience, corrects the immediate reflection.

Another important point is that the image is formed in accordance with definite material (practical) requirements and goals. That is why it is conditioned not only by what we already know about the object, but also by what we expect from it, i.e., our idea about the future, about the tendencies of the object's development. The image of an object always includes creative elements, some features of foresight and discovery. As a result, the image that takes shape is a complicated interaction of the past, present and future.

Sensations are also subjective in that no sensation reflects the object in full, in all its aspects, for the object is always richer than its copy. In that sense, the problem of the subjectivity of the image is connected with the relativity of knowledge. Finally, sensations are subjective in the sense that they are always experienced by man, the subject: "there are no other senses except human, i.e., 'subjective', senses" (p. 112). Sensations are affected by the indi-

vidual's personal qualities, and also by the environment.

Modern physiology and psychology have made great progress in studying sensations and their origins. But there is still no integral or complete theory of how sensations arise, and the mechanism that creates subjective images has yet to be clarified. The only indisputable fact is that objects of reality acting upon the sense-organs excite the nervous system and produce sensation.

The subjectivity of reflection engenders certain negative phenomena in the consciousness, and can lead to illusions and distorted images of the object. The human mind sometimes engenders fantastic images which have no adequate prototype (such as angels, evil spirits, etc.). Lenin wrote in his *Philosophical Notebooks*: "The approach of the (human) mind to a particular thing, the taking of a copy (=a concept) of it *is not* a simple, immediate act, a dead mirroring, but one which is complex, split into two, zig-zag-like, which *includes in it* the possibility of the flight of fantasy from life."¹ At the same time, it is the subjective aspect of consciousness that is the source of many of its creative qualities. Bulgarian Academician Todor Pavlov, a Marxist philosopher, pointed out the positive role of the subjective: "The subjective aspect of consciousness is not only its known weakness or shortcoming, but also its strength and its advantage over purely objective but indifferent, automatic information."² Subjectivity, the fact that there is no absolute connection between the idea and the object, makes it possible to run ahead of reality, anticipate the future, and engage in creative art and science. Lenin highly valued man's

¹ V. I. Lenin, *Collected Works*, Vol. 38, 1976, p. 370.

² Todor Pavlov, "Topical Problems of Lenin's Theory of Reflection", *Kommunist*, No. 5, 1968, p. 32.

ability in a certain sense to lose touch with reality, to run ahead of it, and paint a mental picture of the future. He noted the positive role of scientific foresight and realistic prevision of the future.

We have pointed out here only some of the elements of subjectivity in sensation. These should not be forgotten in analysing Lenin's doctrine of sensations. But one should always bear in mind that Lenin's doctrine centres on the idea that sensations are objective. Sensation is objective in content as a reflection of the objective world. It is objective in source as the result of external objects acting upon the sense-organs, and it is objective in function as an instrument of knowledge about the real world around us. Sensations are also objective because the sense-organs that create images of things are determined by objective reality. In the process of evolution, the structure of these analyzers (organs of hearing, sight and smell) has adjusted itself to ensure the best reflection of objects.

Lenin's criticism of the agnostic view of sensations as mere signs, symbols or hieroglyphs which do not resemble the objects they represent is of great importance. The "*theory of symbols*" (or *hieroglyphs*) exaggerates the subjective aspect of sensations. Lenin criticises the materialist Georgi Plekhanov, a prominent theorist of Marxism in Russia, who in one of his works described sensations as hieroglyphs which do not resemble the events they represent. Plekhanov's mistake was terminological, but was undoubtedly a concession to agnosticism. The Machist Bazarov ridiculed Plekhanov's "hieroglyphic materialism" but, instead of correcting the mistake, merely deepened it by saying that sensations were not symbols of things but "reality existing outside us". According to Bazarov, sensations exist outside man, who only feels, experiences these sensations. In effect, Bazarov

repeated Mach's nonsensical doctrine of "physical elements" (sensations) existing outside man's body and his nervous system.

To explain Plekhanov's error and Bazarov's muddled argument, Lenin makes a detailed analysis of the "theory of symbols" (or hieroglyphs) expounded by the prominent German naturalist *Hermann Helmholtz* (1821-1894). That analysis is set out in the sixth section of Chapter Four, "The 'Theory of Symbols' (or Hieroglyphs) and the Criticism of Helmholtz".

In his philosophy, Helmholtz was a spontaneous, inconsistent materialist. He recognised the existence of objective reality, attached much importance to experimental knowledge, and regarded sensations and perceptions as a result of the influence of objective reality on the human sense-organs, but, at the same time, he tended towards Kantianism. He formulated the theory of hieroglyphs, according to which sensation is only a sign, a *symbol* of things instead of their image. He believed that an idea and the object it represents belong to "two entirely different worlds" and denied that sensations resembled things in any way. We find here a repetition of the Kantian doctrine which divorced the "phenomenon" from the "thing-in-itself". Like Kant, Helmholtz believed that sensation cannot adequately reflect the world of real things that is "alien" to it. He was quite right in saying that the quality of the sensation was markedly dependent on the nature of the mechanism that produces sensation under the influence of external causes (Helmholtz did not doubt the reality of things). But he exaggerated the role of that subjectivity and denied the fact that man's nervous system creates a psychic image that is largely adequate to the object. "If sensations are not images of things, but only signs or symbols which have 'no resemblance'

to them, then Helmholtz's initial materialist premise is undermined; the existence of external objects becomes subject to doubt; for signs or symbols may quite possibly indicate imaginary objects" (p. 234).

Lenin resolutely refutes the idea that sensations are mere signs or symbols of objects. A point to note here is that Lenin does not in the least deny the importance or possibility of using signs at various stages of cognition. Over the past few decades, signs, symbols and diverse artificial languages designed for computers have become much more important in every field of science. Without algorithms and artificial languages, it would have been impossible to develop cybernetics. Signs are necessary to record the results of research, to store and exchange information. But any sign or symbol used by science designates sense data which are a copy, a photograph, a relatively true reflection of reality. Such an understanding of the role of signs and symbols does not contradict materialism. Lenin rejects only such a theory of signs and symbols which denies the objective nature of sensations and perceptions, which says that the world is unknowable, and regards human knowledge as purely subjective.

Lenin's doctrine of sensations asserts a profound understanding of the dialectical unity of the two opposite aspects of knowledge: objective and subjective.

In analysing another major epistemological problem, the problem of truth, Lenin also took a profoundly dialectical stand.

3. The Problem of Truth. Objective, Absolute and Relative Truth

One of the sections of Chapter Two is called "Does Objective Truth Exist?" In that chapter,

Lenin shows the essence of the Marxist view of truth.

The Machist Bogdanov claimed that Marxism denied the unconditional objectivity of any truth whatsoever. Bogdanov himself agreed to recognise objective truth "only within the limits of a given epoch".

Lenin shows that Bogdanov confused two questions relating to truth. *Question one*: Is there such a thing as objective truth? By objective truth Marxism means that the content of our knowledge is a reflection of the objective world outside us. Lenin points out that objective truth is the content of human ideas that does not depend either on a human being or on mankind. In that sense, the objective truth does not depend on the epoch, as Bogdanov says it does. One cannot say that truth is objective "only within the limits of a given epoch". Truth is always objective in origin, and its source always lies in the external world. It is only the degree of our knowledge of that truth, the degree of our knowledge of the surrounding world that depends on the epoch; the latter conditions only the extent to which our knowledge approximates the true picture of the world.

Question two: "Can human ideas, which give expression to objective truth, express it all at one time, as a whole, unconditionally, absolutely, or only approximately, relatively?" (p. 122).

In denying the objectivity of truth, Bogdanov defined truth as "an ideological form, an organising form of human experience". Lenin shows the crude subjectivism of that unscientific statement. If truth is an organising form of human experience, there can be no truth independent of humanity, there can be no objective truth. Long-established scientific facts are then called in question. Thus, if truth is an organising form of human experience,

then the assertion that the Earth existed prior to the appearance of humanity and to any human experience cannot be true.

In accordance with Bogdanov's definition of truth, any absurd proposition should be recognised as true so long as it is an "organising form". Lenin notes: "If truth is only an organising form of human experience, then the teachings, say, of Catholicism are also true" (p. 124). Seeking to refute Lenin's assertion that Catholicism, in spite of its undoubted organising role, is no truth, Bogdanov wrote: "Catholicism was true in the period whose experience it had organised successfully and fully."¹ True, Bogdanov agreed that in the 20th century Catholicism was no longer a truth, but in this respect he compared its truth with that of Newton's notions of space and time, which were just as unacceptable in the 20th century as Catholicism. In answering Lenin, Bogdanov grossly confused the falsehood of religion with the relativity of the scientific truths discovered by the great physicist. The relative truths of classical mechanics still serve scientific and technical progress within definite limits, while the "organising truth" of Catholicism has always been a lie and a delusion, although it was useful for the elite of the exploitive system which it served and continues to serve.

Truth from the scientific point of view is not that which is believed to be true by many or all, but that which corresponds to the objective essence of things. But since the Machists deny the objective existence of things, their whole doctrine of truth is a false one.

From analysing the question of objective truth, Lenin goes on to *absolute and relative truth*. He examines that problem in the fifth section of Chap-

¹ Alexander Bogdanov, *The Fall of the Great Fetishism. Faith and Science*, Moscow, 1910, p. 183 (in Russian).

ter Two, "Absolute and Relative Truth, or the Eclecticism of Engels as Discovered by A. Bogdanov".

While recognising that human knowledge in general is relative, Marxism at the same time admits the existence of absolute truth. *Absolute truth* is knowledge which cannot be refuted as science develops. In that sense, absolute truth could be described as eternal. This applies, for instance, to the concept of matter as an objective reality existing outside and independently of us, and "to say that such a concept can become 'antiquated' is *childish talk*, a senseless repetition of the arguments of fashionable *reactionary* philosophy" (p. 130). The Marxist doctrine that matter is primary and consciousness secondary, and that social being determines social consciousness should also be ranked as an absolute truth, just as such simple irrefutable truths as "Napoleon died on May 5, 1821" or "Paris is in France".

Absolute truth also means a *complete knowledge of the world, of all its processes, the ultimate goal towards which knowledge strives*. Lenin quotes Engels, who pointed out in his *Anti-Dühring* that "human thought is ... sovereign and unlimited in its disposition, its vocation, its possibilities and its historical ultimate goal".¹ Engels and Lenin rank absolute truth together with sovereignty of thought and with its historical ultimate goal. The idea is that exhaustive knowledge of the objective world cannot be attained at any finite stage of cognition. The world is infinite, and its cognition can only be an infinite process, which keeps unfolding and never attains full completion.

The concepts of absolute and relative truth in Marxist philosophy are closely interconnected. Lenin

¹ Karl Marx, Frederick Engels, *Collected Works*, Vol. 25, p. 80.

writes: "Human thought ... by its nature is capable of giving, and does give, absolute truth, which is compounded of a sum-total of relative truths.... The limits of the truth of each scientific proposition are relative, now expanding, now shrinking with the growth of knowledge" (p. 135).

Bogdanov objects to the Marxist doctrine of truth: "If they (the concepts) are transient and relative, their combination can never yield an absolute and eternal idea."¹

The history of science, however, confirms the Marxist doctrine. The existence of elements of the absolute in the relative is confirmed, for instance, by the fact that all scientific propositions which turn out to be inapplicable in some new conditions or respects often remain true for a definite range of phenomena, i.e., as Lenin put it, the limits of their application are simply narrowed down. Take Newtonian mechanics. Some of its basic propositions, like that on constant mass, and its notions of space and time proved to be inapplicable in studying the high-velocity movement of microparticles of matter, and quantum mechanics was developed for that purpose in the 20th century. But the propositions of classical physics are by no means outdated with regard to relatively slow motion. Aircraft, ships, high-rise modern buildings, and even satellites and other spacecraft are being designed on the basis of "old" mechanics, whose laws still lie at the root of many remarkable technical achievements.

The *principle of correspondence*, formulated by the Danish physicist Niels Bohr in 1913, expresses the dialectics of cognition, the development of science through a movement from one relative truth

¹ Alexander Bogdanov, *The Fall of the Great Fetishism. Faith and Science*, p. 152.

to another and more profound one. According to that principle, when new and more comprehensive laws are discovered in definite fields of science, the old laws turn out to be a particular case of new laws. The old and new laws thus correspond to each other, both giving a correct description of objects and phenomena, but in different conditions.

As the Russian mathematician Nikolai Lobachevsky established, the formulas of non-Euclidean geometry under definite conditions are transformed into those of Euclidean geometry, which turns out to be a particular case of non-Euclidean geometry and remains true within certain narrow limits. The correlation between the old and the new in scientific knowledge was well expressed by Soviet Academician A. M. Prokhorov. He wrote: "The revolution in natural science, including physics, does not imply an overthrow of earlier theories or entitle anyone to dismiss them as unfortunate delusions. As a rule, it only sets the limits of a theory's applicability in the light of new research."¹

Each new step in the development of science adds "new grains" to the sum of relative truths, which bring us ever closer to absolute truth. That confirms Lenin's idea that "there is no impassable boundary between relative and absolute truth" (p. 136).

* * *

Lenin ties in the question of absolute truth with that of objective truth. He writes: "To be a materialist is to acknowledge objective truth, which is revealed to us by our sense-organs. To acknowledge objective truth, i.e., truth not dependent upon man and mankind, is, in one way or another, to recognise

¹ *Science and Theology in the 20th Century*, Moscow, 1972, p. 207 (in Russian).

absolute truth" (p. 133). Unless objective truth is recognised, the question of absolute truth is meaningless, for absolute truth is a full and comprehensive knowledge of the object. If one denies the existence of the object or the objectivity of our knowledge, one purges absolute truth of its content, turning it into "full" and "eternal" knowledge of something that is unreal and non-existent.

Lenin draws a sharp distinction between dialectical materialism and *absolute relativism*, a doctrine which recognises the relativity of our knowledge but denies its objectivity and the element of the absolute in it. The theory of knowledge, Lenin says, cannot be based on relativism. "Relativism as a basis of the theory of knowledge is not only recognition of the relativity of our knowledge, but also a denial of any objective measure or model existing independently of mankind to which our relative knowledge approximates" (p. 137). Lenin calls such relativism "naked relativism", which leads to subjectivism. From the standpoint of such relativism, he says, it is possible to justify any sophistry, to regard the indisputable truth that Napoleon died on May 5, 1821, as relative and "conditional", and to assert that scientific and religious ideology are equally relative.

Lenin explains that it is absurd to deny certain simple, eternal, irrefutable truths. "If you cannot assert that the proposition 'Napoleon died on May 5, 1821' is false or inexact, you acknowledge that it is true. If you do not assert that it may be refuted in the future, you acknowledge this truth to be eternal.... To regard this *truth* as refutable in the future is absurd" (p. 132).¹ Lenin admits that this example is

¹ In spite of Lenin's perfectly clear and convincing explanations, the Machist Bogdanov argued against Engels and Lenin's idea that there are irrefutable truths. In a book published in 1910, after the publication of *Materialism and*

elementary, and "anybody without the slightest difficulty can think of scores of similar *truths* that are eternal and absolute and that only insane people can doubt" (p. 132).

Materialist dialectics includes relativism, but cannot be reduced to it. Recognition of the relativity of knowledge prevents science from turning into a dogma, into something dead and ossified, while recogni-

Empirio-Criticism, he tried hard to prove, for instance, that even the statement on Napoleon's death, cited by Lenin as irrefutable, was not an absolute truth (see A. Bogdanov, *The Fall of the Great Fetishism. Faith and Science*, p. 152).

In his opinion, that statement is not an absolute truth because it "cannot be applied in practice". But the criterion of absolute truth is its irrefutability, and not its importance for practice.

Bogdanov's second argument is that the statement is not absolute because at present it "cannot be verified". According to Bogdanov's logic, in historical science, which relates to the past, there can be no truth at all (neither absolute, nor relative), for statements about past facts can never be verified by actual observation in the present.

Bogdanov's third sophistic argument is that the given statement is indefinite in its subject and predicate. In his view, the subject "Napoleon" relates to a great leader, while the predicate "died" to a pitiful wreck, a historical non-entity. The body of the dead Napoleon, he argues, is different to the very last molecule from the body of the man who commanded at Austerlitz, and his psychical "self" was also different. Consequently, Bogdanov concludes, the subject and the predicate relate to different things, and the statement cannot be true.

Bogdanov argues as a typical relativist. Noting and emphasizing changes in the object, relativists deny its stability and definiteness. Of course, by 1821 Napoleon had changed markedly from the time of the Battle of Austerlitz (1805), but he remained the same personality in spite of all the changes, and it was that personality (the great general of 1805 and the "historical nonentity" of 1821) who died in 1821.

As we find, none of Bogdanov's arguments stand up to criticism. His attempt to prove that absolute, irrefutable truths do not exist is a total failure.

tion of an element of the absolute in our relative knowledge prevents science from lapsing into agnosticism and gives us confidence in our knowledge as a relatively true reflection of reality.

Lenin's ideas on the struggle against relativism and dogmatism are of immense importance for science and practice. In particular, the struggle against revisionism and dogmatism in the international working-class movement calls for a correct understanding of that question. Both dogmatists and revisionists are metaphysicians. Dogmatists assert the absolute truth of obsolete propositions, and revisionists deny the absolute content in the basic propositions of Marxism. Both dogmatic and revisionist metaphysics lead to major political mistakes and harm the international working-class movement. Neither naked relativism, nor ossified dogmatism are acceptable to science and political activity. The only way to achieve success in these fields is to understand the correlation between the absolute and the relative in cognition.

The dialectico-materialist doctrine of truth, developed by Lenin on the basis of the scientific discoveries made at the turn of the century, is still relevant today. The problem of truth remains a major issue in the struggle between materialism and idealism. A typical feature of most present-day idealist systems is their denial of *objective* truth, their view of truth as a purely logical (or linguistic) category (neo-positivists) or as a form of the individual's psychological state (existentialists).

4. The Criterion of Practice in the Theory of Knowledge

Pre-Marxist materialism regarded practice, at best, as an experiment staged by man. That materialism

was defined by the classics of Marxism as contemplative. Marxism regards practice as purposeful material human activity to transform nature and the society. In old materialist doctrines, reality was only an object of contemplation, whereas in Marxist materialism reality is an object of active, transforming human influence. Practice is seen here as human activity that ensures the objective process of material production. It also includes the class struggle, which plays an immense role in transforming social reality. The classics of Marxism made an important contribution to science by including practice in the theory of knowledge.

It is only natural that Lenin concludes Chapter Two of his book with an analysis of the problem of practice, criticising Machist distortions in this matter (see Section 6 "The Criterion of Practice in the Theory of Knowledge").

As Lenin put it, human practice bursts into the theory of knowledge, acting both as a criterion of truth, an incentive, and a source of the whole of human knowledge. "The standpoint of life, of practice, should be first and fundamental in the theory of knowledge. And it inevitably leads to materialism, sweeping aside the endless fabrications of professorial scholasticism" (p. 142). In that context, Lenin specially emphasised the theoretical importance of Marx's second thesis on Feuerbach. Marx wrote: "The question whether objective truth can be attributed to human thinking is not a question of theory but is a *practical* question. Man must prove the truth, i.e., the reality and power, the this-worldliness of his thinking in practice. The dispute over the reality or non-reality of thinking which is isolated from practice is a pure *scholastic* question."¹ Practice,

¹ Karl Marx, Frederick Engels, *Collected Works*, Vol. 5, 1976, p. 3.

Engels believed, is the most telling refutation of Kantian and Humean agnosticism, as well as of other philosophical crotchets.¹

Only materialism which recognises the role of practice in the cognition of reality can be called modern (i.e., dialectical) materialism. In the section "In Lieu of an Introduction", Lenin emphasises the immense importance of practice as he analyses the views of the outstanding French materialist Denis Diderot.

Lenin quotes Diderot's statements on the doctrines of the subjective idealists, who only recognise the existence of their own sensations and deny the existence of the external world. Diderot calls their system an extravagant one, which, to his thinking, only the blind could have originated, "a system which, to the shame of human intelligence and philosophy, is the most difficult to combat, although the most absurd of all"² (p. 35). Lenin thought highly of Diderot's remark that reason, i.e., theoretical knowledge, cannot in itself be a criterion of truth. Diderot, he says, came very close here to the standpoint of contemporary materialism "that arguments and syllogisms alone do not suffice to refute idealism, and that here it is not a question for theoretical argument" (p. 35). Lenin adds elsewhere: "No proofs, syllogisms, or definitions are capable of refuting the solipsist if he consistently adheres to his view" (p. 267), i.e., if he regards sensation not only as the sole source of knowledge, but also as the sole indisputable criterion of truth. To confirm his standpoint, Lenin quotes Engels' statement against the agnostics, who assert that we cannot say whether our impressions are true, for we know nothing except our

¹ See Karl Marx and Frederick Engels, *Selected Works*, Vol. 3, p. 347.

² *Œuvres complètes de Diderot*, éd. par J. Assézat, Paris, 1875, t. 1, p. 304.

own sensations. Engels writes: "Now, this line of reasoning seems undoubtedly hard to beat by mere argumentation. But before there was argumentation there was action." He goes on to emphasise that practice puts "to an infallible test the correctness or otherwise of our sense-perceptions".¹

Lenin shows that practice is the first and basic standpoint of the Marxist theory of knowledge. Practice is the initial premiss of knowledge, since knowledge exists for practice and sets itself practical goals in harnessing natural forces and in transforming reality. Practice also provides material and technical facilities for research and experiment, and in that sense it is the basis of knowledge. Practice is the crucial indicator of the truth of any proposition, and is thus the criterion of truth.

Idealists tend to deny the role of practice in cognition, saying that practice is one thing and theory quite another thing, neither connected with nor conditioned by practice.

Characteristically, in daily life idealists are obliged to admit both the existence of real things and the truth of our knowledge about their simple properties. Lenin quotes the German philosopher Fichte, a subjective idealist, who admits that "when it comes to action", even the most determined idealist realises that objects exist independently of us and outside us (p. 141). But the idealists keep trying very hard to exclude the criterion of practice from the theory of knowledge. Mach, for instance, admitted in his capital work, *Analysis of Sensations*, that in daily life we should assume that things are objective, but that "theoretically this view cannot be adhered to"

¹ Frederick Engels, "*Socialism: Utopian and Scientific*. Special Introduction to the English Edition of 1872", in: Karl Marx and Frederick Engels, *Selected Works*, Vol. 3, p. 101.

(p. 140). He denies that practice is the criterion of the truth of scientific knowledge. In theoretical terms, he says, all our judgements and sensations are of equal value regardless of whether these are confirmed by practice or not. Mach tries to prove that view with an argument which is cited and criticised by Lenin. Here is Mach's argument. A pencil held in front of us in the air is seen as straight; when we dip it slantwise into water, we see it as crooked, although in actual fact it is straight. One fact (seeing the pencil straight) we call reality, and the other fact (seeing the pencil crooked), illusion. Mach believes there is no reason here to distinguish reality from illusion. For Mach, both the appearance of a straight pencil and the appearance of a crooked pencil are "facts" or sensations of equal importance. In such cases, he says, to speak of illusion may have only practical significance, but no scientific, theoretical significance.

In his striving to divorce practice from theory, Mach goes so far as to deny any distinctions whatsoever between illusion and reality. All views and opinions, he says, are equally significant "facts". Even the question of whether we live in a real world is "devoid of all scientific significance". Lenin quotes Mach's conclusion, which any normal person finds ludicrous: "The question which is often asked, whether the world is real or whether we merely dream it, is devoid of all scientific significance" (p. 138). For Mach, "scientific significance" has nothing to do with life, with reality, with practice. He thinks he elevates science by putting it above practice, but in actual fact he depreciates it, turning it into a dummy, into a complex of subjective notions divorced from life.

The Russian Machists tried to prove that Mach was "close" to Marxism on the strength of his idea that only success can separate true knowledge from

error. But Mach interprets "success" as everything needed by me as an individual in practice, while practice is regarded separately from the theory of knowledge. His doctrine of "success" is subjective and does not bring out either the essence of truth or that of error.

Materialists regard "success" in a totally different light. For them, Lenin points out, the "success" of human practice proves a correspondence between our ideas and the objective nature of the things we perceive. If we take certain action and succeed in attaining a desired goal on the basis of certain knowledge, this means that our knowledge was correct, that it correctly reflected the given processes and expressed an objective truth.

Present-day philosophical revisionists distort the concept of practice. They contrast practice as the active side of knowledge with the concept of reflection, saying that the Marxist theory of knowledge cannot be a theory of reflection. Reflection, they say, rules out any activity on the part of the subject, any creative activity of the human consciousness, and is in contradiction with the individual's freedom. In actual fact, however, the dialectico-materialist understanding of the reflection of reality does not in the least rule out the creative role of consciousness, notably the possibility of human thought running ahead of reality. That is clearly evident from Lenin's ideas on elements of subjectivity in the human consciousness,¹ and also from the importance attributed by Marxist philosophy to practice as man's interaction with his natural and social environment.

The picture is the same in any field of scientific knowledge. Everything that is actually *reflected* by the human consciousness is the result of *man's vigorous practical activity under the guidance of his*

¹ See pp. 50-53 of this pamphlet.

consciousness, and not the result of mere passive contemplation of an object, i.e., its study without intervention in its inner nature, in the course of the processes peculiar to it.

And that is particularly true since by *reflection* Marxist philosophy does not mean a mere record of the external properties and manifestations of the object of cognition, but an exposure of its internal side hidden from the casual view of the observer, its essence, its laws, and its invisible connections and relations with other objects, as an element of the universal interconnection of phenomena in the world.

In emphasising the immense role of practice as a criterion of truth, Lenin shows the complex character of that criterion. He points out that it is both absolute and relative, definite and indefinite. "This criterion ... is sufficiently 'indefinite' not to allow human knowledge to become 'absolute', but at the same time it is sufficiently definite to wage a ruthless fight on all varieties of idealism and agnosticism" (pp. 142-43).

Practice is absolute as a criterion of truth in that it proves some propositions which cannot be refuted in the future, i.e., propositions that are absolute truths. This applies not only to "factual truths" (such as statements on the date and place of Napoleon's death), but also to sufficiently meaningful propositions expressing the fundamental tenets of this or that scientific theory. These include propositions on the primacy of matter and the secondary nature of consciousness, on motion as a universal form of the existence of matter, on the inevitable triumph of socialism, and so on. In all these instances, practice is evidently absolute as a criterion of truth.

The relativity of practice as a criterion of truth is just as evident. It manifests itself at least in two aspects. Thus, the proposition that matter is primary

and consciousness secondary will never be outdated, but in the course of time we shall undoubtedly deepen our knowledge as to how precisely matter engenders consciousness. With the development of scientific knowledge, we shall know ever more about the interconnection of the various forms of motion and the mechanism of the self-motion of matter. The practice of the revolutionary movement will reveal new forms of the struggle for socialism and fill out with new content the known forms of socialist and communist construction.

The second aspect of the relativity of practice as a criterion of truth is that practice as material-sensuous human activity does not stand still but keeps developing. That is why something which is confirmed as true by practice today could be refuted or specified by practice tomorrow. Nineteenth-century physics, for instance, was limited in its practical facilities and so asserted that the atom is indivisible, whereas early 20th-century practice showed that the atom is divisible and made the supposition that atoms consist of a nucleus and electrons moving around it. Present-day practice has led to the discovery of many subatomic particles with the most diverse properties. These examples show that practice provides true but relative knowledge, bringing out the absolute through the relative.

Lenin's doctrine of practice is invaluable for the philosophy of Marxism. It provides a sound basis for the materialist answer to the fundamental epistemological question.

Rejecting idealism and agnosticism in the theory of knowledge, Lenin wrote: "Human reason has discovered many amazing things in nature and will discover still more" (p. 281). Today, nearly 80 years later, the ongoing scientific and technical revolution bears out these prophetic words.

IV. LENIN ON THE CATEGORIES OF MATTER, SPACE AND TIME, CAUSALITY AND NECESSITY

In Chapter Three, Lenin deals with the most general concepts, or categories, of dialectical materialism: matter, space and time, causality and necessity. In explaining these, he also solves an epistemological problem, invalidating the assertions of the subjective idealists that concepts are pure products of the human mind, arbitrary mental constructions. Lenin regards the major categories as a reflection of definite properties of objective material reality.

1. What Is Matter? What Is Experience?

Lenin develops the scientific, Marxist understanding of matter in a struggle against idealist distortions of that concept in the works of Avenarius, Mach, Pearson, Mill, and Bogdanov.

Avenarius, the founder of empirio-criticism, defined matter as “the total of the counter-terms while abstracting from every central term”¹ (p. 144). Lenin explains that according to Avenarius’ theory of “complete experience” (or “principal co-ordination”), the environment, i.e., the “counter-term”, is inseparable from the central term, i.e., the subject,

¹ Richard Avenarius, *Bemerkungen zum Begriff des Gegenstandes der Psychologie*, Leipzig, 1894, S. 2.

the thinking individual. For Avenarius, reality is "complete experience", i.e., a unity of the "self" and the "non-self". He holds that the physical, i.e., matter without the "self", is an empty abstraction, a "complete chimera". In other words, matter does not exist without man, it is secondary, while thought and consciousness are primary.

Lenin shows that all idealist philosophers—Mach, Pearson, Mill and their followers—"some frankly, others guardedly" replace the fundamental philosophical line of materialism by the reverse line of idealism, denying matter as an external, objective source of our sensations. Mach says, for instance: "What we call matter is a certain systematic combination of the *elements* (sensations)" (p. 145). The English Machist Pearson says that certain groups of sense-impressions could be termed matter. Pearson, Lenin notes, does not even have "the fig-leaf of the 'elements' " used by Mach to cover up his idealist view of matter. The English philosopher John Stuart Mill defined matter as a "permanent possibility of sensation" and denied its objective reality outside any sensations and perceptions. Mill was an agnostic, who held that man cannot know the objective world, but only his own feelings.

So what is the scientific concept of matter?

Lenin elaborates that question, in effect, throughout the entire book. In analysing objective truth (Chapter Two), he gives the first philosophical definition of matter which sums up in epistemological terms all the major elements of the materialist answer to the basic question of philosophy: "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" (p. 130). In analysing the struggle between the main

philosophical trends over the crucial philosophical categories (Chapter Three), Lenin defines matter with an accent on its being the prime source, the objective cause of our sensations: "Matter is that which, acting upon our sense-organs, produces sensation; matter is the objective reality given to us in sensation" (p. 146). In dealing with the philosophical issues of natural science (Chapter Five), Lenin emphasises that physical ideas about matter should not be confused with the philosophical concept: "The concept matter ... epistemologically implies *nothing but* objective reality existing independently of the human mind and reflected by it" (p. 261).

Lenin's statements about matter taken together constitute a comprehensive definition, which sums up the entire history of the struggle by materialism against idealism as a general philosophical trend and against its various schools and versions.

First, the proposition that there exists an *objective reality* which is given to us in sensation, and that there can be no other reality, fully rejects any idealism, both subjective and objective, and any fideism. Similarly, the proposition on the *primacy of matter* to spirit (as a basic element of the concept "matter") draws an essential distinction between materialism, on the one hand, and *any variety* of idealism, theology and dualism, on the other.

Second, the proposition that matter is an objective reality existing *outside us* and *independently of us and our sensations* is primarily directed against various kinds of *subjective idealism*, including Machism with its view of things as complexes of sensations (i.e., its denial of the existence of the external world) and its idea of an unbearable bond ("principal co-ordination") between the subject and the object (i.e., its denial of the object's *independence* from the subject).

Third, the proposition that matter is given to us in sensation, and that sensation is the source of knowledge is directed against rationalism (including Kantian apriorism), which depreciates the role of sensation, of sense-perception, and allows a priori knowledge, i.e., knowledge prior to and outside experience.

Fourth, the proposition that matter (objective reality) is reflected in our sensations and our consciousness, and that our sensations are copies of *objective reality*, or *its images*, is contrasted with diverse trends of agnosticism and scepticism, which deny the possibility of a full knowledge of the world and believe that there are essential boundaries beyond which our knowledge cannot go. Agnostics divorce appearance from essence, regarding the latter as an unknowable "thing-in-itself", while concepts and sensations for them are mere signs, symbols or hieroglyphs which do not resemble the things themselves.

Lenin's conception of matter differs from that of pre-Marxist materialists, who regarded matter either as substance which could be weighed, as mass or length, or as some concrete type of matter, like atoms. Lenin's definition of matter should not be confused with natural-science notions of matter. "It is absolutely unpardonable to confuse, as the Machists do, any particular theory of the structure of matter with the epistemological 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." (p. 129). No new knowledge about the structure of matter or its attributes which can be obtained through better monitoring or experimental facilities can shake the dialectico-materialist conception of matter, for that conception includes one immutable property of matter:

its objective reality. And that property can never be outdated, for *matter is eternal and indestructible*.

Lenin criticised the Machist Bogdanov, who said that the Marxist definition of matter is a mere repetition of the materialist answer to the basic question of philosophy (that matter is primary and spirit secondary). All Russian Machists echoed Bogdanov's "refutation" of the scientific Marxist definition of matter. Lenin shows that Bogdanov's Machist criticism of the Marxist definition of matter is utterly untenable. Being and thinking, matter and consciousness, the physical and the mental are the broadest concepts, which cannot be defined as conventional, narrower concepts. In conventional definitions, the concept being defined is brought within a more comprehensive concept. But the concepts of matter and consciousness cannot be brought within more comprehensive concepts, for they are the ultimate, most comprehensive concepts, which epistemology has never surpassed. Indeed, "matter" and "consciousness" embrace all the material objects and spiritual processes in the world. So, matter cannot be defined in any other way except as an indication that matter (nature, being, the physical) is *primary*, that it is *objective reality*, while spirit (consciousness, sensation, the psychical) is *secondary*, that it is a *reflection of matter*.

Avenarius once said that he knew neither the physical, nor the mental, but only some "third". But Avenarius did not and could not define that "third", for it was only a subterfuge to cover up the tracks of his idealism. In actual fact, there is only the physical and the mental, but no "third".

In criticising the doctrine of the "third", Lenin clarifies an exceptionally important point concerning the relativity of the antithesis between matter and consciousness. The absence of an intermediate

third between matter and spirit does not mean their absolute antithesis, the absence of connections between matter and consciousness. "The antithesis of matter and mind has absolute significance only within the bounds of a very limited field—in this case exclusively within the bounds of the fundamental epistemological problem of what is to be regarded as primary and what as secondary. Beyond these bounds the relative character of this antithesis is indubitable" (p. 147).

In the context of the basic question of philosophy, the antithesis between matter and consciousness is of absolute importance. This means that from a scientific standpoint one cannot allow the existence of a non-physical and non-mental third. Matter (the physical) is the whole of objective reality that exists outside and independently of us. Consciousness (the mental) is the ideal side of the subject, a reflection of the objective. The former is primary and the latter secondary. In that respect, they are opposite and rule each other out, and there can be nothing intermediate between them.

The secondary, i.e., the spiritual, should not be taken for matter on the grounds that it really exists. Of course, consciousness does exist, but it is not an objective reality, it does not exist outside and independently of us, and so it can never be included in the concept of matter.

Lenin criticises a muddled definition of matter given by the German materialist philosopher Joseph Dietzgen, who wrote: "The concept matter must be broadened. It embraces all the phenomena of reality, as well as our faculty of conceiving or explaining"¹ (p. 245). Lenin explains Dietzgen's mistake by point-

¹ Joseph Dietzgen, *Kleinere philosophische Schriften*, 1903, S. 141.

ing out that if thought is matter, mind and matter are identical. And that amounts to an assertion of idealism, for its basic tenet is: the world and ideas about the world are one and the same thing.¹ Criticising Dietzgen's proposal to include consciousness in the concept of matter, Lenin writes: "To say that thought is material is to make a false step, a step towards confusing materialism and idealism... If such an inclusion is made, the epistemological contrast between mind and matter, idealism and materialism, a contrast upon which Dietzgen himself insists, loses all meaning." (Pp. 244, 245.) Lenin's standpoint is that thought is ideal, nonmaterial, and therein lies the essence of the epistemological antithesis between mind and matter. At the same time, Lenin emphasises that "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" (p. 246).

Lenin's proposition on the relativity of the antithesis between spirit and matter is reaffirmed by the close interconnection between them. First of all, *spirit* is connected with matter as *its product*, as its derivative. *Spirit reflects matter*. The mental copies, or images, resemble their material prototypes and correspond to these in epistemological terms. So, there is no absolute antithesis between them in this respect as well.

There is no absolute antithesis between consciousness and matter for the following reasons as well. Human consciousness reflects reality, but reflection is not the property of man alone. Reality is reflected by animals, plants, and even by inanimate

¹ For a deeper understanding of this problem, in addition to Chapter Three, see Section 8, Chapter Four ("How Could J. Dietzgen have Found Favour with the Reactionary Philosophers?") of Lenin's book.

nature, i.e., by all matter. Lenin says that "all matter possesses a property which is essentially akin to sensation, the property of reflection" (p. 92; see also pp. 37, 45, 46). Lenin's remark is of immense importance for the Marxist theory of reflection. Reflection in the most general sense of the word means an interconnection of two sets of material processes under which changes in one set of processes lead to specific changes in the other (reflecting) set, leaving a trace in the latter, an imprint which to a certain extent resembles some aspect of that which is being reflected. Such reflection is to be found throughout nature.

In inanimate nature, there are physical and chemical forms of reflection. With the emergence of life, a new and specific form of reflection—irritability—appears in nature. On that basis, living substance develops sensitivity. In the process of evolution, animals develop ever more complex forms of reflection—sensations, and in the process of labour activity man develops consciousness. Reflection as a property of inanimate nature is a prerequisite for higher levels of reflection developing in living nature.

Consciousness emerged and developed in the process of the self-development of nature. That is yet another manifestation of the relativity of the antithesis between spirit and matter. "Spirit" is not something altogether alien to matter, but only the highest form of the reflection of reality as a universal property of matter.

Human consciousness is also known to be closely connected with definite signs, with words, which are the material shells of concepts. The materiality of the word as a necessary concomitant of conscious mental activity is yet another indication that matter and consciousness are inseparable.

Finally, consciousness is closely connected with

matter through its function. After all, consciousness emerged in the process of adaptation to material nature, and its function is to orient man in nature and help him use nature for his purposes, to transform it. As a condition of human practice, consciousness not only reflects being, but acts upon it and changes it. Knowledge of the laws of nature and social development is a condition of the society's progress.

Lenin's proposition on the relativity of the antithesis between matter and consciousness was further elaborated in his *Philosophical Notebooks*. He points out that the idea of the ideal turning into the material is a very profound one. It is important both in history and in personal life. "The difference of the ideal from the material is ... not unconditional, not über-schwenglich" (excessive—*Ed.*).¹ Soviet Academician B. M. Kedrov notes that beyond the epistemological statement of the question, we keep witnessing complicated processes of the material being transformed into the ideal (as in the discovery of new laws of nature to meet technical requirements, their expression in scientific concepts), and of the ideal being transformed back into the material (as in the "reification" of the laws of natural science and their technical embodiment). These complicated and contradictory mutual transformations of the material into the ideal and vice versa demonstrate the relativity of the contrast between spirit and matter.

Lenin's view of matter is closely connected with the dialectico-materialist principle of development. "The world picture is a picture of how matter moves" (p. 353). Lenin rejects the metaphysical materialist doctrine of matter as the immutable essence of things, as a conglomerate of unchanging particles. He says that the opinions expressed by the Machists

¹ V. I. Lenin, *Collected Works*, Vol. 38, p. 114.

(Bogdanov, Valentinov, Yushkevich), like that of immutable essences constituting the basis of the world, are the result of their ignorance of dialectics. "The 'essence' of things, or 'substance', is *also* relative" (p. 262). Change (motion) is an attribute of matter, its universal and eternal property.

Lenin did science a great service by showing the universal and fundamental properties of matter. His ideas on the property of reflection, which is intrinsic to all matter and from which sensation springs, is of essential importance for epistemology, and his tenet that matter is inexhaustible and infinite in depth (for details see Chapter Five of this pamphlet) is highly important for philosophy as a whole.

Lenin's definition of matter and his criticism of Machist views of matter are still relevant today, for old mistakes are being repeated by some present-day philosophers. Thus, the English philosopher Bertrand Russell says in his book, *Human Knowledge. Its Scope and Limits*, that spirit and matter are different types of man's psychical emotions. He identifies the material object with our idea of it. Such views are utterly refuted by Lenin's arguments.

* * *

Having examined the question of matter, Lenin goes over to the concept "experience", which is, in effect, the central concept of the whole of positivism, including empirio-criticism. The positivists deny the reality of matter and say that the only reality is *experience*, by which they mean *human sensations and feelings*. By using the word "experience", the exponents of empirio-criticism try to give their doctrine a scientific semblance, for every science is known to be based on data supplied by experience. At the same time, they seek to sub-

stitute idealistically interpreted "experience" for the philosophical concept of matter as an objective reality existing outside us.

Lenin shows that the Machist view of experience is muddled, eclectic and distorted.

Avenarius, for instance, once defined experience as a "declaration" which has only "parts of the environment as a premise". We find here a confusion of terms: sensations for some reason are called "declarations", and objects, "parts of the environment". But that definition also has a hint of materialism in it: sensations are induced by objects. Elsewhere, however, Avenarius defined experience as a "declaration" which depends solely on experience. In that definition, there is no hint of the existence of an objective source of sensation (p. 148).

The Machist Bogdanov also gave a confused definition of experience. Sometimes he defined it as a reflection of nature in human minds, but more often he asserted that experience is sensation which evokes nature itself, the objective world.

Even such an outstanding Marxist as Plekhanov made an error in defining experience. Lenin examined that error in Section 2, Chapter Three ("Plekhanov's Error Concerning the Concept 'Experience'"). In his introduction to Engels' *Ludwig Feuerbach and the End of Classical German Philosophy*, Plekhanov said that "for empirio-criticism *experience* is only an object of investigation, and not a means of knowledge. If that is so, then the contrasting of empirio-criticism and materialism loses all meaning" (p. 151).

Lenin writes that "neither the definition of experience as an object of investigation, nor its definition as a means of knowledge is decisive" (p. 153) in establishing the character of a given philosophical school. All depends on how one understands experience, and "there is no doubt that both the

materialist and the idealist ... lines in philosophy may be concealed beneath the word 'experience'" (pp. 152-53). "The word 'experience', on which the Machists build their systems, has long served as a shield for idealist systems, and now serves Avenarius and Co. for eclectically passing from the idealist position to the materialist position and vice versa. The various 'definitions' of this concept are only expressions of those two fundamental lines in philosophy which were so strikingly revealed by Engels" (p. 151).

Materialism regards experience as a reflection of objective reality in human minds, a reflection in which man interacts with the object empirically, through his senses. Experience means a direct connection between the subject and the object, between man and reality. In the course of experience, man comes into direct contact with the object, which is given to him and reflected by his senses. The scientific view of experience is closely connected with the concept of matter as objective reality existing outside and independently of man. The idealist view of experience rules out matter and reduces experience solely to sensations and perceptions. Idealists do not recognise the objective source of experience.

In emphasising the objective nature of experience, one should bear in mind that experience implies the existence not only of its object, but also of its material subject, in whose consciousness the object's properties are reflected; experience also implies a certain material relationship between the subject and the object. It is a relationship, an interaction between the subject and the object, a definite component of cognitive activity. There is no experience without nature acting upon man and, vice versa, there is no experience without man, experience independent of human consciousness or activity.

The word "experience" is often used to desig-

nate assimilation of definite methods and skills in influencing reality and solving certain practical problems. In the social sciences, such is the experience of class struggle, of socialist construction, and so on. Experience here means definite conclusions for further practical activity. In all these instances, the main content of the concept "experience" as the subject's cognition of an external object is invariably retained. Unless one recognises the existence of a real object in experience, the concept "experience" remains an idealist one and cannot serve scientific knowledge. That is clear from Lenin's criticism of the idealist view of experience and his materialist definition of that concept.

2. Space and Time

Chapter Three also deals with such categories of dialectical materialism as space and time. "Recognising the existence of objective reality, i.e., matter in motion, independently of our mind, materialism must also inevitably recognise the objective reality of time and space" (p. 175).

Lenin shows the basic difference between the two main lines of philosophy on this matter.

The materialist view is that space and time are objectively real forms of being. "There is nothing in the world but matter in motion, and matter in motion cannot move otherwise than in space and time" (p. 175).

A point to note is that Engels used to criticise the German philosopher Dühring, who held inconsistent and metaphysical views on the essence of some categories and did not recognise the objectivity of space and time, saying that they were *only* concepts. Dühring thus "deprived himself of the objective

criterion which prevents one going beyond the bounds of time and space. If time and space are *only* concepts, man, who created them, is justified in *going beyond their bounds*" (p. 177). But to go beyond the bounds of real space and time, i.e., to assert that there is something beyond space and time, is to recognise the existence of a "God" as the creator of the world. And Dühring did in fact slide down an inclined plane to that by recognising "final causes" and "initial impulses" (p. 177). Engels admonished Dühring: "The basic forms of all being are space and time, and being out of time is just as gross an absurdity as being out of space."¹

Mach wrote in his *Mechanics* that "space and time are well-ordered (*wohlgeordnete*) systems of series of sensations"² (p. 177). For Mach, as for Kant, space and time were ultimately engendered by human consciousness: either by human reason (Kant) or by human sensations (Mach). Both theories are idealist, for they deny the objectivity of space and time.

Bazarov echoes Mach by saying that Engels' views on the objectivity of space and time are now obsolete, in contrast to his "starting-point of the world outlook", which, Bazarov says, is still correct. Lenin calls Bazarov's statement utterly nonsensical, for one cannot be a materialist without giving a materialist answer to the question of space and time. That question is not a particular one, but a fundamental question of philosophy. Marxism is an integral philosophical doctrine, from which one cannot discard a single element without destroying the whole edifice.

¹ Karl Marx, Frederick Engels, *Collected Works*, Vol. 25, pp. 48-49.

² Ernst Mach, *Die Mechanik in ihrer Entwicklung historisch-kritisch dargestellt*, Leipzig, Brockhaus, 1897, 3. Auflage, S. 498.

The Machist Bogdanov, who agreed with Bazarov that materialist views were obsolete, defined space and time as "a form of social co-ordination of the experiences of different people". For him, the objectivity of space and time lies in their "general significance". Lenin shows that Bazarov's and Bogdanov's arguments are utterly false, for space and time existed prior to any experience, prior to the emergence of man.

Lenin emphasises the epistemological aspect of the two concepts and points out that the only absolute element in the views on space and time is recognition of their objectivity, i.e., their existence outside and independently of us. As for concrete notions about these forms of matter, these keep changing. With the development of science, mankind penetrates ever deeper into the essence of space and time. The history of science fully bears out Lenin's idea.

Up to the 19th century, scientists believed that space and time do not depend on the properties of matter in motion, that they are constant and are not connected with each other. The Russian mathematician Nikolai Lobachevsky expressed the idea that the properties of space, its metrics do not remain unchanged. He wrote: "Some forces in nature follow one specific geometry, and other forces, a different one."¹ In that way, Lobachevsky struck a blow at metaphysics, introduced a dialectical element into the concept of space, and established its connection with the properties of matter. He created a new geometry differing from that of Euclid, which for thousands of years had been regarded as the only correct description of space. That work was continued by the German mathematician Bernhard Riemann, who

¹ N. I. Lobachevsky, *Collected Works*, Vol. II, Moscow-Leningrad, 1949, pp. 158-59 (in Russian).

developed a geometry distinct both from Euclid's and from Lobachevsky's. In Riemann's geometry, for instance, the sum of the angles of a spherical triangle is over 180° , whereas in Euclid's geometry it equals 180° , and in Lobachevsky's geometry it is always under 180° .

Modern physics has further deepened our knowledge about space and time. Albert Einstein's theory of relativity reflects Lobachevsky's idea that the properties of space are not always the same. That theory brought out concrete forms of the connection between space, time, and matter in motion. That connection is expressed by the special theory of relativity, which says that the character of space and time changes in a certain way depending on the velocity of motion. When bodies move at speeds close to the speed of light, their length is shortened in the direction of the movement, and time slows down. The general theory of relativity established that space and time also depend on the distribution of mass and on the intensity of the gravitational field. When that intensity is high, there is a so-called "bending of space" and time slows down. Modern physics confirms the profound interconnection between space and time, which are seen as an integral form of being, a single space-time continuum. It has also established that some properties of space and time in the microcosm are essentially distinct from their properties in the macrocosm. So, modern physics has markedly deepened our knowledge as compared with that of the early 20th century. Its new discoveries, however, have not refuted the basic propositions of materialism, but have only reaffirmed the objective nature of space and time, their dependence on the state of the material substratum, whose form of existence they are. Lenin prophetically wrote: "The mutability of human conceptions of

space and time no more refutes the objective reality of space and time than the mutability of scientific knowledge of the structure and forms of matter in motion refutes the objective reality of the external world” (p. 175).

3. Causality and Necessity in Nature

The question of causality is very important for determining a philosopher’s position. That is why, in criticising the philosophical views of the Machists, Lenin examines it in detail. He writes: “The recognition of objective law in nature and the recognition that this law is reflected with approximate fidelity in the mind of man is materialism” (p. 155).

Causality is an interconnection between phenomena in which one phenomenon (cause) under definite conditions inevitably engenders another phenomenon (effect, or consequence). Lenin quotes Engels, who substantiates the objective nature of causality. Engels emphasises the dialectical view of cause and effect, which primarily consists in that cause and effect are eternally changing places, so that what is effect here and now will be cause there and then, and vice versa.

Another aspect of the dialectics of causal connections is that effects often influence their own cause. That is a major specific feature of causal connections. In living nature, for instance, we find the principle of feed-back between cause and effect, without which the existence of organisms and their steady adaptation to the environment would have been inconceivable altogether.

Cause and effect hold good only in application to individual cases, they are only a part of the “universal interconnection”, but a very important part, which determines an essential aspect of motion in

the material world. The denial of objective law in nature inevitably means recognition of some spiritual initial cause in the surrounding world.

Having set out the materialist standpoint on causality, Lenin goes on to criticise the idealists.

He starts with Avenarius, who held that there was no causality or necessity outside or independent of us. For him, cause is when we feel that one phenomenon follows another, but there is no reason to believe that one phenomenon is engendered by another, that it will necessarily be followed by another phenomenon; there is no objective necessity in nature at all. Avenarius simply repeats the views of the idealist Hume.

Mach, too, was openly in agreement with the Humean standpoint on that issue. He held that apart from logical necessity no other necessity, like physical necessity, exists in nature. He said: "In nature there is neither cause nor effect."¹ For him, all the laws attributed to nature in effect spring from "subjective motives". Lenin concludes: "At the very foundations of Mach's and Avenarius' teachings on causality there lies an idealist falsehood, which no highflown talk of 'positivism' can cover up" (p. 164).

The English Machist Karl Pearson was another open advocate of subjectivism in the matter of causality. In his view, the laws of science are products of the human mind rather than factors of the external world: "*man is the maker of natural law*"² (p. 160).

The Russian positivist Bogdanov also declared that the laws of science are not discovered by man as he studies nature, but are created by thought. With the help of these laws, he says, man "harmonises experience", putting in order the "chaotic world of

¹ Ernst Mach, *Die Mechanik...*, S. 474.

² Karl Pearson, *The Grammar of Science*, London, Black, 1900, XVIII, §4.

elements". Bogdanov agrees with "modern positivism", which holds that the law of causality is not an objective connection between phenomena cognised by man, but only a means of connecting psychical phenomena into a continuous series, only a form of co-ordinating experience (human emotions). In characterising the essence of "modern positivism", defended by Mach, Bogdanov and others, Lenin emphasises that "our Machists, blindly believing the 'recent' reactionary professors, repeat the mistakes of Kantian and Humean agnosticism on the question of causality and fail to notice that these doctrines are in absolute contradiction to Marxism, i.e., materialism, and that they themselves are rolling down an inclined plane towards idealism", that "modern positivism is agnosticism", and that "it denies the objective necessity of nature, which existed prior to, and apart from, all 'knowledge' and all human beings" (pp. 169, 168).

Lenin's characterisation of the Machists' positivist view of causality fully applies to present-day positivism. All "fashionable" neo-positivist trends in effect advocate indeterminism, i.e., deny that natural and social phenomena are determined by objective causes or governed by laws. Many physicists also hold indeterminist views. Thus, the prominent English physicist Arthur Stanley Eddington wrote a special work to prove the collapse of determinism in science, i.e., the doctrine that all phenomena are interconnected and have objective causes. Present-day idealists assert that indeterminism prevails in the microcosm, and that the electron and other micro-particles can move without any cause in any arbitrary orbit. One of their doctrines, which has nothing to do with science, says that the electron has a "free will" and that its orbits and changing states are not determined by any causes. Indeterminists refer to

the so-called uncertainty principle formulated by Werner Heisenberg, a well-known German physicist and one of the founders of quantum mechanics. It states that the position and momentum (velocity) of a particle cannot be measured at the same time with maximum precision. Clearly, if the simultaneous position and velocity of a particle are unknown, its further movement cannot be predicted. That property of particles, discovered by Heisenberg, is due to their complexity, to the intimate connection between particles and waves in the realm of subatomic dimensions. This means that the formulas of mechanistic determinism (so-called Laplacian determinism), which demand a simultaneous knowledge of exact position and velocity, are inapplicable in this field. Causality in the microcosm is described by other methods, by the laws of quantum mechanics and statistics, instead of those of old Newtonian mechanics. Soviet Academician A. M. Prokhorov writes: "With the emergence of quantum mechanics, our forecasts have not become less trustworthy... We know the work of quantum generators—lasers and masers—and can describe it in advance on the strength of that knowledge, even though it is based on the laws of quantum mechanics. True, we cannot determine the phase of a single photon (uncertainty principle), but from this it does not follow that we cannot predict the behaviour of the generator as a whole. The uncertainty principle is only one property of matter manifesting itself in the microcosm."¹ Computations predicting the behaviour of assemblies of particles are invariably confirmed by practice; the truth and objectivity of the laws of modern physics are borne out by the successes of the nuclear power industry. So, modern physics gives no ground for

¹ *Science and Theology in the 20th Century*, p. 208.

denying causality in the microcosm.

The English neo-positivist Bertrand Russell expressed his solidarity with Hume's views, saying that the concept of causality was "prescientific" and primitive. He even believed that faith in the existence of external causes is characteristic solely of animals.

Some present-day idealist philosophers urge the need to replace the concept of causality with that of "functional connection". Such proposals were also made in Lenin's lifetime, and were criticised by him.

The concepts "functional connection" and "causal connection" are not identical. Functional connection can in certain formulas express a causal connection, but it also can and often does express totally different relationships. Thus, it can express relations of coexistence, such as those between the radius and area of a circle or between the pressure and volume of gas in a sealed vessel. None of these causes the other, but their dependence on each other is evident, and it is the dependence of coexisting properties. Functional connections can also express relations between diverse abstract objects or groups created by mathematicians to meet internal scientific requirements. Establishment of functional connections is very important for bringing out causal connections, but only when the latter manifest themselves in quantitative form and can be expressed in precise mathematical terms. In these cases, functional correlations help to understand causal connections, the objective processes in which some phenomena engender others, and the essence of these phenomena.

The Russian Machists, Lenin wrote, "believed the German empirio-critical professors that merely to say 'functional correlation' was to make a discovery in 'recent positivism' and to release one from the 'fetishism' of expressions like 'necessity', 'law', and so forth" (p. 159). According to Lenin, the question of

how the law of causality is formulated should not replace the question of its essence, the question of whether causality is objective or whether it is created by our consciousness: our senses (Hume), our reason (Kant), or the logical apparatus of our thought (present-day idealists).

* * *

The question of determinism is of great importance for practical activity, for the development of science, and especially for social life. Denying the objective determinacy of social phenomena, idealists declare these to be unknowable. In their view, it is impossible to find ways leading to desired social change, to map out scientific ways of social revolution.

As Lenin shows, no science is possible without recognition of objective causal connections and reliance on the concept of causality elaborated by man in the process of practice. If science denied causality, it would have to renounce the opportunity of foreseeing the future and pointing out ways to transform nature and the society.

In examining causality, Lenin always pairs it with necessity. This does not mean that the two concepts are identical. Lenin puts them side by side because they are very close, but he never identifies them. Identification of causality and necessity is characteristic of pre-Marxist mechanistic materialists, who held that everything was necessary and denied the objective character of chance, defining it as a phenomenon whose cause is unknown to us. Dialectical materialism holds that both necessity and chance are objective, and does not identify necessity and causality.

Every phenomenon in the world, every single pro-

cess and event, has its own cause. But far from everything that takes place in nature and the society is necessary. Apart from necessity, there is real and objective chance as a form of manifestation of necessity and its supplement. A chance event is an event which may or may not occur, and which may take this or that form. Every concrete chance event has its own cause, but is not necessary. For man, for instance, death is a natural outcome, but the actual year, hour and minute of his death are a matter of chance and depend on a number of factors which are not conditioned in a definitive way by the necessity of death. Another example: the pressure of gas on the sides of a vessel at a given temperature is not accidental, but precisely which molecules hit the sides of the vessel in exerting that pressure is a matter of chance, etc.

Since Lenin's day, the concept of causality has been considerably enriched both in philosophy and in the natural and social sciences. The question about the place of causal relations in the whole complex of universal world connections has been further elaborated, and the notions of possibility, probability, chance, and purpose have been included in the doctrine of determinism. Nevertheless, Lenin's tenets on the universal and objective character of causal connections hold true. He wrote: "The subjectivist line on the question of causality, the deduction of the order and necessity of nature not from the external objective world, but from consciousness, reason, logic, and so forth, not only cuts human reason off from nature, not only opposes the former to the latter, but makes nature a *part* of reason, instead of regarding reason as a part of nature" (p. 155). The unscientific view of causality elaborated by idealism, both past and present, has never brought people any success in scientific or practical activity,

while the scientific, materialist view of causality has served and continues to serve as a basis for fresh successes in science and practice.

The problem of causality and necessity is closely linked up with that of human freedom. The correlation between necessity and freedom is to be examined in the section of this pamphlet dealing with matters of historical materialism.

V. LENIN'S ANALYSIS OF THE RECENT REVOLUTION IN NATURAL SCIENCE AND THE CRISIS IN PHYSICS

In his *Materialism and Empirio-Criticism*, Lenin pays much attention to a philosophical analysis of the problems of natural science, especially physics, for in the early 20th century physics, together with mathematics, became the leading science of the day.

In the late 19th and early 20th centuries, physicists made a number of great discoveries, which rocked the foundations of the old physical views on the structure of matter, on atoms and chemical elements, on space and time. In view of these profound discoveries and the drastic breakdown of once-prevalent scientific ideas, principles and theories, the turn of the century could be called a period of genuine revolution in natural science.

Here is a short list of the great discoveries made within a single decade.

1895—the Austrian physicist Wilhelm Conrad Roentgen discovered X-rays (or Roentgen rays), which refuted the old idea that matter was impenetrable.

1896—the French physicist Antoine Henri Becquerel discovered the spontaneous emission of radiation by the chemical element uranium. That led to the discovery of the complex composition of the atom, which used to be regarded as indivisible and immutable.

1897—the English physicist Joseph John Thomson

discovered the electron within the atom.

1898—husband and wife Pierre Curie and Marie Sklodowska-Curie discovered radium, a new radioactive chemical element.

1899—the Russian physicist P. N. Lebedev was the first to measure the pressure of light, so proving the existence of electromagnetic mass.

1900—the German physicist Max Planck founded the quantum theory, which deals with discrete physical magnitudes characterising the state of micro-objects, discrete action, discrete energy states, etc.

1903—the English scientists Ernest Rutherford and Frederick Soddy formulated the theory of radioactive decay of the atom as the process of transmutation of elements.

1905—the German physicist Albert Einstein introduced the concept of the photon as a particle, or quantum, of light, developed the special theory of relativity, and on its basis formulated the law of correlation of mass and energy.

All these great discoveries exploded the old notions about atoms and chemical elements. Thanks to these discoveries, the idea of universal mutability spread to that field of natural science where the properties and types of matter had up to then been regarded as immutable, and its particles as eternal and exhaustible. In other words, drastic revolutionary changes were under way in areas which had not been affected by the natural-science revolution of the middle and second half of the 19th century. In the course of the revolution in natural science at the turn of the century, old metaphysical views of nature and matter gave way to new, dialectical views, with a revolutionary switch from metaphysics to dialectics. Lenin wrote: "Modern physics is in travail; it is giving birth to dialectical materialism" (p. 313); "dialectical materialism insists on the approximate, relative

character of every scientific theory of the structure of matter and its properties; it insists on the absence of absolute boundaries in nature, on the transformation of moving matter from one state into another, that from our point of view is apparently irreconcilable with it, and so forth" (p. 261).

"The new physics," Lenin wrote, "having found new kinds of matter and new forms of its motion, raised the old philosophical questions because of the collapse of the old physical concepts" (p. 279). Dialectical materialism, Lenin points out, should rely on the latest discoveries in natural science, ponder over these as the new natural-science basis of materialism, and draw its own scientific, materialist conclusions. That was all the more necessary since some physicists had drawn idealist conclusions from these discoveries.

1. The Turn-of-the-Century Crisis in Physics

What is the essence of the crisis in physics? Lenin gives a clear-cut answer to that question in Chapter Five, "The Recent Revolution in Natural Science, and Philosophical Idealism": "In its philosophical aspect, the essence of the 'crisis in modern physics' is that the old physics regarded its theories as 'real knowledge of the material world', i.e., a reflection of objective reality. The new trend in physics regards theories only as symbols, signs, and marks for practice, i.e., it denies the existence of an objective reality independent of our mind and reflected by it... The materialist theory of knowledge, instinctively accepted by the earlier physics, has been replaced by an idealist and agnostic theory of knowledge, which, against the wishes of the idealists and agnostics, has been taken advantage of by fideism... The crisis in

modern physics consists in the latter's departure from a direct, resolute and irrevocable recognition of the objective value of its theories" (pp. 256-57, 306).

In getting down to an analysis of the main propositions of the new physics, Lenin thinks it necessary to emphasise the distinction between the philosophical and the particular scientific approach: "It is far from being our intention to deal with specific physical theories. What interests us exclusively is the epistemological conclusions that follow from certain definite propositions and generally known discoveries" (p. 252). Lenin goes on to make a detailed analysis of some ideas expounded by "physical idealists".

The views of the well-known French physicist Henri Poincaré are an example of erroneous conclusions being drawn from the latest discoveries in physics. We are faced, said Poincaré, with the "ruins" of the old principles of physics, "a general debacle of principles". He said that "radium, the great revolutionary", had undermined the principle of the conservation of energy, and the electron theory had undermined the principle of the conservation of mass. On the strength of that, Poincaré drew a pessimistic conclusion on human knowledge in general. He called in question all scientific laws. In his view, physical concepts of space, time, etc., are not copies or photographs of nature, but free products of the human mind. It is not nature, he said, which imposes these concepts on us, but we who impose them on nature. For Poincaré, there is nothing objective about nature: "Whatever is not thought, is pure nothing"¹ (p. 253).

A point to note here is that the physical data on

¹ Henri Poincaré, *La valeur de la science*, Paris, Flammarion, [1905], Ch. VIII.

which Poincaré relied did not give any ground whatsoever for the conclusions he formulated. Neither the principle of the conservation of energy, nor that of the conservation of mass were undermined by the latest discoveries in physics, as Poincaré asserted, and so there was no ground for idealist philosophical conclusions. Such speculation on insufficiently known phenomena is characteristic of all idealism in general.

The main difficulty that created the crisis in physics was that many physicists began to doubt the existence of matter, saying that "matter has disappeared". Lenin examines that difficulty in Chapter Five, Section 2 ("Matter Has Disappeared"). He quotes the French physicist Louis Houllevigue, who wrote: "The atom dematerialises ... matter disappears"¹ (p. 258). The Italian physicist Augusto Righi said that the new system puts electricity in the place of matter. Having quoted these words, the Russian Machist Valentinov asks: "Why does Righi permit himself to commit this offence against sacred matter? Is it perhaps because he is a solipsist, an idealist, a bourgeois criticist, an empirio-monist, or even someone worse?" (p. 259). Valentinov thought his remark to be a weighty argument against the materialists. After all, if physicists who study matter say that it has disappeared, how can philosopher dispute that statement?

Lenin shows that the disappearance of matter of which Valentinov speaks, in imitation of some physicists, has no relation to the philosophical concept of matter. Physicists say that the atom, which was seen as the ultimate "building block" of matter "has disappeared", giving way to electrons as such

¹ Louis Houllevigue, *L'évolution des sciences*, Paris, 1908, pp. 63, 87, 88.

“building blocks”. In other words, one physical notion of the structure of matter is replaced by another and more profound notion. But such a replacement in itself has nothing to do with the philosophical solution of the problem. “Materialism and idealism differ in their answers to the question of the *source* of our knowledge and of the relation of knowledge (and of the ‘mental’ in general) to the *physical* world; while the question of the structure of matter, of atoms and electrons is a question that concerns only this ‘physical world’” (p. 260).

What is the true meaning of the expression “matter disappears”? Here is how Lenin explains it: “‘Matter disappears’ means that the limit within which we have hitherto known matter disappears and that our knowledge is penetrating deeper; properties of matter are likewise disappearing which formerly seemed absolute, immutable, and primary (impenetrability, inertia, mass,¹ etc.) and which are now revealed to be relative and characteristic only of certain states of matter” (p. 260).

All the “bizarre” discoveries of the recent period merely reaffirm dialectical materialism, which insists on the approximate, relative character of any knowledge, and on the absence of absolute boundaries in nature. From the standpoint of “common sense”, Lenin writes, “the transformation of imponderable ether into ponderable matter and vice versa” (or, in modern language, the transformation of electromagnetic waves into particles and vice versa) is most bizarre. But these transformations are perfectly explicable from the standpoint of dialectics, which points to the absence of impassable boundaries in nature.

¹ This apparently refers to mechanical mass, which classical physics regarded as an eternal and unchanging property of matter.

A more profound knowledge of matter and the "disappearance" of old concepts of matter do not mean that matter itself has disappeared, "for 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, ... for the concept matter ... epistemologically implies *nothing but* objective reality existing independently of the human mind and reflected by it" (pp. 260-61).

Lenin traces the development of knowledge about the structure of matter. Yesterday, he says, human knowledge did not go beyond the atom, and today it does not go beyond the electron and ether, but all these milestones are approximate, they are only stages in the knowledge of nature gained by progressing science. "The electron is as *inexhaustible* as the atom, nature is infinite" (p. 262).

Scientific progress since Lenin's lifetime has revealed the profundity of Lenin's idea. "The teachings of science on the structure of matter, on the chemical composition of food, on the atom and the electron, may and constantly do become obsolete" (p. 185). The history of science fully bears out these words. In Lenin's day, the electron was the only known elementary particle. Since then, scientists have discovered roughly 300 elementary particles, including light particles (like the electron), particles of medium mass, heavy particles (nucleons) and excessively heavy (hyperons). They have also discovered anti-particles, or material entities identical to other elementary particles in mass but opposite to them in electric charge. Elementary particles can be transformed into each other, as does the electron, whose inexhaustibility was predicted by Lenin. Under certain conditions, the electron merges with its anti-particle, the positron, emitting photons, i.e.,

quanta of light. In the strong positive field of the atom's nucleus, high-energy photons, for their part, turn into a "pair" of particles: an electron and a positron. Electrons are also generated in the process of radioactive decay of the atom's nucleus. They can be captured and absorbed by the nucleus, in a way dissolving in it. Evidently, such "dissolution" would have been impossible for a particle that does not have a composite structure.

Lenin's idea about the inexhaustibility of the electron in effect applies to all elementary particles. Today, there are data on the existence of "spheres", or peculiar particles within diverse elementary particles. This does not mean that science has reached the limit in its knowledge of the structure of matter, having discovered the "ultimate" particle. Nature is inexhaustible, just as any of its particles.

Having refuted the unscientific, idealist arguments on the "disappearance of matter", Lenin goes on to criticise the idealist assertion that motion is possible without matter.

In Chapter Five, Section 3 ("Is Motion Without Matter Conceivable?"), Lenin shows the connection between philosophical idealism and the attempts to divorce matter from motion. The idealists do not deny that the world is motion, but only the motion of human thoughts, ideas and sensations.

Lenin traces the connection between the question about the motion of matter and the basic question of philosophy. The statement that motion exists without matter is tantamount to the statement that matter has disappeared, and that is why the doctrine which seeks to divorce motion from matter is idealist. That doctrine is also closely connected with the idealist assumption that thought is independent from matter.

Lenin formulated a number of questions that were

difficult for the Russian Machists to answer. If matter has disappeared and motion alone remains, what about thought? There can be two answers to that question: either thought has disappeared together with matter or thought remains, existing without matter. If thought, idea and sensation have disappeared together with matter (with the material brain and the nervous system), then it follows that all knowledge has disappeared as well, including idealist arguments as a sample of "thought". But if thought (idea, sensation, etc.) remains while matter has disappeared, this means that one should openly go over to the standpoint of philosophical idealism, which recognises the possibility of spirit without matter, i.e., the primacy of spirit. "What is essential is that the attempt to *think* of motion without matter smuggles in *thought* divorced from matter—and that is philosophical idealism" (p. 268).

Lenin examines the philosophical ideas of the German scientist Wilhelm Ostwald, which were known as *energism*. Ostwald said that energy need not always have a material vehicle, and that one could speak of motion without pointing out what is in motion. He asked: "Must nature necessarily consist of subject and predicate?"¹ (p. 270). For Ostwald, the "subject", i.e., the existence of a moving object, is not necessary in nature; what is necessary is only the existence of a "predicate", of some motion. Lenin shows that Ostwald's reasoning is plain sophistry. The things that exist in nature are in motion. No one has put nature under such an obligation, for that is its objective property. But if we want to reason correctly, we are "obliged" to start from that which actually exists in the world. Our thought, Lenin

¹ Wilhelm Ostwald, *Vorlesungen über Naturphilosophie*, Leipzig, Veit, 1902, S. 39.

goes on, should reflect that which exists in nature, and motion in nature does not exist without matter. Speaking of motion, we cannot fail to mention that which is in motion: electrons, ether, etc., i.e., we should use both the “subject” and the “predicate”.

For Ostwald, all that exists in the world—both spirit and matter—is energy. The processes of human knowledge, he said, are energetic: the “energeticist” consciousness allegedly creates an energeticist world. Lenin notes that Ostwald’s view is pure idealism.

Ostwald was inconsistent in his idealism, sometimes “lapsing” into a materialist understanding of energy as a property of real things. For that he was criticised by the Machist Bogdanov, who regarded energy as a “pure symbol”, or sign, instead of a reality, a property of matter.

In summing up his analysis of the connection between Machism and the new physics, Lenin points out that Machism is undoubtedly connected with the new physics, but that the Machists’ view of that connection is basically wrong. Machist ideas do not derive from physical discoveries, but merely distort in an idealist spirit the conclusions from these discoveries. Bogdanov, Yushkevich, Valentinov and others claimed that Mach’s philosophy was “the philosophy of twentieth-century natural science”, “the recent philosophy of the sciences”, etc., but Lenin shows these claims to be utterly false. First, he says, Machism is ideologically connected with only one school in one branch of modern natural science (i.e., with one school of physicists). Second, and this is the main point, Machism is connected with that school solely by common idealist views and a denial of objective reality. As for Mach’s actual “doctrine” of elements or Avenarius’ “doctrine” of “the principal co-ordination”, these were even unknown to many physicists, including such

idealist-minded physicists as the Frenchman Henri Poincaré, the Belgian Pierre Duhem, or the Englishman Karl Pearson. So, the Machist philosophy does not even represent all idealist-minded physicists, to say nothing of the whole of recent natural science, as Mach's followers claimed.

2. The Epistemological and Social Roots of "Physical" Idealism

"Physical" idealism at that time was an international ideological trend. In analysing the views of idealist physicists in Britain, France, Germany and Russia (N. I. Shishkin), Lenin writes that it is instructive "to see how similar philosophical trends manifest themselves in totally different cultural and social surroundings" (p. 299). The common features of "physical" idealism, Lenin shows, are determined both by common epistemological, i.e., theoreticocognitive, and common social roots.

The crucial epistemological cause of the crisis in physics and the spread of "physical" idealism lies in the fact that the general world-outlook conception lags behind rapidly progressing scientific knowledge. The lag is expressed in a failure to understand the correlation between absolute and relative truth, and in erroneous conclusions from the mathematisation of physics and from the principle of relativity. In examining the erroneous conclusions drawn from the mathematisation of physics, Lenin writes: "The reactionary attempts are engendered by the very progress of science. The great successes achieved by natural science, the approach to elements of matter so homogeneous and simple that their laws of motion can be treated mathematically, caused the mathema-

ticians to overlook matter. ‘Matter disappears’, only equations remain” (p. 308). To expose the cause of “physical” idealism, Lenin quotes long passages from the French positivist philosopher Abel Rey, who gives a fairly good account of how mathematicians reason in their striving towards ever greater abstraction. In the process of abstraction, they tend to present physical objects in purely logical terms, as non-material objects. Hence the confusion in their notions: matter allegedly disappears while equations alone remain.

Lenin shows that mathematical formulas, however general and abstract, are true only because they express in their own language certain objective properties of things. Common elements in thought are an expression of common elements in real objects. “Equations” do not create objects, but only reveal their unity. “The unity of nature is revealed in the ‘astonishing analogy’ between the differential equations of the various realms of phenomena” (p. 289). Since the very same equations can be used to solve the problems of hydrodynamics and the theory of potentials, and since there is a most astonishing analogy between the theory of vortices in fluids, the theory of friction in gases, and the theory of electromagnetism, there must be something objectively common to all these real phenomena. So, according to Lenin, mathematical formalism has a meaningful physical content and gives no ground for idealist conclusions.¹

Lenin goes on to show the other essential epis-

¹ Lenin’s idea on the uniformity of nature as the objective basis of the uniformity of mathematical formulas used to describe diverse phenomena has been confirmed by numerous facts in the development of science. Thus, the formula describing the quantity of information, discovered by the US mathematician Claude Elwood Shannon in 1948, actually coincided with the earlier discovered formula for

temological cause of “physical” idealism: the principle of relativism, the relativity of knowledge, which comes to the fore in the period of an abrupt breakdown of old theories. If one is ignorant of dialectics, Lenin points out, relativism inevitably leads to idealism. He says that the question of the relation between relativism and dialectics is perhaps the most important one in explaining “physical” idealism and the errors of Machism. The Machists argued: since all the old fundamental truths of physics, which used to be regarded as incontestable, prove to be relative and approximate, there can be nothing absolute in our knowledge at all, and our notions are merely signs created for the sake of convenience and do not reflect the true picture of the world; the world in general is unknowable. “Physical” idealists and Machists, Lenin shows, have no idea of the scientific Marxist theory of knowledge. He writes: “That absolute truth results from the sum-total of relative truths in the course of their development; ... that every scientific truth, notwithstanding its relative nature, contains an element of absolute truth—all these propositions, which are obvious to anyone who has thought over Engels’ *Anti-Dühring*, are for the ‘modern’ theory of knowledge a book with seven seals” (p. 309).

Idealist physicists and Machists take a metaphysical view of knowledge. They think knowledge can be either purely absolute or purely relative, and do not recognise any unity of the absolute and the relative. Since our knowledge is not absolute, they say,

measuring entropy. Information is a measure of reflection, which is a fundamental property of matter. Entropy is an expression of energy, i.e., a measure of motion, which is also a fundamental property of matter. The unity of these two formulas manifests the unity of two fundamental and interconnected properties of matter: motion and reflection.

it cannot be true, for it does not give a true picture of the world. But dialectics is known to recognise the unity of opposites, including the unity of the relative and the absolute, and the existence of elements of the absolute in relative knowledge. Any undialectical, metaphysical view of the relativity of knowledge inevitably leads to idealism. Thus, Lenin shows how Duhem, Stallo, Poincaré and other “physical” idealists, who deny absolute knowledge and are ignorant of dialectics, finally arrive at a denial of objective knowledge, at agnosticism and idealism.

Lenin completes Chapter Five with a remarkable passage, which shows the essence of the crisis in contemporary physics and the ways out of it: “The ‘physical’ idealism of today, exactly like the ‘physiological’ idealism of yesterday, merely signifies that one school of natural scientists in one branch of natural science has slid into a reactionary philosophy, being unable to rise directly and at once from metaphysical materialism to dialectical materialism. This step is being made, and will be made, by modern physics; but it is advancing towards the only true method and the only true philosophy of natural science not directly, but by zigzags, not consciously, but instinctively... Modern physics is in travail; it is giving birth to dialectical materialism. The process of child-birth is painful. And in addition to a living healthy being, there are bound to be produced certain dead products, refuse fit only for the garbage-heap. And the entire school of physical idealism, the entire empirio-critical philosophy ... must be regarded as such refuse!” (pp. 312-13).

The ideological waverings among natural scientists have profound social, as well as epistemological roots, as Lenin points out on several occasions: “We have before us a certain international ideological current,

which is not dependent upon any one philosophical system, but which is the result of certain general causes lying outside the sphere of philosophy” (p. 302). Among these general non-philosophical causes is the very epoch of imperialism which engenders ideological reaction. Bourgeois professors, either wittingly or unwittingly, without realising the social significance of their idealistic views, cater to the social needs of the bourgeoisie. Lenin said of bourgeois scientists: “These people’s whole environment estranges them from Marx and Engels and throws them into the embrace of vulgar official philosophy” (p. 263). The epistemological roots merely create a possibility for an idealist departure of human thought from objective reality, a possibility of deformed reflection, and it is only under definite socio-historical conditions that this possibility is realised, creating stable philosophical systems of idealism. As Lenin notes in his *Philosophical Notebooks*, the class interest of the ruling classes entrenches one-sided thought, turning the possibility of idealist and metaphysical thought into reality.

* * *

Since Lenin’s lifetime, major discoveries have been made in every field of human knowledge. The mid-20th century ushered in the modern scientific and technical revolution, a sweeping process which has embraced not only physics, but also chemistry, biology, astronomy, geology and other branches of natural science. Just as at the beginning of the century, the ongoing scientific revolution involved attempts to interpret scientific discoveries in an idealist spirit.

In describing the discoveries made in physics since the publication of Lenin’s work, Soviet Academician

Boris Kedrov notes that the development of quantum mechanics has led to drastic changes in physicists' views. In scale, character and consequences, these new changes far surpass those which occurred at the turn of the century, and have naturally led to new waverings among physicists who do not take the stand of dialectical materialism.

Academician Kedrov believes, however, that one should not necessarily use the word "crisis" in application to modern physics and natural science. It is not the term that is important, but recognition of the essential fact that conclusions in favour of idealism are still being drawn from scientific discoveries. Naturally, crisis phenomena in physics and "physical" idealism today differ in many ways from those described by Lenin. First of all, they are less widespread, for scientists in the socialist countries rely in their research on the only true philosophy: dialectical and historical materialism. "Physical" idealism is also less widespread in the capitalist countries. One could say that many modern physicists have made a step forward to dialectical materialism. The Soviet researcher M. E. Omelyanovsky, who studies the philosophy of natural science, was quite right in saying that "the dialectical conception of development constitutes the philosophical foundation of the theory of matter in modern physics".¹

Present-day physicists recognise the unity of such opposites as substance and field, particles and waves; and also their mutual convertibility. Physics has also adopted Niels Bohr's correspondence principle, which asserts the unity of the relative and the absolute in the cognition of physical phenomena (e.g., a correspondence of the tenets of quantum and classical

¹ M. E. Omelyanovsky, "Problems of the Elementary and the Complex", *Voprosy filosofii*, No. 10, 1965, p. 34.

mechanics). This means that physics in effect recognises a manifestation of the dialectical law of the unity and struggle of opposites in the very foundation of matter and in the course of the development of human knowledge. The theory of relativity asserted the dialectico-materialist proposition on the interconnection between matter and motion, and between space and time as forms of the existence of matter. Many physicists, including one-time exponents of "physical" idealism and philosophical positivism, went over in some matters to spontaneous dialectico-materialist positions. Among these were Albert Einstein, Niels Bohr, Louis Victor de Broglie, Max Born and Wolfgang Pauli. Among the conscious advocates of dialectical materialism were the French physicist Jean Pierre Vigier and Frédéric Joliot-Curie, and the English researcher John Bernal.

The victories scored by materialism in modern natural science are due to a number of factors. The logic of scientific development shows that such development cannot be successful unless scientists are firmly convinced of the reality of their objects of research and man's ability to cognise them. The materialist answer to the basic question of philosophy is spontaneously urged upon scientists by scientific development itself. They find proof of materialist propositions in the practice of scientific and technical achievements and social transformations.

Nevertheless, scientists in the capitalist countries find it difficult to go over to positions of conscious dialectical materialism, closely connected with scientific communism, because of their class prejudices and ideological preconceptions, and also their social environment.

"Physical" idealism has changed not only in scale, but also in the range of problems used to draw

idealist conclusions. Analysts single out at least three stages of that idealism. At the first stage, idealists gave philosophical “treatment” to the discovery of the electron and the divisibility of the atom, seeking to substantiate the “disappearance of matter” and the denial of objective reality in general. That stage was described in detail in Lenin’s work. At the second stage (around the 1930s and 1940s), such idealist “treatment” was given to quantum mechanics and the theory of relativity. In that period, “physical” idealists interpreted the concepts of causality and uniformity, space and time in a spirit of subjective idealism. The third stage of “physical” idealism, which started in the mid-20th century, has seen the spread of “neo-energetics”, which claims that matter disappears and is converted into energy. There are misinterpretations of the so-called mass defect in thermonuclear reactions, of the “annihilation” of a pair of particles (electron and positron) into photons and vice versa. Einstein’s law of indissoluble connection between energy and mass is being interpreted as an identity of matter and energy.

Today, natural-science data are being ever more actively used by the representatives of objective idealism—neo-Thomism, “new ontology”, etc., and also by those of modern “cultural fideism”, theology which seeks to adapt itself to science.

Lenin’s work is very important for the present struggle against idealism, and is bound to retain its importance in the future. Science is now facing the possibility of yet another fundamental “break-down” of physical theories. Many “mysterious” phenomena of the microcosm call for an explanation; the exploration of outer space yields a great deal of scientific information, and so on. All of that requires philosophical comprehension. Without a solid philosophical grounding, Lenin said, no science

can withstand the onslaught of idealism.

A number of Lenin's ideas point to such a major function of philosophy as the possibility of helping out natural science in critical, problem situations. Engels said in his *Dialectics of Nature* that philosophy, for instance, had come to realise that matter was uncreatable long before natural science had. Some of Engels' own ideas are well ahead of the natural-science notions of his day. Lenin's ideas on the inexhaustibility of the electron and on reflection as a universal property of matter were brilliant philosophical hypotheses borne out by practice. A number of philosophers justly believe that in future problem situations natural science will also have to resort to philosophical constructs and hypotheses relating to the essence of specific phenomena.

In our view, philosophers' "interference" in specific problems of natural science is well justified. Didn't Lenin "interfere" in specific problems of physics by asserting that the electron, like the atom, is inexhaustible? Didn't Engels "interfere" in biology by formulating his definition of life or in anthropology by creating the labour theory of anthropogenesis? But such "interference" by Engels and Lenin in the affairs of natural science could hardly be described as a return to "natural philosophy". It was invaluable assistance to natural science, which could not solve these problems without a profound methodological philosophical approach.

In the future, such hypotheses could be put forward not only by philosophers, but by philosophers in alliance with leading natural scientists, who have a profound philosophical understanding of their subject-matter. Regardless of who puts forward such hypotheses, they retain their philosophical character and show the prognostic and anticipatory role of philosophy.

Philosophical hypothesis is not the only "junction" of natural science and philosophy. There are other junctions here as well. First, philosophy can invalidate any scientific hypothesis which contradicts the basic principles of materialism and dialectics. Thus, in his *Materialism and Empirio-Criticism*, Lenin absolutely rejected the assertion that the newly discovered forms of motion were non-material, although their essence was still unclear.

Second, scientific materialist philosophy can raise a question, clearly formulate a task, and specify what it expects in a particular difficult case of a specific science. Thus, in examining the connection between matter endowed with the faculty of sensation and matter devoid of it, though consisting of the very same atoms, Lenin writes: "Materialism clearly formulates the as yet unsolved problem and thereby stimulates the attempt to solve it, to undertake further experimental investigation. Machism, which is a species of muddled idealism, befogs the issue and side-tracks it" (p. 46). The actual mechanism of the interaction between the animate and the inanimate, Lenin says, "still remains to be investigated and reinvestigated", but materialism has clearly formulated the task: to unravel the mystery of how external stimulation turns into a fact of the consciousness, to understand how our material nervous system gives rise to an ideal, non-material image of reality. Clearly formulated tasks and epistemologically-correctly defined goals advance research in natural science and promote scientific progress.

All these connections between philosophy and natural science do not at all mean a return to "natural philosophy", which sought to impose on the various sciences solutions of specific problems on the basis of purely speculative notions. These connections imply a real alliance between philosophers and

natural scientists, an in-depth study of science by philosophers and an equally in-depth study of philosophical theory by natural scientists. This is a major lesson to be drawn from Lenin's work.

Another major lesson for our day is Lenin's approach to the development of Marxism, the need for materialism to change its form in view of epoch-making discoveries in the natural and historical (social) sciences. On that issue, Lenin refers to some ideas expressed by Engels.

Engels brought out the natural-science prerequisites of the 19th century revolution in materialism and formulated basic propositions on the past and future of materialism. He wrote: "Just as idealism underwent a series of stages of development, so also did materialism. With each epoch-making discovery even in the sphere of natural science it has to change its form; and after history also was subjected to materialistic treatment, a new avenue of development has opened here too."¹ Engels regards creative development of Marxist philosophy as an indefeasible law of its existence. He reproaches the metaphysically-minded "vulgarising pedlars" who "dabbled in materialism" for their failure to overcome the limitations of their teachers. "Indeed," Engels writes, "they did not in the least make it their business to develop the theory any further."²

In developing Engels' views and analysing the latest major discoveries in natural science, Lenin comes to the conclusion on the need to go on changing the form of materialism. Lenin does not blame the Machists for a review ("revision") or denial of some natural-science propositions on which materialism used to rely. He blames them for betraying the very es-

¹ Karl Marx and Frederick Engels, *Selected Works*, Vol. 3, p. 349.

² *Ibid.*, p. 350.

sence of Marxism and borrowing the basic tenets of subjective-idealist philosophy on the pretext of criticising outdated propositions and the form of materialism.

Changes in the form of materialism can differ in scale and depth. In the course of the 18th-century change in the form of materialism described by Engels, there was a breakdown of some essential principles of the old materialism and a transition from metaphysical to dialectical materialism. That transition marked a revolution in philosophy. The Leninist stage in the development of Marxism was not characterised by a renunciation of some essential aspects or principles of preceding materialism, but by a further *improvement of its form*. This improvement continues in our day.

Under the rapidly developing scientific and technical revolution, philosophy cannot stop at the changes and specifications already made. As Corresponding Member of the USSR Academy of Sciences P. V. Kopnin justly noted, "in our day, the problem of changes in the form of materialist dialectics has acquired even greater importance. One can safely say that it is the main task in the philosophical comprehension of natural and social-science data... It is not a matter of introducing a few changes in the system of Marxist philosophical categories, ... but of a more fundamental philosophical synthesis, of present-day scientific knowledge, a synthesis which would result in the development and enrichment of all the laws and categories of materialist dialectics."¹

Soviet Academician P. N. Fedoseyev writes: "The Marxist proposition on absolute and relative truth is, of course, fully applicable to philosophy itself. We

¹ P. V. Kopnin, "The Marxist-Leninist Theory of Knowledge and Modern Science", *Voprosy filosofii*, No. 3, 1971, p. 33.

would be hardened dogmatists if we did not see the relativity of many concrete philosophical propositions and did not realise the need to develop or specify them. But we would be lapsing into relativism and ultimately into idealism if we allowed that the development of philosophy implies refutation of its basic, abiding principles. Over the centuries, materialist philosophy has undoubtedly elaborated a number of principles which provide a basis for the further development of knowledge.”¹

Lenin’s book helps to solve yet another major philosophical problem: that of criticising erroneous views on the subject-matter of philosophy. Some philosophers say that philosophy in our epoch is a science of thought, logic and epistemology, and that the objective world and its most general laws are not its subject-matter. But the whole content of Lenin’s brilliant work is in contrast with such an understanding of the subject-matter of philosophy. Indeed, the whole range of problems examined in the book points to Lenin’s idea of the subject-matter of philosophy. While focussing on epistemology, Lenin also deals with problems that are traditionally known as ontological, makes a profound analysis of the philosophical problems of natural science, and examines questions relating to sociology and atheism. So, it is a basic mistake to try to limit the subject-matter of philosophy solely to logical and epistemological problems.

If materialist philosophy were reduced solely to the science of thought, it would no longer be a world outlook, moving away from sociological problems. Such a philosophy would dissociate itself from the struggle to change the world. The Marxist

¹ P. N. Fedoseyev, “Lenin’s Ideas and the Methodology of Modern Science”, in: *Lenin and Modern Natural Science*, Moscow, 1969, p. 12 (in Russian).

view of the subject-matter of philosophy is inconceivable without a study of the objective world and its most general laws. Lenin's view of the subject-matter of philosophy, vividly expressed in his book, assumes that philosophy is a science which cannot be reduced to epistemology, a science which has something to say both about thought and the objective world, including the society, a science of the most general laws of the development of nature, the society and thought.

So, in tackling some fundamental questions of philosophical theory in our day, we have every reason to consult with Lenin, with his *Materialism and Empirio-Criticism*. His ideas on the theory of social development, or historical materialism, are equally important and are to be examined in the next chapter of the pamphlet.

VI. PROBLEMS OF HISTORICAL MATERIALISM

In the sixth and final chapter of his work, Lenin criticises the sociological views of the Machists, and specifies and elaborates the principle of partisan philosophy. The question of freedom and necessity, examined in Chapter Three, and some other problems of historical materialism are also considered in Chapter Six.

1. Lenin's Critique of Empirio-Criticist Sociology

The Russian Machists claimed that the Machist philosophy is compatible with the basic propositions of historical materialism, with the materialist conception of history. Lenin analyses the views of German and Russian empirio-criticists and shows that in actual fact Machist epistemology inevitably leads to an idealist view of social phenomena. He quotes long passages from an article by the prominent German empirio-criticist Franz Blei, entitled "Metaphysics in Political Economy", and makes a critical analysis of his arguments against Marxism. Blei accused Marx of "metaphysics". These accusations, Lenin says, repeat the hackneyed arguments of the idealists against the materialist theory of knowledge, to which a vast majority of natural scientists adhere. Blei said it was "metaphysics" to recognise the

objective character of economic laws and the reality of such phenomena as capital, the economy, value or surplus-value. These and other concepts of political economy (laws, labour, rent, profit, wages) were always used by Blei in quotation marks, for he wanted to prove that these scientific concepts are merely signs or symbols which do not reflect any reality. Here is one of Blei's characteristic statements quoted by Lenin: "Socialism ascribed to the 'capitalist' the character of being 'greedy for profit'" (p. 316). For Blei, the concept "capitalist", just as "greed for profit", were socialist (i.e., Marxist) inventions.

Blei said that Marxism regards the personality as a "negligible quantity", as "something accidental", subject to certain "immanent laws of economics". In actual fact, it was Marxism which for the first time elaborated the problems of the personality in a correct, scientific way: it recognises man's ability to be the master of his own fate, of nature and his social development. Dialectical materialism does not regard freedom as something absolute, but connects it with necessity.¹

Blei also accused Marx's theory of partisanship. Lenin writes: "The empirio-criticists *as a whole*, and not Blei alone, claim to be non-partisan both in philosophy and in social science... They make no differentiation between the fundamental and irreconcilable trends of materialism and idealism in philosophy, but endeavour to rise *above* them. We have traced this tendency of Machism through a long series of problems of epistemology, and we ought not to be surprised when we encounter it in sociology" (pp. 318-19). Lenin shows that in sociology, as well as in epistemology, Machism betrays the same reactionary tendency: to rise above ma-

¹ For details see Section 2, Chapter Six of this pamphlet.

terialism and idealism, in effect siding with idealism.

Another prominent German empirio-criticist, Josef Petzoldt, also took an idealist view of social phenomena. He did not trouble to polemicise with Marx or Engels, but simply set forth in positive form the sociological views of empirio-criticism. Lenin analyses the second volume of Petzoldt's *Introduction to the Philosophy of Pure Experience*, entitled "Towards Stability". "The author," Lenin emphasises, "makes the tendency towards stability the basis of his investigation" (p. 319). Unlike the Marxists, who regard the material conditions of life as the basis of social development, Petzoldt saw such a basis in a subjective tendency towards stability, which allegedly marks every individual. That tendency, he said, lies at the root of ethics, aesthetics, "the formal theory of knowledge", and the nature of the social system.

According to that theory, the tendency towards a state of stability will eventually ensure economic and social equality, which will set in of its own accord, as a result of the human striving for stability. Neither the "majority" nor the "power of the socialists" can bring this equality about, but only "moral progress" and the tendency towards stability, Petzoldt believed. He resolutely rejected the "social-democratic ideal of the organisation of all labour by the state", i.e., social property in the means of production. He utterly ignored the material aspect of social life and had no idea of the actual ways along which the society advances towards social equality. The scientific conception of social development was alien to him, and he expressed open hostility to socialism and socialist ideas.

Lenin notes that Mach is equally hostile to socialism. In his *Knowledge and Error*, Mach wrote that the doctrine of the Social-Democrats, i.e., the Marxists, threatens a "slavery even more universal and more

oppressive than that of a monarchical or oligarchical state"¹ (p. 322). For the bourgeois philosopher, elimination of private property, with an end to exploitation, naturally appears to be "slavery", a curtailment of individual freedom.

Here is how Lenin sums up the views of the German empirio-critics: "The infinite stupidity of the philistine, smugly retailing the most hackneyed rubbish under cover of a new 'empirio-critical' systematisation and terminology—that is what the sociological excursions of Blei, Petzoldt and Mach amount to. A pretentious cloak of verbal artifices, clumsy devices of syllogistics, subtle scholasticism—in short, as in epistemology, so in sociology, the same reactionary content under the same flamboyant signboard" (p. 322).

The Russian Machists were just as helpless and reactionary in their sociological views as their German fellow-Machists.

The connection between sociological and epistemological idealism was particularly pronounced in Bogdanov's works. In his system of "empirio-monism", he declared nature to be the result of collective notions, a derivative of "socially organised experience". In a somewhat different form, he applied that theory to social phenomena.

Bogdanov said that social being is identical to social consciousness, and Lenin criticises that statement: "Social being and social consciousness are not identical, just as being in general and consciousness in general are not identical" (p. 323). Marx's doctrine is that social consciousness reflects social being, which exists independently of that consciousness. Marxism starts here from the basic materialist proposition that consciousness is a product of being, but is

¹ Ernst Mach, *Erkenntnis und Irrtum*, S. 80-81.

not material being itself.

Bogdanov sought to validate his standpoint by saying that there is no social being without certain social (and individual) consciousness. True, as people enter into social intercourse and organise social production, they always act as conscious beings. But from this it does not follow that social consciousness is social being. Lenin writes: "Every individual producer in the world economic system realises that he is introducing this or that change into the technique of production; every owner realises that he exchanges certain products for others; but these producers and these owners do not realise that in doing so they are thereby changing *social being*" (p. 325).

Changes in social being occur independently of the will and wishes of the people who effect these changes. Social being exists irrespective of the extent to which social consciousness has been able to reflect it or grasp its essence. In other words, it takes shape independently of human consciousness. "The fact that you live and conduct your business, beget children, produce products and exchange them, gives rise to an objectively necessary chain of events, a chain of development, which is independent of your *social* consciousness, and is never grasped by the latter completely" (p. 325).

Lenin establishes a clear connection between the question of how social consciousness relates to social being and the basic question of philosophy, formulating his proposition on the *unity of dialectical and historical materialism*: "materialism in general recognises objectively real being (matter) as independent of the consciousness, sensation, experience, etc., of humanity. Historical materialism recognises social being as independent of the social consciousness of humanity. In both cases consciousness is only the reflection of being, at best an appro-

ximately true (adequate, perfectly exact) reflection of it. From this Marxist philosophy, which is cast from a single piece of steel, you cannot eliminate one basic premise, one essential part, without departing from objective truth, without falling a prey to bourgeois-reactionary falsehood" (p. 326).

Lenin quotes Bogdanov's articles on sociology to show how he substitutes biological and physical concepts for social concepts. Bogdanov says, for instance, that "social forms belong to the comprehensive *genus*—biological adaptations" (p. 322). He replaces the concept of social development with the socio-biological concept of "social selection". In formulating "the fundamental connection between energetics and social selection", he writes: "*Every act of social selection represents an increase or decrease of the energy of the social complex concerned. In the former case we have 'positive selection', in the latter 'negative selection'*"¹ (p. 327). Lenin is indignant: "And such unspeakable nonsense is served out as Marxism!... Nothing is easier than to tack an 'energeticist' or 'biologico-sociological' label on to such phenomena as crises, revolutions, the class struggle, and so forth; but neither is there anything more sterile, more scholastic and lifeless than such an occupation. The important thing is not that Bogdanov tries to fit *all* his results and conclusions into Marxist theory—or 'nearly' all...—but that the *methods* of fitting—this 'social energetics'—are thoroughly false" (pp. 327, 328).

Lenin sums up Bogdanov's sociological theory: "Just as in epistemology Mach and Avenarius did not develop idealism, but only overlaid the *old* idealist errors with pretentious terminological non-

¹ Alexander Bogdanov, *Empirio-Monism*, Book III, St. Petersburg, 1906, p. 15 (in Russian).

sense ('elements', 'principal co-ordination', 'introduction', etc.), so in sociology, even when there is sincere sympathy for Marxist conclusions, empirio-criticism results in a distortion of historical materialism by means of pretentious, empty energeticist and biological verbiage" (p. 329).

The Russian Machist S. A. Suvorov was another falsifier of Marxism. He invented a law of "the economy of forces" as a basis for the society's development. Here is how he defines its essence: "*Every system of forces is the more capable of conservation and development the less its expenditure, the greater its accumulation and the more effectively expenditure serves accumulation*". For Suvorov, that "law" is the "unifying and regulating principle of all development—inorganic, biological and social" (pp. 331 and 332). He believed that his "universal law" gave a materialist explanation of social developments. Lenin shows that Suvorov's "law" cannot be applied in any of the fields mentioned by the author. There is no "economy of forces" in inorganic development, and there is no point in looking for it in the movements of the solar system, as Suvorov suggests. With regard to inorganic nature, one can only speak of the law of the conservation and transformation of energy. In biology, Suvorov interpreted his law as the development of higher organisms from lower ones. But in that development there is also no trace of any "economy of forces". In the third (social) field, Suvorov interpreted the "economy of forces" as the development of the productive forces, but with as little reason. Suvorov's "universal law" is an empty phrase, for he "did not explain what is meant by the 'economy of forces', how it can be measured, how this concept can be applied, what precise and definite facts it embraces — and this cannot be explained, because it is a muddle" (p. 334).

Suvorov falsified Marxism, claiming that Marx had also pivoted his social theory on the principle of the "economy of forces". Suvorov's argument in favour of his claim is "truly superb". Marx has a political economy in which the development of the productive forces is seen as decisive to the whole of social development. Suvorov renames the development of the productive forces into the principle of the "economy of forces" and draws the conclusion that this principle lies at the basis of Marx's social theory. Lenin writes: "No, Marx did not make any principle of the economy of forces the basis of his theory... Marx gave an absolutely precise definition of the concept growth of productive forces, and he studied the concrete process of this growth. But Suvorov invented a new term to designate the concept analysed by Marx; and his invention was a very unhappy one and only confused matters" (p. 334).

To conclude his criticism of Machist sociology, Lenin writes: "There is an inseparable connection between reactionary epistemology and reactionary efforts in sociology" (p. 335).

* * *

Lenin's critique of Machist sociology is still relevant today.

Modern bourgeois sociology, with its numerous schools and trends, has been doing its utmost to undermine the central tenet of historical materialism on the primacy of the material over the spiritual, the tenet that social being is primary and social consciousness secondary. Bourgeois sociologists claim that social life is determined not by material factors, but by psychological and biological factors, by moral considerations of individual "prestige", and so on. They do not recognise such concepts as socio-eco-

conomic formation, mode of production, relations of production, productive forces, etc., without which there can be no genuine science of history.

The Marxist doctrine of socio-economic formations is contrasted, for instance, with the theory of the "industrial society", developed by the US sociologist Walt W. Rostow and the French sociologist Raymond Aron. Rostow subtitled his book, *The Stages of Economic Growth*, a "Non-Communist Manifesto", openly emphasising its anti-communist purpose.

In analysing social development, the theorists of the "industrial society" utterly ignore production and class relations, the forms of property in the means of production, which are crucial to the character of the social system at a given stage of development. In their view, the various stages of social development differ only in terms of the level of technology or industry as a whole, while the ownership of that technology appears to be insignificant. As for the incentives to technological and economic development, the authors of the theory interpret these in an idealist spirit, exaggerating the importance of various accidental circumstances, psychological motives, and the personal emotions of politicians. In other words, the spiritual for them is primary in relation to economic development.

As a result, both capitalist and socialist countries which have reached a certain (roughly equal) technical level can be ranked within one and the same type of society, within one and the same "stage". Hence the unscientific idea of "convergence", according to which the socialist and the capitalist systems tend to draw closer together and finally converge.

The theory of the "industrial society" may not

be the latest one, but all the numerous bourgeois sociological theories that have sprung up in its wake have the same purpose: to proclaim capitalism an eternal social system, an ideal social setup.

Lenin's critique of idealism, his teaching on the decisive role of material relations in the society's life, and the doctrine of socio-economic formations are directed against such sociological theories.

Lenin's ideas on the organic unity of dialectical and historical materialism are of great importance in the struggle against present-day revisionists, who pay lip-service to dialectical materialism but reject as obsolete the basic propositions of historical materialism.

It follows from Lenin's arguments that the two parts of the Marxist philosophy are closely interconnected and condition each other. Historical materialism is no mere derivative of dialectical materialism. Without dialectical materialism there is no historical materialism, but without the latter there is no dialectical materialism as the highest form of materialism. One should not regard them as two different materialisms, but as one integral entity. When speaking of dialectical materialism, Lenin always implied that it extended to the society, i.e., he implied historical materialism. And when speaking of the latter, he always implied dialectical materialism, whose application to social phenomena is precisely what is known as historical materialism.¹ The propositions of dialectical materialism on the origins and essence of human consciousness, on thought and language as products of social development, are also propositions of historical materialism. That also applies to the labour theory of anthropogenesis, the origins of man, as developed by Engels. The

¹ See also p. 123 of this pamphlet.

category of practice, without which there is no dialectico-materialist theory of knowledge, is at the same time a category of historical materialism. The concept of non-antagonistic contradictions, without which the law of the unity and struggle of opposites would be incomplete, and the concept of continuity, which is a part of the law of negation of the negation—these are also concepts of historical materialism. Even these few examples show that the connection between the two inseparable parts of the Marxist philosophy is not one-way, but two-way. As the well-known Soviet philosopher I. S. Narsky writes, dialectical and historical materialism “with regard to each other play the role of ‘metascience’ (i.e., science which provides a theoretical basis for and explains another science), conditioning each other”.¹ It is impossible to understand the Marxist philosophy unless its two parts—dialectical and historical materialism—are regarded in close unity.

2. On Freedom and Necessity

Lenin examines the categories of freedom and necessity at the end of Chapter Three, “The Theory of Knowledge of Dialectical Materialism and of Empirio-Criticism”. Necessity is a general philosophical category, i.e., a category of dialectical and historical materialism. It is universal, for necessity manifests itself in nature, the society and thought. Freedom is a category of historical materialism, for it manifests itself only in the society, in the actions of an individual or collective (class, society), which has

¹ I. S. Narsky, “On Historical Materialism as Marxist Sociology”, *Voprosy filosofii*, No. 4, 1959, p. 119.

become aware of necessity and acts in accordance with it. In brief, freedom could be defined as an awareness of necessity.

The category of freedom, like the other categories of historical materialism, cannot be understood unless the basic principles of dialectical materialism are applied to it. Lenin notes that "neither Lunacharsky, nor the whole crowd of other Machist would-be Marxists, 'noticed' the epistemological significance of Engels' discussion of freedom and necessity. They read it and they copied it, but they could not make head or tail of it" (p. 187).

Engels says: "Freedom does not consist in any dreamt-of independence from natural laws, but in the knowledge of these laws, and in the possibility this gives of systematically making them work towards definite ends. This holds good in relation both to the laws of external nature and to those which govern the bodily and mental existence of men themselves—two classes of laws which we can separate from each other at most only in thought but not in reality. Freedom of the will therefore means nothing but the capacity to make decisions with knowledge of the subject. Therefore the *freer* a man's judgment is in relation to a definite question, the greater is the *necessity* with which the content of this judgment will be determined... Freedom therefore consists in the control over ourselves and over external nature, a control founded on knowledge of natural necessity."¹

Engels emphasises that freedom consists, first, in *man's knowledge of natural laws*, and second, in his ability to *make systematic use of these laws in order to attain his goals*.

¹ Karl Marx, Frederick Engels, *Collected Works*, Vol. 25, pp. 105-06.

Lenin develops Engels' propositions, formulating the correlation between the laws of nature and human freedom in this classical passage: "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. The mastery of nature manifested in human practice is a result of an objectively correct reflection within the human head of the phenomena and processes of nature" (p. 190).

So, Marxism does not reduce freedom solely to a knowledge of objective necessity, but connects it with purposeful human practice. Freedom in that sense is available to man only as a social being. A totally isolated individual, even with a knowledge of objective necessity, could hardly implement the wisest decision.

The category of freedom helps to understand the essence of man's freedom of will.

Marxism denies man's absolute freedom of will. Human will and actions are determined by the existing natural and social conditions, including those of daily life. People are not free to choose the objective conditions for their activity: they are surrounded by a definite necessity, which derives from the development level of the productive forces, the level of knowledge, and the nature of the socio-political system. But they are to some extent free to choose the goal of their activity, since there is usually more than one real opportunity for the activity of each individual. People are also more or less free to choose the means of attaining their goal and to plan its attainment. So, objective necessity is dialectically combined with free choice, and different individuals behave differently in similar situations, making dif-

ferent choices. Hence the individual's inevitable responsibility for his choice and behaviour.

A correct understanding of the essence of freedom is highly important for ideological educational work. Freedom should not be regarded as arbitrary action, as each individual's right and possibility to act in accordance with his own subjective wishes, without due account for social necessity.

Back in 1894, fourteen years before the writing of *Materialism and Empirio-Criticism*, Lenin wrote a pamphlet entitled *What the "Friends of the People" Are and How They Fight the Social-Democrats*, directed against the subjective-idealist philosophy of the Russian Narodniks (Populists). In that pamphlet, he gave a classical definition of the correlation between freedom and necessity in human behaviour: "This is one of the favourite hobby-horses of the subjective philosopher—the idea of the conflict between determinism and morality, between historical necessity and the significance of the individual... Actually, there is no conflict here at all... The idea of determinism, which postulates that human acts are necessitated and rejects the absurd tale about free will, in no way destroys man's reason or conscience, or appraisal of his actions. Quite the contrary, only the determinist view makes a strict and correct appraisal possible instead of attributing everything you please to free will. Similarly, the idea of historical necessity does not in the least undermine the role of the individual in history: all history is made up of the actions of individuals, who are undoubtedly active figures."¹

Machism in effect denied necessity and exaggerated the role of free will in man's social life. Mach inclined to voluntarism and idealism in the spirit of the

¹ V. I. Lenin, *Collected Works*, Vol. 1, 1977, p. 159.

German idealist philosopher Arthur Schopenhauer, who said the world was ruled by a blind “world will” which was beyond the understanding of the human reason. Voluntarism replaces objective causal connections between phenomena with that mystical “world will”. In Mach’s doctrine, “will” is called “intention” and as such declared to be an attribute of the whole of nature. Mach said that nature acted like a good dealer, never doing anything without intention. Thus, iron is attracted to a magnet and a stone to the earth because nature has an intention to bring iron closer to the magnet, and the stone to the centre of the earth. For Mach, will or “intention” are present in everything: people, stones, magnets, sulphuric acid, which has an “affinity” for zinc, etc.; will is the motive force of all processes. Quoting Mach’s statement on nature’s “will” and “intentions”, Lenin writes: “Mach utters banalities because on the theoretical problem of freedom and necessity he is entirely at sea... Mach’s eclecticism and his tendency to idealism are clear to everyone except perhaps the Russian Machists” (pp. 191, 193).

Lenin’s ideas on freedom and necessity are important for the theory of historical materialism. Without a knowledge of the essence and interconnection of these categories, one cannot understand the correlation between historical law and conscious human activity, between objective conditions and the subjective factor in history, or the relative independence of social consciousness from social being.

Lenin’s work is also of exceptional importance in refuting the allegations that Marxism is inattentive to man, that it neglects the personality, etc. In recent decades, man has been a central topic in the works of philosophers and sociologists, the focal point of a sharp ideological struggle.

Lenin says it is idealist nonsense to accuse Marx-

ism of ignoring the personality and subjecting it to some "immanent economic laws".

Emphasising the role of practice in the theory of knowledge and elaborating the problem of freedom and necessity, Lenin gives a high assessment of *man's technico-production activity, transformation of nature and the society, and socio-political activity*. Lenin's theory of reflection, which asserts a unity of the subjective and the objective in cognition, implies *creative activity, a definite position in the social struggle*. As we find, the problem of man is central to Lenin's work, and his solution of that problem is by no means abstract, but is closely tied in with man's revolutionary practice.

3. "Parties in Philosophy"

In the final chapter of his work (Section 4, "Parties in Philosophy and Philosophical Blockheads"), Lenin examines the problem of partisan philosophy as a whole, showing its essence and role in social life. Throughout *Materialism and Empirio-Criticism*, as Lenin himself notes, "in connection with every problem of epistemology touched upon and in connection with every philosophical question raised by the new physics, we traced the struggle between *materialism* and *idealism*", between two lines, two parties in philosophy. "Behind the mass of new terminological artifices, behind the clutter of erudite scholasticism, we invariably discerned *two* principal alignments, two fundamental trends in the solution of philosophical problems. Whether nature, matter, the physical, the external world should be taken as primary, and consciousness, mind, sensation, ... the psychical, etc., should be regarded as secondary—that is the root question which *in fact* continues to

divide the philosophers into *two great camps*" (pp. 335-36). As Lenin shows, advocates of various idealist trends have always sought to cover up their partisanship, claiming to stand above all parties in philosophy. Lenin countered bourgeois objectivism, which seeks to hide the class essence of its world outlook behind a non-party mask, with the Marxist principle of partisan philosophy. Lenin interprets that principle as open and consistent struggle for materialism, for a truly scientific explanation of the world and its revolutionary transformation. "Marx and Engels were partisans in philosophy from start to finish, they were able to detect the deviations from materialism and concessions to idealism and fideism in every one of the 'recent' trends" (p. 339).

The principle of partisan philosophy assumes that the two basic contending philosophical trends—materialism and idealism—are *irreconcilable*. "The genius of Marx and Engels lies precisely in the fact that during a very long period, *nearly half a century*, they developed materialism, further advanced one fundamental trend in philosophy, ... and showed *how* to apply ... *this same* materialism in the sphere of the social sciences, mercilessly brushing aside as rubbish all nonsense, pretentious hotchpotch, the innumerable attempts to 'discover' a 'new' line in philosophy, to invent a 'new' trend and so forth" (p. 336). Since materialism and idealism are irreconcilable, it is futile to try to create anything intermediate, which would include elements of both these *major philosophical trends* and eclectically combine them. Lenin rejects such eclectics in principle precisely because materialism and idealism *absolutely rule each other out*. "The 'realists', etc., including the 'positivists', the Machists, etc., are all a wretched mush; they are a contemptible *middle party* in philosophy, who confuse the materialist and idealist

trends on every question. The attempt to escape from these two basic trends in philosophy is nothing but 'conciliatory quackery'" (p. 340).

Lenin shows that the source of the Russian Machists' muddle and their mistakes is precisely their inability to discern the two basic philosophical trends—materialist and idealist—behind the mass of new terms and scholastic crotchets. As soon as some philosophical school replaces the conventional concepts of spirit and matter with different ones, the feeble-minded come to regard it as having risen above idealism and materialism. The Russian Machists trusted the reactionary professors of philosophy who claimed to be non-partisan. That was a misfortune of the Machists, for "*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" (p. 342).

The objectively inevitable partisan nature of philosophy, its social essence and role, Lenin wrote, are excellently illustrated by its attitude towards religion and natural science.

The Machists' attitude towards religion and natural science shows that in spite of their claims to have "risen above" materialism and idealism, and "to have transcended this 'obsolete' antithesis", "this whole fraternity" is in actual fact "*continually* sliding into idealism and it conducts a steady and incessant struggle against materialism" (p. 341). Mach, Avenarius and their followers, Lenin says, never rise above a neutral stand on religion, and a philosopher's neutrality on that issue makes him a "flunkey of fideism". In examining the main tenets of the Machist philosophy, Lenin concludes that its objective role is to clear the way for idealism and fideism (for details see Chapter VII of this pamphlet).

The attitude of Machism to natural science also shows its reactionary nature. All Machism, from beginning to end, combated the "metaphysics" of natural science, this being the name given by Mach, Avenarius and Petzoldt to natural-scientific materialism, i.e., to the instinctive conviction of most scientists regarding the objective reality of the external world reflected by our consciousness. The Machist Rudolf Willy declared that philosophy should rid itself of the authority of the natural sciences, which recognise materialism. The Machist Josef Petzoldt said that science should not be trusted. In his view, it is just as absurd to believe in the reality of atoms and molecules as in the ancient Indian myth that the world rests on an elephant. For him, the concepts of atoms and molecules are not a reflection of reality, but mere symbols and metaphores.

The Machist Hans Kleinpeter criticised the epistemological positions of Carl Snyder, an American writer, who in one of his works gave a clear and popular account of a number of recent discoveries in physics and other branches of natural science. Snyder never had the slightest doubt that "the world picture is a picture of how matter moves and of how 'matter thinks'"¹ (p. 353). In his view, scientific progress is possible only on the basis of materialism. He ridicules the idea of "good Bishop Berkeley" that "it is all a dream". However comforting may be the tricks of an "idealised idealism", hardly anyone of us doubts one's own existence. And once we allow the truth and objectivity of the sensation of our own existence, we have no reason to regard our other sensations and perceptions of the external world as an empty dream. So, Snyder shows that a philosopher who recognises at least his own existence

¹ Karl Snyder, *Das Weltbild der modernen Naturwissenschaft...*, Leipzig, Barth, 1905, S. 228.

cannot deny the existence of the external world. But Kleinpeter, who boasts of being non-partisan in philosophy, declares Snyder's clear and scientific standpoint to be unsatisfactory and "metaphysical".

Lenin gives a convincing example of how diverse trends of idealist philosophy make use of Machism. At that time, pragmatism was in vogue in American philosophy. It referred to positivism and relied on Mach, Pearson, Poincaré, Duhem and Ostwald. The differences between Machism and pragmatism are just as insignificant and unimportant as those between empirio-criticism and empirio-monism. Like Machism, pragmatism claims to reject both materialism and idealism. In actual fact, however, it draws openly idealistic conclusions from its theory of knowledge. William James, one of the founders of pragmatism, recognises the idea of God as a true one on the grounds that it has a "working value". The pragmatic theory of truth recognises as true any judgement which can be of practical use and can bring success. Such a theory evidently serves fideism.

Lenin demonstrates the social importance of the two lines, or parties, in philosophy—the struggle of materialism against idealism and agnosticism—by the "storm" provoked in every civilised country by *The Riddle of the Universe*, a book by the German naturalist Ernst Haeckel. Haeckel ridiculed all idealist tricks aimed at reducing our knowledge to arbitrary symbols, categorically asserted the reality of the world, and rejected the "dualistic theories of knowledge" as absurd. Lenin wrote of Haeckel's book: "This popular little book became a weapon in the class struggle" (p. 348). Idealist die-hards in every country were quick to notice the materialist spirit of Haeckel's works, for he defended that "metaphysics" of natural science against which idealists and theologians were fighting the world over. In this context,

Lenin emphasises the connection of philosophical views and doctrines with the interests of classes and the class struggle, although the founders of diverse philosophical movements (idealist or tending towards idealism) have always sought to camouflage their class essence and ideological edge. Lenin shows that idealism, whatever its signboard, has always provided an ideological basis for the society's ruling classes and reactionary strata.

Dialectical materialism is a philosophical doctrine which openly substantiates the world outlook and ideology of the working class and the working masses led by it. By proving that it is possible to know and transform reality, materialism serves the cause of progress and the interests of the working people.

Naturally, that applies to idealism and materialism as a whole, as general philosophical trends, for individual idealist philosophers and even certain idealist schools can in definite conditions take a progressive social stand, just as individual materialist philosophers can take a reactionary stand. The connection between philosophy and politics in practice is far from simple, but the above-mentioned exceptions do not invalidate the general rule. Nor should one fully identify the principle of partisanship in philosophy with partisanship in the political sense, which means membership of a definite political party. Dialectical materialism is the philosophical basis of the world outlook, ideology and methodology of communist and workers' parties. But that does not rule out a wide spread of dialectical materialism among people who hold progressive political and social views although they are not members of these parties.

So, we find that partisanship is a major indicator of the social positions of any philosopher, scientist or public figure who holds definite philosophical views and applies these in his activity.

VII. CRITIQUE OF MACHISM AS REFINED FIDEISM

Lenin wrote his book in a period of reaction, which started in Russia after the defeat of the bourgeois-democratic revolution of 1905-07. At that time, the problems of religion were of especial philosophical and political importance. Lenin wrote: "The Russian bourgeoisie for its counter-revolutionary purposes felt a need to revive religion, increase the demand for religion, invent religion, inoculate the people with religion or strengthen the hold of religion on them in new forms. Hence the preaching of god-building has acquired a social, political character."¹

In view of the need to combat religious waverings, Lenin wrote a number of excellent atheistic works, marking a new stage in the development of Marxist atheism. These include *Socialism and Religion* (1905), *The Attitude of the Workers' Party to Religion* (1909), *Classes and Parties in Their Attitude to Religion and the Church* (1909), his well-known letters to the Russian writer A. M. Gorky in which he criticised god-building, and his articles on the Russian writer Leo Tolstoy.

Lenin sharply attacks any attempts to combine Marxism and religion: "Marxism is materialism. As

¹ V. I. Lenin, "The Faction of Supporters of Otzovism and God-Building", *Collected Works*, Vol. 16, p. 44.

such, it is ... relentlessly hostile to religion.”¹

Materialism and Empirio-Criticism crowns Lenin's atheistic legacy. In it he reveals the religious, fideist essence of the idealist tenets advocated by the empirio-criticists and shows the objective class role of idealist doctrines in general. Lenin regarded the exposure of the Machist doctrine's fideist essence as the major result of his work. Here is how he concludes it: “The objective, class role of empirio-criticism consists entirely in rendering faithful service to the fideists in their struggle against materialism in general and historical materialism in particular” (p. 358).

Lenin examines idealism's faithful service to fideism from several angles: he analyses the various Machist philosophical tenets which are essentially fideist; considers certain propositions of “physical” idealism leading up to fideism; shows Machism's affinity to openly fideist schools; and explains that Machism inevitably leads its followers to fideism.

In the introductory part of his work (“In Lieu of an Introduction”), Lenin shows the fideist essence of the Machist denial of the objective existence of matter. “Matter is nothing,” says Berkeley, seeking to assert religion. “Matter is nothing,” the Machists echo, failing to see the fideist essence of their statement and ridiculously accusing the materialists (who recognise the reality of matter) of idealism and mysticism. Lenin shows that the Machist denial of the objectivity and eternity of matter is a direct step towards recognising the existence of an eternal God as creator of the world.

Avenarius' doctrine of the “potential central term of the co-ordination”, as examined above, directly leads to recognition of the myth about

¹ V. I. Lenin, “The Attitude of the Workers' Party to Religion”, *Collected Works*, Vol. 15, p. 405.

man's immortal soul. He asserts that man always "mentally projects himself" to the perceived picture of the world, which allegedly proves that the "self" and the "non-self" always exist together and are inseparable. Lenin shows that if a man "mentally projects himself" to some facts or circumstances, this cannot serve as a criterion of the truth or objectivity of such a projection. "People can think and 'mentally project' for themselves any kind of hell and all sorts of devils. Lunacharsky even 'mentally projected' for himself—well, to use a mild expression—religious conceptions. But it is precisely the purpose of the theory of knowledge to show the unreal, fantastic and reactionary character of such projections" (p. 78).

Fideist conclusions are also to be drawn from the Machist understanding of objective truth, which is defined by Bogdanov as that which is of general significance, or as socially organised experience. By socially organised experience the Machists meant any idea which "organised" people in any way, led to social changes, and was of "general significance" for a certain group of people. It has often happened in history, however, that false ideas, giving a distorted view of objective reality, for a certain period became "generally significant" for certain groups of people and "organised" their activity along false lines. "General significance" can be easily interpreted in favour of fideism. The only anti-fideist definition of truth is its materialist definition as knowledge confirmed by practice, as correspondence of our knowledge to the properties and relations of objective reality existing outside us. The Machist doctrine of truth as people's subjective experience turns out to be nothing but a manifestation of refined fideism. Materialism alone, according to Lenin, irrevocably closes the door to any fideism (p. 126).

Lenin consistently exposes the fideist essence of the Machist interpretation of the categories of law, causality (p. 155), space and time (p. 178).

He also shows how "physical" idealism supports fideism. In Chapter Five, dealing with the recent revolution in natural science, that question is examined in Section 4, "The Two Trends in Modern Physics, and English Spiritualism", and in Section 6, "The Two Trends in Modern Physics, and French Fideism". In Britain, the fideists seized at the idea of the "physical" idealists that all scientific theories are only working hypotheses and do not seek to elucidate the essence of phenomena. Referring to the idealist waverings of some physicists, the English idealist philosopher James Ward said that the new physics was proving "the most effectual cure" for the "ignorant faith in matter" and so helping to arrive at the idea of God. In France, "the most reactionary idealist philosophy, the implications of which were definitely fideistic" (p. 291), seized upon the Machist theory of the physicist Henri Poincaré, who denied the objective significance of scientific concepts.

A major aspect of Lenin's criticism of Machism as refined fideism is presented in Chapter Four, "The Philosophical Idealists as Comrades-in-Arms and Successors of Empirio-Criticism" (Section 3, "The Immanentists as Comrades-in-Arms of Mach and Avenarius"; Section 4, "In What Direction Is Empirio-Criticism Developing?" and Section 5, "A. Bogdanov's 'Empirio-Monism'").

The doctrine of Mach and Avenarius coincides in its essential ideas with that of the so-called immanentists, a subjective idealist school. What are the teachings of that school, with which Machism goes "hand in hand"? "The immanentists are rank reactionaries, open advocates of fideism, unadulterated on their

obscurantism. There is *not one* of them who has not *frankly* made his more theoretical works on epistemology lead to a defence of religion" (p. 212). The founders of empirio-criticism openly praise the immanentist Wilhelm Schuppe. Avenarius wrote that he was gladdened and encouraged by Schuppe's sympathy for empirio-criticism. The immanentists, for their part, repeatedly expressed their approval of the theory of Mach and Avenarius. Richard Schubert-Soldern, a prominent immanentist, developed a theory which in many ways resembled Avenarius' "principal co-ordination", with its doctrine of a "potential central term". Lenin pointed out that Avenarius' theory invited fideistic conclusions on the immortality of the soul. Avenarius himself did not formulate such conclusions, but Schubert-Soldern did: from the theory that being and consciousness are inseparable, he drew a conclusion on the pre-existence of the human "self" prior to the existence of the human body and its post-existence after the death of the body, so openly proclaiming the immortality of the soul.

To show the fideistic character of empirio-criticism, Lenin analysed the statements by the German philosopher Hans Cornelius, the Russian philosopher A. A. Bogdanov, and other disciples of Mach and Avenarius. Bogdanov wrote in his *Empirio-Monism*: "We have admitted that physical nature itself is a *product* [Bogdanov's italics] of complexes of an immediate character (to which psychical co-ordinations also belong), that it is the reflection of such complexes in others, analogous to them, but of the most complex type (in the socially-organised experience of living beings)"¹ (p. 228). Bogdanov says that nature

¹ Alexander Bogdanov, *Empirio-Monism*, Book I, Second edition, Moscow, 1905, p. 146 (in Russian).

is a product, i.e., that it is produced by something which exists outside nature. In plain language, Lenin says, this is called God. "A philosophy which teaches that physical nature itself is a product, is a philosophy of clericalism pure and simple" (p. 229). "What a pity that this magnificent philosophy has not yet found acceptance in our theological seminaries! There its merits would have been fully appreciated" (p. 228).

Bogdanov calls the idealist conception that the physical is engendered by the psychical a theory of "general substitution" of the psychical for the physical. Lenin says in that context: "Absolute Idea, Universal Spirit, World Will, 'general substitution' of the psychical for the physical, are different formulations of one and the same idea" (p. 229).

The whole of *Materialism and Empirio-Criticism*, from beginning to end, is a resolute and consistently partisan (from the materialist standpoint) condemnation of any overtures to religion, any conciliatory stand on that issue, and an exposure of all brands of idealism as playing into the hands of fideism.

* * *

It is highly important today to demonstrate the deep-rooted connection between philosophical idealism and religion, for idealism has not only retained, but has considerably strengthened its social role as an accomplice of religion. That is because, in particular, religion is ever more in need of theory to defend its tenets, and the main trends of modern bourgeois philosophy are in effect working to fulfil that social order of theology.

Take neo-positivism. Outwardly, that philosophy appears to be neutral to religion, and its spokesmen

sometimes even make sceptical statements on religious values. But the basic problems of philosophy are solved by neo-positivism in a Machist-Berkeleian spirit, and that, as Lenin showed, inevitably leads to an apologia of religion. So, Lenin's arguments against the fideist spirit of the old positivism apply to modern positivism as well.

Some neo-positivist ideas directly serve to reinforce religion, although they seem to criticise it. Thus, the neo-positivists call religion "metaphysics", or a set of propositions which cannot be proved or tested by experience. But they supplement that seemingly critical description of religion with the assertion that materialism and atheism are equally undemonstrable "metaphysics". Clearly, such an analogy between the scientific theory of atheism and the unscientific, fantastic "theory" of religion amounts to support for religion, an attempt to indermine the materialist criticism of religion. Moreover, neo-positivists believe that religion has its justification in emotional terms, as a useful and inspiring feeling, while materialism is seen as utterly senseless; it is both undemonstrable and does not meet man's spiritual needs. In effect neo-positivism eulogises religion as a counterweight to atheism and materialism. The attempts by some neo-positivists to dissociate themselves from fideism cannot succeed, for their philosophy gives idealist answers to the main philosophical questions. Mach said he did not want anyone to draw mystical conclusions from his theory, i.e., to invent "ghost-stories", but Lenin said that conclusions on "ghost-stories" inevitably follow from Mach's basic tenets (p. 182). Theological conclusions are also bound to be drawn from the doctrines of modern positivism.

Lenin's reference to the tendency on the part of religion to flirt with science and pretend to be reconciled with it is still relevant today. For religion which

seeks to adapt itself to science, Lenin used the term "cultural fideism". He wrote: "Contemporary fideism does not at all reject science; all it rejects is the 'exaggerated claims' of science, to wit, its claim to objective truth" (p. 125). In elaborating that idea, Lenin adds: "Modern, cultural fideism.. *does not think of demanding* anything more than the declaration that the concepts of natural science are 'working hypotheses'. We will, sirs, surrender science to you scientists provided you surrender epistemology, philosophy to us—such is the condition for the cohabitation of the theologians and professors in the 'advanced' capitalist countries" (p. 280).

Since these words were written, fideism has become even more "cultural" and "modern". Religion has been adapting to science on a very wide scale. Present-day theologians seek to prove that religion does not contradict science. Even cybernetics is being interpreted by them in a fideistic spirit: by enabling us to play the role of creator, it allegedly teaches us to understand the meaning of the divine creation.

Lenin's book helps us see through any attempts by present-day "cultural fideism" to smuggle in religious ideas under the false flag of reconciliation with science.

Lenin's book is also of lasting importance for the struggle against present-day revisionism, which aims to review the basic Marxist tenets on religion. First of all, the revisionists deny the reactionary class role of present-day religion. In the past, they say, religion was indeed opium for the people, but today it can even "foment" the revolutionary process and lead to revolutionary action. Marxist atheism, they believe, was of exclusively political character and was directed against the reactionary political activity of the clergy, whereas today there is no ground for anti-clerical or

anti-religious Marxist propaganda, since the political colouring of many religious organisations has changed.

Revisionists overlook the fact that in different historical periods religion may play different political roles, and religious organisations may vary their activity in defence of the interests of the exploiting classes and may even in certain matters be fellow-travellers of progressive organisations, as they often are today. The communist and workers' parties change their attitude to religious organisations and their tactics in relation to them accordingly. But under any conditions religion remains an enemy of scientific materialist ideology.

At the same time, it is very important to bear in mind that an irreconcilable stand on religious ideology does not in the least mean any hostility towards believers on the part of the communist and workers' parties. Lenin wrote that the tactics of the Marxist parties—an ideologically irreconcilable attitude to religion, on the one hand, and respect for believers, a striving to join forces with them in a common struggle for social progress, on the other—would appear to someone to be a “skein of meaningless Marxist contradictions”. But only “people with a slapdash attitude” to Marxism, Lenin said, can think that way.¹ A Marxist should take into account the concrete situation, should be able to draw a line between anarchism and opportunism, and should neither lapse into the opportunism of the petty bourgeois, who is afraid to combat religion, nor into the empty abstract “revolutionism” of the anarchist, who gives priority to the struggle against religion. Whatever the vicissitudes of ideological struggle, the Marxist always gives priority to the interests of struggle against the

¹ V. I. Lenin, *Collected Works*, Vol. 15, p. 404.

social oppression of the working people, against poverty and exploitation, i.e., against the social root of religion, against those circumstances which induce people to believe in god and rely on help from heaven.

Lenin's ideas on atheism have been the basis of the theory and practice of all Marxist parties for many decades.

FROM WHAT STANDPOINTS SHOULD THE MARXIST VIEW EMPIRIO-CRITICISM?

Lenin teaches Marxists to stand firm in defence of the basic principles of Marxism, a departure from which means betrayal of the Marxist world outlook and a switch to unscientific idealist positions. Marxists, he points out, should assess empirio-criticism from four standpoints.

First, one should compare the theoretical foundations of empirio-criticism and dialectical materialism. A sizeable part of Lenin's book is devoted to such a comparison, which shows the reactionary nature of empirio-criticism. Its advocates cover up the old mistakes of idealism and agnosticism with new tricks and crotchets. To say that empirio-criticism is in harmony with Marxism betrays sheer ignorance, an utter failure to understand the philosophical materialism of Marx and Engels.

Second, one should determine the place of empirio-criticism among the other modern philosophical schools. Here is how Lenin does that: Mach and Avenarius started from Kant and his agnosticism, but instead of going on to materialism, they turned back to the subjective idealists Hume and Berkeley. Kant combined his agnosticism with a materialist recognition of "things-in-themselves", i.e., real objects existing outside and independently of the human consciousness. Lenin says that Avenarius "purified" agnosticism from Kantianism. The whole school of

Mach and Avenarius utterly rejects the reality of the world, the “thing-in-itself”, and joins fortunes with the so-called immanentists, one of the most reactionary idealist schools.

Third, one should bear in mind Machism’s indisputable connection with “physical” idealism. In that context, Lenin once again examines the epistemological roots of “physical” idealism. The collapse of old theories as a result of recent discoveries demonstrated the relativity of our knowledge. Having realised this relativity, some physicists, ignorant of dialectics, lapsed into relativism and eventually into idealism.

Fourth, one should examine the social roots of empirio-criticism and its objective class purpose. Behind empirio-criticist scholastics, one is bound to see an ideological, partisan struggle in philosophy, which is ultimately a class struggle. “Recent philosophy is as partisan as was philosophy two thousand years ago. The contending parties are essentially—although this is concealed by a pseudo-erudite quackery of new terms or by a weak-minded non-partisanship—materialism and idealism. The latter is merely a subtle, refined form of fideism” (p. 358).

Lenin’s ideas on how to assess empirio-criticism are of abiding importance. These “four standpoints” include *the principles by which Marxists should be guided in assessing any idealist trend in philosophy*.

The modern world is the scene of a sharp struggle between the two opposite world outlooks. Ideology plays an ever more important role in determining human behaviour, and mankind’s future in large measure depends on the outcome of the ideological struggle. Lenin’s book, with its powerful arguments in favour of the revolutionary world outlook, is still highly relevant today. Every thinking person should

determine his own place in the struggle, his responsibility and world outlook, and Lenin's immortal work can help him in that endeavour. For many generations to come, it will be a model of the scientific materialist world outlook and its defence, a model of the creative development of Marxism, and an inspiring example of struggle against any ideological reaction.

In Lieu of a Conclusion

This pamphlet is meant to serve as a brief introduction to Lenin's book, merely setting out its basic ideas and inviting you to take the next important step in your philosophical education: to read Lenin's book itself. That book, however, should be studied with due account for the present. In other words, one should "consult" with its author on each new problem of natural science, philosophy or sociology. Lenin himself used to say that he consulted with Marx, turning to his works not for any ready-made answer to the new questions being raised by the development of science and the society as a whole, but for an approach to these questions, an ability to formulate and answer them dialectically, since dialectics has always been and will continue to be the very soul of the Marxist doctrine.

Lenin's book will help you understand and master other Marxist-Leninist philosophical works, especially Engels' *Anti-Dühring* and *Ludwig Feuerbach and the End of Classical German Philosophy*, with which Lenin's book is closely tied in. It is also a key to Lenin's *Philosophical Notebooks* (1914-16), which were its direct continuation.

In the *Philosophical Notebooks*, special attention should be paid to the passage "On the Question of Dialectics", in which Lenin sets out his conception of dialectics. For a deeper understanding of the prob-

lems of historical materialism formulated in *Materialism and Empirio-Criticism*, one could also read Lenin's *What the "Friends of the People" Are and How They Fight the Social-Democrats* (1894). *The State and Revolution*, written in 1917, on the eve of the October Socialist Revolution, follows directly from Lenin's philosophico-sociological conception. In that work, he defines the proletariat's tasks in the revolution and the ways of building a socialist and a communist society; it helps to understand the essence of Marxism as a guide to revolutionary action.

Lenin's works could lay a good foundation for your philosophical education and guide you in your activity in the movement for peace, justice and mankind's progress.

Glossary

Agnosticism (Greek *agnostos* unknowable), a doctrine which holds that man cannot know the true essence of things. Classical agnostics in the history of philosophy were Hume and Kant.

Hume believed that man deals solely with his own sensations, with the facts of his subjective experience, and so cannot know anything about the external world: neither what it is, nor whether it exists at all. Kant recognised the objective existence of things (“things-in-themselves”), but thought their essence to be unknowable.

A priori (Latin: from the former), a term relating to knowledge intrinsic to consciousness. The opposite term, *a posteriori* (Latin: from the latter), means knowledge derived from experience through sense-perception.

Atheism (Greek *atheos* without God), a system of views denying belief in a deity, in the supernatural.

Basic question of philosophy, the question of the relation of consciousness to being, of the spiritual to the material. The question has two aspects: first, what is primary—spirit or nature, consciousness or matter; and second, whether consciousness corresponds to being, whether it is capable of a true reflection of the world. The answer to that question constitutes the basis of each philosophical doctrine.

Materialism and idealism give essentially different answers: materialism assumes the primacy of being and its knowability, while idealism assumes the primacy of spirit, and most idealistic trends advocate agnosticism, saying that the world is unknowable.

Being, a concept used in materialist philosophy to designate the whole surrounding world, which exists objectively and independently of human consciousness.

Categories (Greek *kategoria* definition, statement), the most general concepts in any theoretical discipline, reflecting the basic properties and laws of objective reality. Philosophical categories include matter, consciousness, motion, space and time, quality and quantity, causality, necessity and chance, form and content, possibility and reality, etc. Every epoch in the development of scientific and technical thought is marked by its own specific set of categories, reflecting the depth of knowledge, its direction and basic forms.

Cause and effect—see this pamphlet, p. 87.

Chance—see this pamphlet, pp. 92-93.

Deism (Latin *deus* god), a doctrine which recognises the existence of god solely as the prime cause of the world. From the deistic point of view, god only created the universe, but has since taken no part in its processes.

Determinism and indeterminism—see this pamphlet, pp. 89-90.

Dialectical materialism, a science of the most general laws of the development of nature, the society and human thought examined in the light of a materialist answer to the question about the relation of being to consciousness.

Dogmatism (Greek *dogma* opinion, tenet, decree), a rigid approach to problems without due account

for the concrete historical conditions; use of dogmas, or abstract tenets divorced from life but held as true and regarded as an adequate basis for denouncing or refuting propositions which clash with them. A characteristic feature of dogmatism is blind faith in authority, defence of obsolete (sometimes initially erroneous) or unproved tenets. Dogmatism in philosophy is an expression of undialectical (metaphysical) thinking.

Dualism (Latin *duo* two), a philosophical doctrine which, in contrast to monism (Greek *monos* one, alone), regards the material and spiritual substances as equal constituents of the universe. Dualism is most characteristic of the philosophy of Descartes and Kant.

Eclecticism (Greek *eklego* I select), attempts to compose a seemingly logical doctrine of different, often antithetical philosophical views, political assessments, scientific propositions, etc.

Empirio-criticism (Greek *empeiria* experience and *kritike* art of discerning, judging), literally, "philosophy of critical experience", a subjective idealist trend in philosophy founded by Avenarius and Mach (hence its other name, Machism). It denies the real existence of matter, necessity and causality. The doctrine centres on Mach's idea of the world as a totality of "neutral elements" or sensations, and on Avenarius' doctrine of "principal co-ordination", i.e., an indissoluble link between the subject and the object. Empirio-criticism was closely related to "physical" idealism. Its attempts to develop a "third line" in philosophy, to reduce philosophy to an analysis of scientific knowledge, and speculation on the latest scientific discoveries were eventually taken up by neo-positivism.

Empirio-monism (Greek *empeiria* experience and

monos one), the name given by Bogdanov to his philosophy, a variety of empirio-criticism, or Machism. From its standpoint, everything is experience (understood as a totality of sense data) organised in one way or another.

Empirio-symbolism (Greek *empeiria* experience and *symbolon* sign, symbol), a term used by the idealist Yushkevich to denote his own philosophical variety of empirio-criticism. Its main idea is that concepts (truth, being, essence, etc.) are merely arbitrary symbols and do not reflect anything real; the external world and its laws are only symbols of man's capacity for knowledge.

Epistemology, or *theory of knowledge* (Greek *episteme* knowledge and *logos* reason, doctrine), a theory of the essence, laws and forms of knowledge. It deals with the subject-matter and sources of knowledge, its essence and motive force, the stages, forms and methods of cognition; truth and its criteria, the relationship between human cognition and practice, etc. The history of philosophy knows two essentially different lines in the solution of the basic epistemological problems: materialist and idealist.

Experience, see this pamphlet, pp. 81-82.

Fideism, a doctrine which substitutes faith for knowledge or attaches importance to faith. Lenin often used the term in a broader sense, as meaning any adherence to religion.

Freedom and necessity, see this pamphlet, pp. 129-34.

Historical materialism, a component of the Marxist-Leninist philosophy, a science of the most general laws and motive forces of the society's development, founded by Marx and Engels. As they elaborated the new philosophical world outlook, Marx and

Engels extended it to the society. Historical materialism is also known as the materialist view of history.

Idealism, a philosophical trend opposed to materialism in answering the basic question of philosophy. Idealism assumes that consciousness (spirit) precedes matter, that it creates matter and its laws. Depending on how it conceives the spiritual prime cause, idealism has two main forms: objective and subjective. Objective idealism recognises the existence outside us of an objective idea which creates the world, while subjective idealism holds that the world derives from the idea of the subject, from his individual consciousness.

Immanent philosophy, a subjective idealist trend in philosophy in the late 19th and early 20th centuries which held that cognisable reality lies in the realm of human consciousness, that it is immanent to it.

The immanentists deny the existence of objective reality and regard consciousness as the only reality. They were sharply criticised by Lenin in his *Materialism and Empirio-Criticism*.

Introjection, see this pamphlet, pp. 35-36.

Law, a necessary, essential and steady connection between phenomena in nature and the society.

Materialism, a philosophical trend opposed to idealism. In answering the basic question of philosophy, materialism assumes that matter (nature) is primary, while consciousness is secondary. It regards consciousness as a property of highly organised matter.

The highest form of materialism is dialectical materialism, which was created in the mid-19th century by Marx and Engels and which overcame not

only the mechanistic and metaphysical limitations of pre-Marxist materialism, but also its idealist view of the society.

Matter, see this pamphlet, pp. 71-75.

Metaphysics, in Marxist philosophy, a method of thought antithetical to dialectics, a simplified and limited view of the world. It either denies change and development or reduces these to mere quantitative increase or decrease, while ignoring qualitative transformations.

Pre-Marxist materialism was largely metaphysical. A fusion of materialism and dialectics into dialectical materialism is a crucial element of the Marxist revolution in philosophy.

The Machists distorted the term “metaphysics”, taking it to mean recognition of the reality of the objective world outside us and so accusing the materialists of metaphysics.

Monism (Greek *monos* one, alone), a philosophical principle according to which all existence has a single source. Depending on the answer to the basic question of philosophy, monism can be either idealist or materialist. For idealist monism, the unifying foundation of the world is spiritual, and for materialist monism, it is material.

Natural-scientific materialism (or *natural-historical materialism*), “the instinctive, unwitting, unformed, philosophically unconscious conviction shared by the overwhelming majority of scientists regarding the objective reality of the external world reflected by our consciousness” (V. I. Lenin, *Collected Works*, Vol. 14, p. 346). Lenin saw it as shallow and incomplete materialism, which confines itself to a materialist view of nature, but usually implies an idealist view of the society.

“Physical” idealism, see this pamphlet, pp. 97-98.

Positivism, see this pamphlet, p. 27.

Pragmatism (Greek *pragma* deed, action), a subjective idealist trend in present-day philosophy which emerged in the USA in the 1870s. Its main ideas are close to those of empirio-criticism. It holds that objects of cognition do not exist outside the individual's experience. Truth for it is an idea which yields practical success; in other words, it is any useful idea. With the principles of pragmatism, one can justify any reactionary policy if it brings “success”. That is why pragmatism is an unscientific, extremely individualistic and voluntarist trend.

“Principal co-ordination”, see this pamphlet, p. 31.

Sensationalism (Latin *sensus* sensation), a trend in epistemology (the theory of knowledge) which regards sensation as the only source of our knowledge. Sensationalism is compatible both with the materialist view of reality (if sensations are regarded as a result of material objects acting upon our sense organs and as a reflection of these objects) and with the subjective idealist view of the world (if sensations are regarded on their own, as the only reality, without any objective source).

Dialectical materialism does not exaggerate the role of sensory perception, pointing out that sensations can become a necessary aspect of human cognition only in organic unity with the other aspects of cognition: practice and abstract thought.

Solipsism (Latin *solus* alone and *ipse* self), a subjective idealist theory according to which only the individual and his consciousness exist, while the objective world, including other people, exists solely in the mind of that individual. In principle, every subjective idealist philosophy which regards an individual's sensations as the only reality leads to solipsism.

Space and Time, basic forms of the existence of matter, its inalienable properties. The dialectico-materialist philosophy has always recognised the objective and universal character of space and time. In other words, they exist outside the consciousness and independently of it, and are intrinsic to all objects and phenomena of reality. In contrast to materialism, idealism regards space-time relationships as dependent either on the individual consciousness (Berkeley, Hume) or on an absolute idea (Hegel), or else as *a priori* (prior to experience) forms of sensory perception (Kant). Dialectical materialism emphasises the indissoluble connection between space and time, matter and motion.

According to modern notions, space is three-dimensional, and time has only one dimension. Together, they constitute an integral four-dimensional continuum. See also this pamphlet, pp. 83-87.

Spiritualism (Latin *spiritus* breath), in the broad sense of the word, the same as idealism; in the narrow sense, certain idealist doctrines which hold that the essence of being is made up of *spiritual elements* (substances), which are independent of matter and determine its development. Spiritualism is closely connected with religion.

Substance (Latin *substare* to stand under), a philosophical term which in pre-Marxist philosophy meant the ultimate reality which underlies all concrete things and phenomena, their emergence and disappearance, but which itself does not depend on anything and is its own cause.

From the idealist standpoint, such substance is spirit, god, idea or world reason. Pre-Marxist materialists saw it as something corporeal, as the unalterable ultimate basis of all reality (e.g., Democritus' atoms). Dialectical materialism holds that substance is not something uniform or unchangeable; it is matter

in the unity of all the forms of its motion and existence.

Theology (Greek *theos* god and *logos* reason, doctrine), the study of god, a set of religious doctrines on the essence of god. Its central tenet is the existence of a personal god, who created the world and continues to govern it. Theology does not rely on reason, but on blind faith; its distinctive feature is dogmatism, and its clinching argument is reference to authority, to "the holy scriptures", etc.

"*Theory of symbols*" (hieroglyphs), an epistemological conception according to which human sensations are not images of objects and phenomena, but merely their symbols, signs, or hieroglyphs, which have nothing in common with the actual things or their properties. Its author is the German naturalist Hermann Helmholtz, who inclined towards agnosticism in the spirit of Kant. See also this pamphlet, pp. 53-54.

"*Thing-in-itself*", see this pamphlet, pp. 43-46.

Transcendent, a term in idealist philosophy denoting that which is beyond consciousness and cognition, that which is unknowable.

Transcendence, see this pamphlet, p. 47.

Truth, a true, correct reflection of reality in thought, which is ultimately verified by the criterion of practice, by man's material activity aimed at transforming natural and social phenomena.

In his *Materialism and Empirio-Criticism* and *Philosophical Notebooks*, Lenin showed the dialectics of the various aspects of truth: the unity of relative and absolute truth as stages in the cognition of objective truth. In his *Philosophical Notebooks*, he pointed out the way leading to truth: "From living perception to abstract thought, and from this to practice,—such is the dialectical path of the cogni-

tion of *truth*" (V. I. Lenin, *Collected Works*, Vol. 38, 1980, p. 171).

For relative, objective and absolute truth, see this pamphlet, pp.55-63.

Voluntarism (Latin *voluntas* will), an idealist trend in philosophy which regards will as the prime basis of all that exists, contrasting it with the objective laws of nature and the society.

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