

The second step corresponds to Dietzgen; the similarity here is manifest. The differences are accounted for by their different class views. Dietzgen stood on the basis of dialectic materialism, and his expositions were a direct consequence of Marxism. Mach, borne by the incipient reaction of the bourgeoisie, saw his task in a fundamental criticism of physical materialism by asserting dominance to some spiritual principle. There is a difference, moreover, in personality and aims. Dietzgen was a comprehensive philosopher, eager to find out how our brains work; the practice of life and science was to him material for the knowledge of knowledge. Mach was a physicist who by his criticisms tries to improve the ways in which brains worked in scientific investigations. Dietzgen's aim was to give clear insight into the role of knowledge in social development, for the use of the proletarian struggle. Mach's aim was an amelioration of the practice of physical research, for the use of natural science.

Speaking of practice, Mach expresses himself in different ways. At one time he sees no utility in employing the ordinary abstractions: "We know only of sensations, and the assumption of those nuclei (particles of matter) and their mutual actions as the assigned origins of sensations, shows itself entirely futile and superfluous" (**Analyse der Empfindungen**, p.10). Another time he does not wish to discredit the common view of unsophisticated "naive realism," because it renders great services to mankind in their common life. It has grown as a product of nature, whereas every philosophical system is an ephemeral product of art, for temporary aims. So we have to see "why and to what purposes we usually take one point of view, and why and to what purpose we temporarily give it up. No point of view holds absolutely; each imports for special aims only" (**Analyse der Empfindungen**, p.30).

In the practical application of his views upon physics Mach met with little success. His campaign was chiefly directed against matter and atoms dominating physical science. Not simply because they are and should be acknowledged as abstractions: "Atoms

## Lenin as Philosopher

Anton Pannekoek

1938

part consists in the totality of its actions and reactions with the rest, and all these mutual actions are the phenomena, the object of science.

Man also is part of the world; we too are the totality of our mutual interactions with the rest, the outer world. Our sensations are now seen in a new light; they are the actions of the world upon us, only a small part of all happenings in the world but, of course, the only ones immediately given to us. When now man is building up the world out of his sensations, it is a reconstruction in the mind of an already objectively existing world. Again we have the world twofold, with all the problems of epistemology, the theory of knowledge. How they may be solved without metaphysics is shown by Historical Materialism.

If one asks why two such prominent philosophers of science omitted this obvious step toward the constitution of an objective world, the answer can only be found in their middle-class world view. Their instinctive tenet is anti-materialistic. By adhering to the intersubjective world they have won a monistic world system, the physical world consisting of psychical elements, so that materialism is refuted. We have here an instructive example how class views determine science and philosophy.

Summarising Mach's ideas we distinguish two steps. First the phenomena are reduced to sensations expressing their subjective character. Through the desire to find direct reality only in the sensations as psychical entities, he does not proceed by precise deductions to an objective world that obviously is matter of fact, though in a mystical vague way. Then comes a second step from the world of phenomena to the physical world. What physics, and by the popular dispersion of science also common opinion, assumes as the reality of the world – matter, atoms, energy, natural laws, the forms of space and time. myself – are all abstractions from groups of phenomena. Mach combines both steps into one by saying that things are sensation-complexes.

its contents? I start with “my sensations” and make them into a system of “sayings” and “objects” (“object” is the name given to everything about which we may utter a saying); thus I establish physical and psychical “objects” and construct “the world” as an ordered system of my sensations. The problem of dualism of body and mind, of material and spiritual, finds here the same answer as with Mach: both consist of the same materials, the sensations, only ordered in a different way. The sensations of fellow-men, according to their statements, lead to a physical world exactly corresponding to mine. So we call it the “intersubjective world,” common to all subjects; this is the world of natural science. Here Carnap stops, satisfied that dualism has been removed, and that any quest about the reality of the world is now shown to be meaningless, because “reality” cannot be tested in another way than by our experience, our sensations. So the chain of progressive constitutings is broken off here.

It is easy to see the limitedness of this world structure. It is not finished. The world thus constituted by Mach and by Carnap is a momentary world supposed unchanging. The fact that the world is in continuous evolution is disregarded. So we must go on past where Carnap stopped. According to our experience people are born and die; their sensations arise and disappear, but the world remains. When my sensations out of which the world was constituted, cease with my death, the world continues to exist. From acknowledged scientific facts I know that long ago there was a world without man, without any living being. The facts of evolution, founded on our sensations condensed into science, establish a previous world without any sensations. Thus from an intersubjective world common to all mankind, constituted as a world of phenomena by science, we proceed to the constitution of an objective world. Then the entire world view changes. Once the objective world is constituted, all phenomena become independent of observing man, as relations between parts of the world, The world is the totality of an infinite number of parts acting upon another; every

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“There is no difficulty in building up every physical happening out of sensations, i.e. psychical elements; but there is no possibility of seeing how out of the usual physical elements, masses and motions, any psychical happening might be constructed ... We have to consider that nothing can be object of experience or science that cannot be in some way a part of consciousness” (p.12).

Here, in this footnote added later, in 1905, the well considered equivalence of both worlds, physical and psychical, the careful neutral characterising of the elements, is given up by calling them psychical, and the anti-materialistic spirit of the bourgeoisie breaks through. Since it is not our aim to criticise and to contest but only to set forth Mach’s views we shall not enter into the tautology of the last sentence, that only what is in consciousness can be conscious and that hence the world is spiritual.

The new insight that the world is built up out of sensations as its elements, meets with difficulties, Mach says, because in our uncritical youth we took over a world view that had grown intuitively in the thousands of years of human development. We may break its spell by critically repeating the process through conscious philosophic reasoning. Starting with the most simple experiences, the elementary sensations, we construct the world step by step: ourselves, the outer world, our body as part of the outer world, connected with our own feeling, actions and reminiscences. Thus, by analogy, we recognise fellow-men as kindred, and so their sensations, disclosed by their sayings, may be used as additional material in constructing the world. Here Mach stops; further steps toward an objective world are not made.

That this is no accidental incompleteness is shown by the fact that we find the same thing with Carnap, one of the leading thinkers in modern philosophy of science. In his work **Der logische Aufbau der Welt (The logical construction of the world)** he sets himself the same task, but more thoroughly: if we start with knowing nothing, having however our full capacity of thinking, how can we establish (“constitute”) the world with all

Here it must be objected that “red” and “green” as belonging to more bodies are not the simple sensational elements of experience, but themselves already abstract concepts. It seems that Mach here replaces the abstract concepts body and matter by other abstract concepts, qualities and colours, that as realities appear in my and in another’s sensations. And when he calls my sensation and another’s analogous sensation the same element, this word is taken in another sense.

Mach’s thesis that the world consists of our sensations, expresses the truth that we knew of the world only through our sensations; they are the materials out of which we build our world; in this sense the world, including myself, “consists” of sensations only. At the same time, the emphasis upon the subjective character of sensations reveals the same middle-class trend of thought that we find in other contemporary philosophies. It is even more evident when he points out that these views may tend to overcome dualism, this eternal philosophical antithesis of the two worlds of matter and mind. The physical and the psychical world for Mach consist of the same elements, only in a different arrangement. The sensation green in seeing a leaf, with other sensations is an element of the material leaf; the same sensation, with others of my body, my eye, my reminiscences, is an element of “myself,” of my psyche.

“Thus I see no antithesis of the physical and the psychical, but I see a simple identity relative to these elements. In the sensual realm of my consciousness every object is physical and psychical at the same time” (**Analyse der Empfindungen**, p36). “Not the stuff is different in both realms, but the tendency of the research” (p.14).

Thus dualism has disappeared; the entire world is a unity, consisting of the self-same elements; and these elements are not atoms but sensations. And in **Erkenntnis und Irrtum** he adds in a footnote

## Introduction

The Russian Revolution was fought under the banner of Marxism. In the years of propaganda before the First World War the Bolshevik Party came forward as the champion of Marxist ideas and tactics. It worked along with the radical tendencies in the socialist parties of Western Europe, which were also steeped in Marxian theory, whereas the Menshevik Party corresponded rather to the reformist tendencies over here. In theoretical controversies the Bolshevik authors, besides the so-called Austrian and Dutch schools of Marxism, came forward as the defenders of rigid Marxist doctrines. In the Revolution the Bolsheviks, who now had adopted the name of Communist Party, could win because they put up as the leading principle of their fight the class war of the working masses against the bourgeoisie. Thus Lenin and his party, in theory and practice, stood as the foremost representatives of Marxism.

Then, however, a contradiction appeared. In Russia a system of state-capitalism consolidated itself, not by deviating from but by following Lenin’s ideas (e.g. in his **State and Revolution**). A new dominating and exploiting class came into power over the working class. But at the same time Marxism was fostered, and proclaimed the fundamental basis of the Russian state. In Moscow a “Marx-Engels Institute” was founded that collected with care and reverence all the well-nigh lost and forgotten works and manuscripts of the masters and published them in excellent editions. Whereas the Communist Parties, directed by the Moscow Comintern, refer to Marxism as their guiding doctrine, they meet with more and more opposition from the most advanced workers in Western Europe and America, most radically from the ranks of Council-

communism. These contradictions, extending over all important problems of life and of the social struggle, can be cleared up only by penetrating into the deepest, i.e. the philosophical, principles of what is called Marxism in these different trends of thought.

Lenin gave an exposition of his philosophical ideas in his work **Materialism and Empirio-Criticism** that appeared in Russian in 1908, and was published in 1927 in German and in English translations. Some of the Russian socialist intellectuals about 1904 had taken an interest in modern Western natural philosophy, especially in the ideas of Ernst Mach, and tried to combine these with Marxism. A kind of "Machism", with Bogdanov, Lenin's most intimate collaborator, and Lunatcharsky as spokesmen, developed as an influential trend in the socialist party. After the first revolution the strife flared up again, connected as it was with all the various tactical and practical differences in the socialist movement. Then Lenin took a decisive stand against these deviations and, aided by Plechanov, the ablest representative of Marxian theory among the Russians, soon succeeded in destroying the influences of Machism in the socialist party.

In the Introduction to the German and English editions of Lenin's book, Deborin – at that time the official interpreter of Leninism, but afterwards disgraced – exalts the importance of the collaboration of the two foremost theoretical leaders for the definite victory of true Marxism over all anti-marxist, reformist trends.

"Lenin's book is not only an important contribution to philosophy, but it is also a remarkable document of an intra-party struggle which was of utmost importance in strengthening the general philosophical foundations of Marxism and Leninism, and which to a great degree determined the subsequent growth of philosophical thought amongst the Russian Marxists ... Unfortunately, matters are different beyond the borders of the Soviet Union ... where Kantian scholasticism and positivistic idealism are in full bloom."

herent system of philosophy with all consequences well developed. His aim was to give critical thoughts, to stimulate new ideas, often in paradoxes sharply pointed against prevailing opinions, without caring whether all his statements were mutually consistent and all problems solved. His was not a philosopher's mind constructing a system, but a scientist's mind, presenting his ideas as a partial contribution to the whole, feeling as part of a collectivity of investigators, sure that others will correct his errors and will complete what he left unachieved. "The supreme philosophy of a natural scientist" he says elsewhere "is to be content with an incomplete world view and to prefer it to an apparently complete but unsatisfactory system" (**Die Mechanik in ihrer Entwicklung**, p.437).

Mach's tendency to emphasise the subjective side of experience appears in that the immediately given elements of the world, which we call phenomena, are denoted as sensations. Surely this means at the same time a deeper analysis of the phenomena; in the phenomenon that a stone falls are contained a number of visual sensations combined with the memory of former visual and spatial sensations. Mach's elements, the sensations, may be called the simplest constituents of the phenomena. But when he says: "Thus it is true that the world consists of our sensations" (**Analyse der Empfindungen**, p.10) he means to point to the subjective character of the elements of the world. He does not say "my" sensations; solipsism (the doctrine that I myself only am existing) is entirely foreign to him and is expressly refuted; "I myself" is itself a complex of sensations. But where he speaks of fellow-men in relation to the world of sensations, he is not entirely clear.

"Just as little as I consider red and green as belonging to an individual body, so little I make an essential difference – from this point of view of general orientation – between my sensations and another's sensations. The same elements are mutually connected in many 'myself's' as their nodal points. These nodal points, however, are nothing perennial, they arise and disappear and change continually" (**Analyse der Empfindungen**, p.294).

An apparently inextricable tangle of metaphysical difficulties results. The phantom disappears directly if we take matters in their mathematical form, and make it clear to ourselves that the establishment of functions and relations alone avails, and that the mutual dependence of experiences is the only thing we wish to know” (**Analyse der Empfindungen**, p.28). It might seem that Mach here expresses some doubts about the existence of an outer world independent of man. In countless other sentences, however, he speaks in a clear way of surrounding nature in which we have to live and which we have to investigate. It means that such an outer world as is accepted by physics and by ordinary opinion, the world of matter and forces as producing the phenomena, leads us into contradictions. The contradictions can be removed only if we return to the phenomena and instead of speaking words and abstract terms express our results as relations between observations. This is what was afterwards called Mach’s principle: if we ask whether a statement has a meaning and what is its meaning, we have to look for what experiments may test it. It has shown its importance in modern times, first in discussions on time and space in the theory of relativity, and then in the understanding of atomic and radiation phenomena. Mach’s aim was to find a broader field of interpretation for physical phenomena. In daily life the solid bodies are most adequate sensation-complexes, and mechanics, the science of their motions, was the first well developed part of physics. But this reason does not justify our establishing the form and science of atoms as the pattern for the entire world. Instead of explaining heat, light, electricity, chemistry, biology, all in terms of such small particles, every realm should develop its own adequate concepts.

Yet there is a certain ambiguity in Mach’s expressions on the outer world, revealing a manifest propensity towards subjectivism, corresponding to the general mystical trend in the capitalist world. Especially in later years he liked to discover cognate trends everywhere, and gave praise to idealistic philosophies that deny the reality of matter. Mach did not elaborate his views into a concise co-

Since the importance of Lenin’s book is so strongly emphasised here, it is necessary to make it the subject of a serious critical study. The doctrine of Party-Communism of the Third International cannot be judged adequately unless their philosophical basis is thoroughly examined.

Marx’s studies on society, which for a century now have been dominating and shaping the workers’ movement in increased measure, took their form from German philosophy. They cannot be understood without a study of the spiritual and political developments of the European world. Thus it is with other social and philosophical trends and with other schools of materialism developing besides Marxism. Thus it is, too, with the theoretical ideas underlying the Russian revolution. Only by comparing these different systems of thought as to their social origin and their philosophical contents can we arrive at a well-founded judgement.

## Chapter 1. Marxism

The evolution of Marx's ideas into what is now called Marxism can be understood only in connection with the social and political developments of the period in which they arose. It was the time when industrial capitalism made its entry into Germany. This brought about a growing opposition to the existing aristocratic absolutism. The ascending bourgeois class needed freedom of trade and commerce, favourable legislation, a government sympathetic to its interests, freedom of press and assembly, in order to secure its needs and desires in an unhampered fight. Instead it found itself confronted with a hostile regime, an omnipotent police, and a press censorship which suppressed every criticism of the reactionary government. The struggle between these forces, which led to the revolution of 1848, first had to be conducted on a theoretical level, as a struggle of ideas and a criticism of the prevailing system of ideas. The criticism of the young bourgeois intelligentsia was directed mainly against religion and Hegelian philosophy.

Hegelian philosophy in which the self-development of the "Absolute Idea" creates the world and then, as developing world, enters the consciousness of man, was the philosophical guise suited to the Christian world of the epoch of the "Restoration" after 1815. Religion handed down by past generations served, as always, as the theoretical basis and justification for the perpetuation of old class relations. Since an open political fight was still impossible, the struggle against the feudal oligarchy had to be conducted in a veiled form, as an attack on religion. This was the task of the group of young intellectuals of 1840 among whom Marx grew up and rose to a leading position.

ture, but what we expect will happen; and that is the very purpose they have to serve.

The formation of abstract concepts, of rules and laws of nature, in common life as well as in science, is an intuitive process, intended to save brain work, aiming at economy of thinking. Mach shows in a number of examples in the history of science how every progress consists in greater economy, in that a larger field of experiences is compiled in a shorter way, so that in the predictions a repetition of the same brain operations is avoided. "With the short lifetime of man and his limited memory, notably knowledge is only attainable by the utmost economy of thinking." So the task of science consists in "representing facts as completely as possible by a minimum of brainwork" (**Die Mechanik in ihrer Entwicklung**, p.461).

According to Mach the principle of economy of thinking determines the character of scientific investigation. What science states as properties of things and laws about atoms are in reality relations between sensations. The phenomena between which the law of gravitation establishes relations, consist in a number of visual auditory or tactile impressions; the law says that they occur not by chance, and predicts how we may expect them. Of course we cannot express the law in this form; it would be inappropriate, unsuitable to practice because of its complexity. But as a principle, it is important to state that every law of nature deals with relations between phenomena. If now contradictions appear in our conceptions about atoms and world ether, they lie not in nature but in the forms we choose for our abstractions in order to have them available in the most tractable way. The contradiction disappears when we express the results of our research as relations between observed quantities, ultimately between sensations.

The unconcerned scientific view is easily obscured if a point of view fit for a limited aim is made the basis of all considerations. This is the case, says Mach, "when all experiences are considered as the effects of an outer world upon our consciousness.

the things, the bodies, but colours, sounds, pressures, times (what we usually call sensations) are the true elements of the world. The entire process has an economical meaning. In picturing facts we begin with the ordinary more stable and habitual complexes, and afterwards for correction add what is unusual” (p.454).

In this treatment of the historical development of the science of mechanics he comes close to the method of Historical Materialism. To him the history of science is not a sequence of geniuses producing marvellous discoveries. He shows how the practical problems are first solved by the mental methods of common life, until at last they acquire their most simple and adequate theoretical expression. Ever again the economic function of science is emphasised.

“The aim of all science is to substitute and to save experiences through the picturing and the forecastings of facts by thoughts, because these pictures are more easily at hand than the experiences themselves and in many respects may stand for them” (p. 452). “When we depict facts by thoughts we never imitate them exactly, but only figure those sides that are important for us; we have an aim that directly or indirectly arose out of practical interests. Our pictures are always abstractions. This again shows an economic trend” (p.454).

Here we see science, specialised as well as common knowledge, connected with the necessities of life, as an implement of existence.

“The biological task of science is to offer a most perfect orientation to man in the full possession of his senses” (**Analyse der Empfindungen**, p.29).

For man, in order to react efficiently to the impressions of his surroundings in each situation, it is not necessary to remember all former cases of analogous situations with their results. He has only to know what results generally, as a rule, and this determines his actions. The rule, the abstract concept is the instrument ready at hand that saves the mental consideration of all former cases. What natural law states is not what will happen and must happen in na-

While still a student Marx admitted, although reluctantly, the force of the Hegelian method of thought, dialectics, and made it his own. That he chose for his doctor’s thesis the comparison of the two great materialistic philosophers of ancient Greece, Democritus and Epicurus, seems to indicate, however, that in the deep recesses of sub-consciousness Marx inclined to materialism. Shortly thereafter he was called upon to assume the editorship of a new paper founded by the oppositional Rheinisch bourgeoisie in Cologne. Here he was drawn into the practical problems of the political and social struggle. So well did he conduct the fight that after a year of publication the paper was banned by the State authorities. It was during this period that Feuerbach made his final step towards materialism. Feuerbach brushed, away Hegel’s fantastic system, turned towards the simple experiences of everyday life, and arrived at the conclusion that religion was a man-made product. Forty years later Engels still spoke fervently of the liberating effect that Feuerbach’s work had on his contemporaries, and of the enthusiasm it aroused in Marx, despite critical reservations. To Marx it meant that now instead of attacking a heavenly image they had to come to grips with earthly realities. Thus in 1843 in his essay *Kritik der Hegelschen Rechtsphilosophie* (A Criticism of the Hegelian Philosophy of Law) he wrote:

“As far as Germany is concerned the criticism of religion is practically completed; and the criticism of religion is the basis of all criticism ... The struggle against religion is indirectly the struggle against that world whose spiritual aroma is religion ... Religion is the moan of the oppressed creature, the sentiment of a heartless world, as it is the spirit of spiritless conditions. It is the opium of the people. The abolition of religion as the illusory happiness of the people is the demand for their real happiness, the demand to abandon the illusions about their condition is a demand to abandon a condition which requires illusions. The criticism of religion therefore contains potentially the criticism of the Vale of Tears whose aureole is religion. Criticism has plucked the imaginary flowers

which adorned the chain, not that man should wear his fetters denuded of fanciful embellishment, but that he should throw off the chain and break the living flower ... Thus the criticism of heaven is transformed into the criticism of earth, the criticism of religion into the criticism of Law, and the criticism of theology into the criticism of politics.”

The task confronting Marx was to investigate the realities of social life. In collaboration with Engels during their stay in Paris and Brussels, he made a study of the French Revolution and French socialism, as well as of English economy and the English working-class movement, which led towards further elaboration of the doctrine known as “Historical Materialism”. As the theory of social development by way of class struggles we find it expounded in **La misère de la philosophie** (written in 1846 against Proudhon’s **Philosophie de le misère**), in **The Communist Manifesto** (1848), and in the oft-quoted preface to **Zur Kritik der Politischen Oekonomie** (1859).

Marx and Engels themselves refer to this system of thought as materialism, in opposition to the “idealism” of Hegel and the Young Hegelians. What do they understand by materialism? Engels, discussing afterwards the fundamental theoretical problems of Historical Materialism in his **Anti-Dühring** and in his booklet on Feuerbach, states in the latter publication:

“The great basic question of all philosophy, especially of modern philosophy, is that concerning the relation of thinking and being...Those who asserted the primacy of the 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.”

That not only the human mind is bound up with the material organ of the brain, but that, also, man with his brain and mind is intimately connected with the rest of the animal kingdom and the inorganic world, was a self-evident truth to Marx and Engels. This

words what we would have to think of it. So the object is formed entirely by sensations; it consists merely of sensations. Mach opposes his views to the current physical theory by the words:

“Not bodies produce sensations, but element-complexes (sensation-complexes) constitute the bodies. When the physicist considers the bodies as the permanent reality, the ‘elements’ as the transient appearance, he does not realise that all ‘bodies’ are only mental symbols for element-complexes (sensation-complexes)” (**Analyse der Empfindungen**, p.23).

The same holds for the subject. What we denote by “I myself” is a complex of recollections and feelings, former and present sensations and thoughts connected by continuity of memory, bound to a special body, but only partly permanent.

“What is primary is not myself but the elements ... The elements constitute the myself ... The elements of consciousness of one person are strongly connected, those of different persons are only weakly and passingly connected. Hence everybody thinks he knows only of himself as an indivisible and independent unity” (**Analyse der Empfindungen**, p.19).

In his work **Die Mechanik in ihrer Entwicklung** (1883) (**The Development of Mechanics**) he writes along the same lines:

“Nature consists of the elements given by the senses. Primitive man first takes out of them certain complexes of these elements that present themselves with a certain stability and are most important to him. The first and oldest words are names for ‘things’. Here abstraction is made from the surroundings, from the continual small changes of these complexes, which are not heeded because they are not important. In nature there is no invariable thing. The thing is an abstraction, the name is a symbol for a complex of elements of which we neglect the changes. That we denote the entire complex by one word, one symbol, is done because we want to awaken at once all impressions that belong together... The sensations are no ‘symbols of things’. On the contrary the ‘thing’ is a mental symbol for a sensation-complex of relative stability. Not

same general trend of thought. Among them the writings of Mach have doubtless exerted the greatest influence upon the ideas of the next generation.

Physics, he says, should not proceed from matter, from the atoms, from the objects; these are all derived concepts. The only thing we know directly is experience, and all experience consists in sensations, sense impressions (*Empfindungen*). By means of our world of concepts, in consequence of education and intuitive custom, we express every sensation as the action of an object upon ourselves as subject: I see a stone. But freeing ourselves from this custom we perceive that a sensation is a unit in itself, given directly without the distinction of subject and object. Through a number of similar sensations I come to the distinction of an object, and I know of myself too only by a totality of such sensations. Since object and subject are built up of sensations it is better not to use a name that points to a person experiencing them. So we prefer the neutral name of “elements”, as the simplest basis of all knowledge.

Ordinary thinking here finds the paradox that the hard immutable stone, the prototype of the solid “thing” should be formed by, should “consist of” such transient subjective stuff as sensations. On closer examination, however, we see that what constitutes the thing, its qualities, are simply this and nothing else. First its hardness is nothing but the totality of a number of often painful sensations; and secondly its immutability is the sum total of our experiences that on our returning to the same spot the same sensations repeat themselves. So we expect them as a fixed interconnection in our sensations. In our knowledge of the thing there is nothing that has not somehow the character of a sensation. The object is the sum total of all sensations at different times that, through a certain constancy of place and surroundings considered as related, are combined and denoted by a name. It is no more; there is no reason to assume with Kant a “thing in itself” (*Ding an sich*) beyond this sensation-mass; we cannot even express in

conception is common to all “schools of materialism.” What distinguishes Marxist materialism from other schools must be learned from its various polemic works dealing with practical questions of politics and society. Then we find that to Marx materialistic thought was a working method. It was meant to explain all phenomena by means of the material world, the existing realities. In his writings he does not deal with philosophy, nor does he formulate materialism in a system of philosophy; he is utilising it as a method for the study of the world, and thus demonstrates its validity. In the essay quoted above, for example, Marx does not demolish the Hegelian philosophy of Law by philosophical disputations, but through an annihilating criticism of the real conditions in Germany.

In the materialist method philosophical sophistry and disputations around abstract concepts are replaced by the study of the real world. Let us take a few examples to elucidate this point. The statement “Man proposes, God disposes” is interpreted by the theologian from the point of view of the omnipotence of God. The materialist searches for the cause of the discrepancy between expectations and results, and finds it in the social effects of commodity exchange and competition. The politician debates the desirability of freedom and of socialism; the materialist asks: from what individuals or classes do these demands spring, what specific content do they have, and to what social need do they correspond? The philosopher, in abstract speculations about the essence of time, seeks to establish whether or not absolute time exists. The materialist compares clocks to see whether simultaneousness or succession of two phenomena can be established unmistakably.

Feuerbach had preceded Marx in using the materialist method, insofar as he pointed out that religious concepts and ideas are derived from material conditions. He saw in living man the source of all religious thoughts and concepts. “*Der Mensch ist, was er isst*” (Man is what he eats) is a well-known German pun summarising his doctrine. Whether his materialism would be valid, however,

depended on whether he would be successful in presenting a clear and convincing explanation of religion. A materialism that leaves the problem obscure is insufficient and will fall back into idealism. Marx pointed out that the mere principle of taking living man as the starting point is not enough. In his theses on Feuerbach in 1845 he formulated the essential difference between his materialistic method and Feuerbach's as follows:

“Feuerbach resolves the religious essence into the human essence (das menschliche Wesen). But the human essence is no abstraction inherent in each single individual. In its reality it is the ensemble of the social relationships” (Thesis 6). “His work consists in the dissolution of the religious world into its secular basis. The fact, however, that the secular foundation lifts itself above itself and establishes itself in the clouds as an independent realm is only to be explained by the self-cleavage and self-contradictions of this secular basis. The latter itself, therefore, must first be understood in its contradictions, and then, by the removal of the contradiction, must be revolutionised in practice” (Thesis 4).

In short, man can be understood only as a social being. From the individual we must proceed to society, and then the social contradictions out of which religion came forth, must be dissolved. The real world, the material, sensual world, where all ideology and consciousness have their origin, is the developing human society – with nature in the background, of course, as the basis on which society rests and of which it is a part transformed by man.

A presentation of these ideas may be found in the manuscript of **Die Deutsche Ideologie (The German Ideology)**, written in 1845 but not published. The part that deals with Feuerbach was first published in 1925 by Rjazanov, then chief of the Marx-Engels Institute in Moscow; the complete work was not published until 1932. Here the theses on Feuerbach are worked out at greater length. Although it is manifest that Marx wrote it down quite hurriedly, he nevertheless gave a brilliant presentation of all the essential ideas concerning the evolution of society, which later found their short

## Chapter 4. Mach

In the later part of the 19th century, middle-class society turned away more and more from materialism. The bourgeoisie, through the development of capitalism, asserted its social mastery; but the rise of the working-class movements proclaiming as its aim the annihilation of capitalism, led to misgivings as to the durability of the existing social system. World and future appeared full of unsolvable problems. Since the visible, material forces threatened mischief, the ruling class, to quiet its apprehensions and assure its self-reliance, turned to the belief in the superior rule of spiritual powers. Mysticism and religion gained the upper hand, and still more so in the 20th century, after the First World War.

Natural scientists form a part of middle-class society; they are in continual contact with the bourgeoisie and are influenced by its spiritual trends. At the same time, through the progress of science, they have to deal with new problems and contradictions appearing in their concepts. It is not clear philosophical insight that inspires the criticism of their theories, but rather the immediate needs of their practical study of nature. This criticism then takes its form and colour from the anti-materialist trends in the ruling class. Thus modern natural philosophy exhibits two characters: critical reflection over the principles of science, and a critical mood towards materialism. Just as in the time of Hegel, valuable progress in the theory of knowledge is garbed in mystical and idealistic forms.

Critics of the prevailing theories came forward, in the last part of the 19th century, in different countries: e.g. Karl Pearson in England, Gustav Kirchhoff and Ernst Mach in Germany, Henri Poincaré in France, all exhibiting, though in different ways, the

have been discovered. The importance of Marxism as a science of society is not so much the truth of the rules and expectations it formulated, but rather what is called its method: the fundamental conviction that everything in the world of mankind is directly connected with the rest. Hence for every social phenomenon we have to look for the material and social factors of reality on which it depends.

expression, practically, in the proletarian propaganda pamphlet, **The Communist Manifesto** and, theoretically, in the preface to **Zur Kritik der Politischen Oekonomie (Critique of Political Economy)**.

**The German Ideology** is directed first of all against the dominant theoretical view which regarded consciousness as the creator, and ideas developing from ideas as the determining factors of human history. They are treated here contemptuously as “the phantoms formed in the human brain” that are “necessary sublimates of their material, empirically verifiable life process bound to material premises.” It was essential to put emphasis on the real world, the material and empirically-given world as the source of all ideology. But it was also necessary to criticise the materialist theories that culminated in Feuerbach. As a protest against ideology, the return to biological man and his principal needs is correct but it is not possible to find a solution to the question of how and why religious ideas originate if we take the individual as an abstract isolated being. Human society in its historical evolution is the dominant reality controlling human life. Only out of society can the spiritual life of man be explained. Feuerbach, in his attempt to find an explanation of religion by a return to the “real” man did not find the real man, because he searches for him in the individual, the human being generally. From his approach the world of ideas cannot be explained. Thus he was forced to fall back on the ideology of universal human love. “Insofar as Feuerbach is a materialist,” Marx said, “he does not deal with history, and insofar as he considers history, he is not a materialist.”

What Feuerbach could not accomplish was accomplished by the Historical Materialism of Marx: an explanation of man’s ideas out of the material world. A brilliant survey of the historical development of society finds its philosophical summary in the sentence: “Men, developing their material production and their material intercourse along with this, their real existence, alter their thinking and the products of their thinking.” Thus, as relation between real-

ity and thinking, materialism is in practice proven to be right. We know reality only through the medium of the senses. Philosophy, as theory of knowledge, then finds its basis in this principle: the material, empirically given world is the reality which determines thought.

The basic problem in the theory of knowledge (epistemology) was always: what truth can be attributed to thinking. The term “criticism of knowledge” (Erkenntniskritik) used by professional philosophers for this theory of knowledge, already implies a viewpoint of doubt. In his second and fifth theses on Feuerbach Marx refers to this problem and again points to the practical activity of man as the essential content of his life:

“The question whether objective truth can be attributed to human thinking is not a question of theory but a practical question. In practice man must prove the truth, i.e. the reality and power, the this-sidedness of his thinking” (Thesis 2). “Feuerbach, not satisfied with abstract thinking, appeals to sensuous perception (Anschauung), but he does not conceive sensuousness (die Sinnlichkeit) as a practical human-sensuous activity” Thesis 5).

Why practical? Because man in the first place must live. His bodily structure, his faculties and his abilities, and all his activity are adapted to this very end. With these he must assert himself in the external world, i.e. in nature, and as an individual in society. To these abilities belongs the activity of the organ of thought, the brain, and the faculty of thinking itself. Thinking is a bodily faculty. In every phase of life man uses his power of thought to draw conclusions from his experiences, on which expectations and hopes are built, and these conclusions regulate his behaviour and his actions. The correctness of his conclusions, the truth of his thinking, is shown by the very fact of his existence, since it is a condition for his survival. Because thinking is an efficient adaptation to life, it embodies truth, not for every conclusion, but in its general character. On the basis of his experiences man derives generalisations and rules, natural laws, on which his expectations are based. They

to them solely in a partial imperfect degree; absolute necessity may be affirmed for the entirety of nature only. Phenomena may be imperfectly rendered by our laws; but we are convinced that they go on in a way which can be ultimately reduced to simple description, and could not be otherwise than they are.

The significance of Marxism is often expressed, by saying that it presents, for the first time, a natural science of society. Hence society, just as nature, is determined by natural laws; society develops not by chance or incidentally but according to an overall necessity. And since society is human activity, then human action and choice and will are not arbitrary, not chance, but determined by social causes. What this means will now be clear. The totality of the world, consisting of nature and society, is a unity, at any moment determined by what it was before, each part entirely determined by the action of the rest. It remains the same identical world, in which the happenings of one part, of mankind or part of it, depend entirely on the surrounding world, nature and society together. Here too we try to find regularities, rules and laws, and we devise names and concepts; but seldom do we ascribe to them a separate reality. Whereas a physicist easily believes in gravitation as a real something floating in space around the sun and the planets, it is more difficult to believe in “progress” or “liberty” hovering round us and floating over society as real beings that conduct man like a ruling fate. They too are abstractions constructed by the mind out of partial relations and dependencies. With their “necessity” it is as with all necessity in nature. Its basis is the necessity that man must eat to live. In this popular saying the fundamental connection of man with the entirety of the world is expressed.

Through the immense complication of social relations “laws” of society are much more difficult to discern, and they cannot now be put into the form of exact formulas. Still more than in nature they may be said to express not the future but our expectation about the future. It is already a great thing that, whereas former thinkers were groping in the dark, now some main lines of development

locity of light in different substances; instead of by the command of a law it can equally well be represented by the principle that light, as it were an intelligent being, chooses the quickest route to reach the aim. Modern science, in an analogous way, in the theory of relativity renders the motions in space not by gravitational force, but by prescribing the shortest road (the “geodesic”) in the distorted four-dimensional space-time. Now again physicists came to consider this warped space as a “reality” behind the phenomena. And again it must be stated that, like Newton’s gravitation, it is only a mental abstraction, a set of formulas, better than the former, hence more true, because it represents more phenomena which the old law could not explain.

What is called “causality” in nature, the reign of natural laws—sometimes one even speaks of the “law of causality,” i.e. in nature the law holds that laws hold – simply comes down to the fact that the regularities we find in the phenomena are expressed in the form of precepts absolutely valid. If there are limitations, exceptions, conditions, they are expressly stated as such, and we try to represent them by correcting the law; this shows that its character is meant to be absolute. We are confident that it holds for future use; and if it fails, as often happens, or does not hold precisely, we represent this by additional “causes.”

We often speak of the inexorable course of events, or of the necessity in nature; or we speak of “determinism,” as if this course had been determined and fixed by somebody in advance. All these human names chosen to express the antithesis to the arbitrariness and free choice in human actions, denoting a kind of compulsion, are a source of much confusion and cannot render exactly the character of nature. Rather we say that the entire nature at this moment depends entirely on what it was a moment before. Or perhaps better still: that nature in its totality and history is a unity, remaining identically itself in all its variations. All parts are interrelated as parts of one whole, and the laws of nature are the humanly imperfect expressions of these interrelations. Necessity can be ascribed

are generally correct, as is witnessed by his survival. Sometimes, however, false conclusions may be drawn, with failure and destruction in their wake. Life is a continuous process of learning, adaptation, development. Practice is the unsparing test of the correctness of thinking.

Let us first consider this in relation to natural science. In the practice of this science, thought finds its purest and most abstract form. This is why philosophical scientists take this form as the subject of their deductions and pay little attention to its similarity to the thinking of everybody in his everyday activity. Yet thinking in the study of nature is only a highly developed special field in the entire social labour process. This labour process demands an accurate knowledge of natural phenomena and its integration into “laws of nature”, in order to utilise them successfully in the field of technics. The determination of these laws through observation of special phenomena is the task of specialists. In the study of nature it is generally accepted that practice, experiment, is the test of truth. Here, too, we find that the observed regularities, formulated as laws of nature, are generally fairly dependable guides to human practice; though they are frequently not entirely correct and often balk expectation, they are improved constantly through the progress of science. If, therefore, man at times was referred to as the “legislator of nature” it must be added that nature often disregards his laws and summons him to make better ones.

The practice of life, however, comprises much more than the scientific study of nature. The relation of the scientist to the world, despite his experiments, remains observational. To him the world is an external thing to look at. But in reality man deals with nature in his practical life by acting upon it and making it part of his existence. Man does not stand against nature as to an external alien world. By the toil of his hands man transforms the world, to such an extent that the original natural substance is hardly discernible, and in this process transforms himself too. Thus man himself builds his new world: human society, embedded in nature

transformed into a technical apparatus. Man is the creator of this world. What meaning, then, has the question of whether his thinking embodies truth? The object of his thinking is what he himself produces by his physical and mental activities, and which he controls through his brain.

This is not a question of partial truths. Engels in his booklet on Feuerbach referred to the synthesising of the natural dye alizarin (contained in madder) as a proof of the truth of human thinking. This, however, proves only the validity of the chemical formula employed; it cannot prove the validity of materialism as against Kant's "Thing-in-itself." This concept, as may be seen from Kant's preface to his **Criticism of Pure Reason**, results from the incapacity of bourgeois philosophy to understand the earthly origin of moral law. The "Thing-in-itself" is not refuted by chemical industry but by Historical Materialism explaining moral law through society. It was Historical Materialism that enabled Engels to see the fallacy of Kant's philosophy, to prove the fallaciousness of which he then offered other arguments. Thus, to repeat, it is not a question of partial truths in a specific field of knowledge, where the practical outcome affirms or refutes them. The point in question is a philosophical one, namely, whether human thought is capable of grasping the deepest truth of the world. That the philosopher in his secluded study, who handles exclusively abstract philosophical concepts, which are derived in turn from abstract scientific concepts themselves formulated outside of practical life – that he, in the midst of this world of shadows, should have his doubts, is easily understood. But for human beings, who live and act in the practical everyday world, the question cannot have any meaning. The truth of thought, says Marx, is nothing but the power and mastery over the real world.

Of course this statement implies its counterpart: thinking cannot embody truth where the human mind does not master the world. When the products of man's hand – as Marx expounded in **Das Kapital** – grow into a power over him, which he no longer

sees; in denoting them by this word we express the general, the common character of all the phenomena of falling bodies. More essential than the name is the law; in all free movements on earth there is a constant downward acceleration. Writing the law as a mathematical formula we are able to compute the motions of all falling or thrown bodies. It is not necessary now to keep the phenomena all in our head; to know future cases it is sufficient to know the law, the formula. The law is the abstract concept our mind constructed out of the phenomena. As a law it is a precise statement that is assumed to hold good absolutely and universally, whereas the phenomena are diversified and always show deviations which we then ascribe to other, accessory, causes.

Newton extended the law of gravity to the celestial motions. The orbit of the moon was "explained" by showing that it was pulled by the same force that made stones fall onto earth; so the unknown was reduced to the known. His law of universal gravitation is expressed by a mathematical formula through which astronomers are able to compute and predict the celestial phenomena; and the result of countless predictions shows the truth of the law. Scientists now called the gravitation the "cause" of all these motions; they saw it as a reality floating in space, a kind of mysterious imp, a spiritual being called a "force" directing the planets in their course; the law was a command somehow present in nature which the bodies had to obey. In reality there is nothing of the sort; "cause" means the short summary or compendium, "effect" means the diverse multitude of phenomena. The formula binding the acceleration of each particle to its distance from the other ones, expresses in a short form exactly the same course of things as does a lengthy description of the actual motions. Gravitation as a separate something pulling and steering the bodies does not exist in nature but only in our head. As a mysterious command permeating space it has no more real existence than has Snell's law of refraction as a command to the light rays on how they have to go. The course of the light rays is a direct mathematical consequence of the different ve-

But modern science destroyed also this illusion. Atoms, firstly, have been dissolved into still smaller particles, electrons, protons, neutrons, forming complicated systems, some of them inaccessible to any experiment, mere products of the application of logic. And these smallest elements of the world cannot be considered as precisely defined particles finding themselves at definite points in space. Modern physical theory assigns to each of them the character of a wave motion extending over infinite space. When you ask the physicist what it is that moves in such waves his answer consists in pointing to a mathematical equation. The waves are no waves of matter, of course; that which moves cannot even be called a substance, but is rendered most truly by the concept of probability; the electrons are probability-waves. Formerly a particle of matter in its invariable weight presented a precisely defined quantity, its mass. Now mass changes with the state of motion and cannot be separated accurately from energy; energy and mass change into one another. Whereas formerly these concepts were neatly separated and the physical world was a clear system without contradiction, proudly proclaimed the real world, physics nowadays, when it assumes its fundamental concepts matter, mass, energy as fixed, well separated entities, is plunged into a crowd of unsolvable contradictions. The contradiction is cleared up when we simply consider them as what they are: abstractions serviceable to render the ever extending world of phenomena.

The same holds for the forces and laws of nature. Here Dietzgen's expositions are not adequate and somewhat confused, probably because at the time the German physicists used the word "Kraft" indiscriminately for force and for energy. A simple practical case, such as gravity, may easily clear up the matter. Gravity, physicists said, is the cause of falling. Here cause is not something preceding the effects and different from it; cause and effect are simultaneous and express the same thing in different words. Gravity is a name that does not contain anything more than the phenomena them-

controls and which in the form of commodity exchange and capital confronts him as an independent social being, mastering man and even threatening to destroy him, then his mind submits to the mysticism of supernatural beings and he doubts the ability of his thinking to distinguish truth. Thus in the course of past centuries the myth of supernatural heavenly truth unknowable to man overshadowed the materialistic practice of daily experiences. Not until society has evolved to a state where man will be able to comprehend all social forces and will have learned to master them – in communist society in short – will his thinking entirely correspond to the world. But already before, when the nature of social production as a fundamental basis of life and future development has become clear to man, when the mind – be it only theoretically at first – actually masters the world, our thinking will be fully true. That means that by the science of society as formulated by Marx, because now his thesis is fulfilled, materialism gains permanent mastery and becomes the only conformable philosophy. Thus Marxian theory of society in principle means a transformation of philosophy.

Marx, however, was not concerned with pure philosophy. "Philosophers have interpreted the world differently, but what matters is to change it," he says in his last thesis on Feuerbach. The world situation pressed for practical action. At first inspired by the rising bourgeois opposition to absolutism, then strengthened by the new forces that emanated from the struggle of the English and French working class against the bourgeoisie, Marx and Engels, through their study of social realities, arrived at the conclusion that the proletarian revolution following on the heels of the bourgeois revolution would bring the final liberation of mankind. From now onward their activity was devoted to this revolution, and in "The Communist Manifesto" they laid down the first directions for the workers' class struggle.

Marxism has since been inseparably connected with the class fight of the proletariat. If we ask what Marxism is, we must first of

all understand that it does not encompass every thing Marx ever thought and wrote. The views of his earlier years, for instance, such as quoted above, are representative only in part; they are phases in a development leading toward Marxism. Neither was it complete at once; whereas the role of the proletarian class struggle and the aim of communism is already outlined in **The Communist Manifesto**, the theory of capitalism and surplus value is developed much later. Moreover, Marx's ideas themselves, developed with the change of social and political conditions. The character of the revolution and the part played by the State in 1848, when the proletariat had only begun to appear, differed in aspect from that of later years at the end of the century, or today. Essential, however, are Marx's new contributions to science. There is first of all the doctrine of Historical Materialism, the theory of the determination of all political and ideological phenomena, of spiritual life in general, by the productive forces and relations. The system of production, itself based on the state of productive forces, determines the development of society, especially through the force of the class struggle. There is, furthermore, the presentation of capitalism as a temporary historical phenomenon, the analysis of its structure by the theory of value and surplus value, and the explanation of its revolutionary tendencies through the proletarian revolution towards communism. With these theories Marx has enriched human knowledge permanently. They constitute the solid foundation of Marxism as a system of thought. From them further conclusions may be drawn under new and changed circumstances.

Because of this scientific basis, however, Marxism is more than a mere science. It is a new way of looking at the past and the future, at the meaning of life, of the world, of thought; it is a spiritual revolution, it is a new world-view, a new life-system. As a system of life Marxism is real and living only through the class that adheres to it. The workers who are imbued with this new outlook, become aware of themselves as the class of the future, growing in number and strength and consciousness, striving to take production into

or to another observer; all that happens, whether man sees it or not, is a phenomenon, and all these happenings form the totality of the world, the real world of phenomena. "Sense perception shows an endless transformation of matter ... The sensual world, the universe at any place and any time is a new thing that did not exist before. It arises and passes away, passes and arises under our hands. Nothing remains the same, lasting is only perpetual change, and even the change varies ... The (middle class) materialist, surely, asserts the permanency, eternity, indestructibility of matter ... Where do we find such eternal, imperishable formless matter? In the real world of phenomena we meet only with forms of perishable matter ... Eternal and imperishable matter exists practically, in reality, only as the sum total of its perishable phenomena." In short, matter is an abstraction.

Whereas philosophers spoke of the essence of things, physicists spoke of matter, the lasting background behind the changing phenomena. Reality, they say, is matter; the world is the totality of matter. This matter consists of atoms, the invariable ultimate building stones of the universe, that by their various combinations impose the impression of endless change. On the model of surrounding hard objects, as an extension of the visible world of stones, grams, and dust, these still smaller particles were assumed to be the constituents of the entire world, of the fluid water as well as of the formless air. The truth of the atomic theory has stood the test of a century of experience, in an endless number of good explanations and successful predictions. Atoms of course are not observed phenomena themselves: they are inferences of our thinking. As such they share the nature of all products of our thinking their sharp limitation and distinction, their precise equality belongs to their abstract character. As abstractions they express what is general and common in the phenomena, what is necessary for predictions.

To the physicist, of course, atoms were no abstractions but real small invisible particles, sharply limited, exactly alike for every chemical element, with precise qualities and precise mass.

finest of fluids filling space between the atoms. The thing became worse when in the beginning of the 20th century the theory of relativity came up and denied the existence of ether altogether. Physicists then grew accustomed to deal with a void space, equipped however with qualities expressed in mathematical formulas and equations. With the formulas the phenomena could be computed in the right way; the mathematical symbols were the only thing remaining. The models and images were non-essential, and the truth of a theory does not mean anything more than that the formulas are exact.

Things became worse still when phenomena were discovered that could be represented only by light consisting of a stream of so called quanta, separated particles hurrying through space. At the same time the theory of vibrations held the field too, so that according to needs one theory or the other had to be applied. Thus two strictly contradictory theories both were true, each to be used within its group of phenomena. Now at last physicists began to suspect that their physical entities, formerly considered the reality behind the phenomena, were only images, abstract concepts, models more easily to comprehend the phenomena. When Dietzgen half a century before wrote down his views which were simply a consequence of Historical Materialism, there was no physicist who did not firmly believe in the reality of world ether. The voice of a socialist artisan did not penetrate into the university lecture rooms. Nowadays it is precisely the physicists who assert that they are dealing with models and images only, who are continually discussing the philosophical basis of their science, and who emphasise that science aims solely at relations and formulas through which future phenomena may be predicted from former ones.

In the word phenomenon "that which appears", there is contained an oppositeness to the reality of things; if we speak of "appearings" there must be something else that appears. Not at all, says Dietzgen; phenomena appear (or occur), that is all. In this play of words we must not think, of course, of what appears to me

their own hands and through the revolution to become masters of their own fate. Hence Marxism as the theory of proletarian revolution is a reality, and at the same time a living power, only in the minds and hearts of the revolutionary working class.

Thus Marxism is not an inflexible doctrine or a sterile dogma of imposed truths. Society changes, the proletariat grows, science develops. New forms and phenomena arise in capitalism, in politics, in science, which Marx and Engels could not have foreseen or surmised. Forms of thought and struggle, that under former conditions were necessary must under later conditions give way to other ones. But the method of research which they framed remains up to this day an excellent guide and tool towards the understanding and interpretation of new events. The working class, enormously increased under capitalism, today stands only at the threshold of its revolution and, hence, of its Marxist development; Marxism only now begins to get its full significance as a living force in the working class. Thus Marxism itself is a living theory which grows, with the increase of the proletariat and with the tasks and aims of its fight.

## Chapter 2. Middle-Class Materialism

Returning now to the political scene out of which Marxism emerged, it must be noted that the German revolution of 1848 did not bring full political power to the bourgeoisie. But after 1850 capitalism developed strongly in France and Germany. In Prussia the Progressive Party began its fight for parliamentarism, whose inner weakness became evident later when the government through military actions met the demands of the bourgeoisie for a strong national State. Movements for national unity dominated the political scene of Central Europe. Everywhere, with the exception of England where it already held power, the rising bourgeoisie struggled against the feudal absolutist conditions.

The struggle of a new class for power in State and society is at the same time always a spiritual struggle for a new world view. The old powers can be defeated only when the masses rise up against them or, at least, do not follow them any longer. Therefore it was necessary for the bourgeoisie to make the working masses its followers and win their adherence to capitalist society. For this purpose the old ideas of the petty bourgeoisie and the peasants had to be destroyed and supplanted with new bourgeois ideologies. Capitalism itself furnished the means to this end.

The natural sciences are the spiritual basis of capitalism. On the development of these sciences depends the technical progress that drives capitalism forward. Science, therefore, was held in high esteem by the rising bourgeois class. At the same time this science freed them from the conventional dogmas embodying the rule of

if we assumed another source of knowledge – e.g. a divine voice speaking in us – to be brought in harmony with the other experiences.

Applying now the same test of practice to the physicist we see that his thinking is correct also. By means of his vibrating ether he not only explained known phenomena but even predicted in the right way a number of unsuspected new phenomena. So his theory is a good, a true theory. It is truth because it expresses what is common to all these experiences in a short formula that allows of easy deduction of their endless diversity. Thus the ether ways must be considered a true picture of reality. The ether itself of course cannot be observed in any way; observation shows only phenomena of light.

How is it then, that the physicists spoke of the ether and its vibrations as a reality? Firstly as a model, conceived by analogy. From experience we know of waves in water and in the air. If now we assume such waves in another, finer substance filling the universe, we may transfer to it a number of well-known wave phenomena, and we find these confirmed. So we find our world of reality growing wider. With our spiritual eyes we see new substances, new particles moving, invisibly because they are beyond the power of our best microscopes, but conceivable after the model of our visible coarser substances and particles.

In this way, however, with ether as a new invisible reality, the physicists landed into difficulties. The analogy was not perfect: the world-filling ether had to be assigned qualities entirely different from water or air; though called a substance it deviated so completely from all known substances that an English physicist once compared it somehow to pitch. When it was discovered that light waves were electromagnetic vibrations, it ensued that the ether had to transmit electric and magnetic phenomena too. For this role, a complicated structure had to be devised, a system of moving, straining, and spinning contrivances, that might be used as a coarse model, but which nobody would call the true reality of this

Such a doctrine where spiritual and material things, entirely interdependent, form one united world, may rightly be called monism.

This distinction between the real world of phenomena and the spiritual world of concepts produced by our thinking is especially suitable to clear up the nature of scientific conceptions. Physics has discovered that the phenomena of light can be explained by rapid vibrations propagated through space, or, as the physicists said, through space-filling ether. Dietzgen quotes a physicist stating that these waves are the real nature of light whereas all that we see as light and colour is only an appearance. "The superstition of philosophical speculation here" Dietzgen remarks "has led us astray from the path of scientific induction, in that waves rushing through the ether with a velocity of 40,000 (German) miles per second, and constituting the true nature of light are opposed to the real phenomena of light and colour. The perversion becomes manifest where the visible world is denoted as a product of the human mind, and the ether vibrations, disclosed by the intellect of the most acute thinkers, as the corporeal reality." It is quite the reverse, Dietzgen says: the coloured world of phenomena is the real world, and the ether waves are the picture constructed by the human mind out of these phenomena.

It is clear that in this antagonism we have to do with different meanings about the terms truth and reality. The only test to decide whether our thoughts are truth is always found in experiment, practice, experience. The most direct of experiences is experience itself; the experienced world of phenomena is the surest of all things, the most indubitable reality. Surely we know phenomena that are only appearances. This means that the evidences of different senses are not in accordance and have to be fitted in a different way in order to get a harmonious world-picture. Should we assume the image behind the mirror, which we can see but cannot touch, as a common reality, then such a confused knowledge would bring practical failure. The idea that the entire world of phenomena should be nothing but appearance could make sense only

feudalism. A new outlook on life and on the world sprang up out of the scientific discoveries, and supplied the bourgeoisie with the necessary arguments to defy the pretensions of the old powers. This new world outlook it disseminated among the masses. To the peasant farm and the artisan workshop belong the inherited biblical faith. But as soon as the sons of the peasants or the impoverished artisans become industrial workers their mind is captured by capitalist development. Even those who remain in pre-capitalistic conditions are lured by the more liberal outlook of capitalist progress and become susceptible to the propaganda of new ideas.

The spiritual fight was primarily a struggle against religion. The religious creed is the ideology of past conditions; it is the inherited tradition which keeps the masses in submission to the old powers and which had to be defeated. The struggle against religion was imposed by the conditions of society; hence it had to take on varying forms with varying conditions. In those countries where the bourgeoisie had already attained full power, as for instance in England, the struggle was no longer necessary and the bourgeoisie paid homage to the established church. Only among the lower middle class and among the workers did more radical trends of thought find some adherence. In countries where industry and the bourgeoisie had to fight for emancipation they proclaimed a liberal, ethical Christianity in opposition to the orthodox faith. And where the struggle against a still powerful royal and aristocratic class was difficult, and required the utmost strength and exertion, the new world view had to assume extreme forms of radicalism and gave rise to middle-class materialism. This was so to a great extent in Central Europe; so it is natural that most of the popular propaganda for materialism (Moleschott, Vogt, Büchner), originated here, though it found an echo in other countries. In addition to these radical pamphlets, a rich literature popularising the modern scientific discoveries appeared, supplying valuable weapons in the struggle to free the masses of the citizens, the workers, and the

peasants, from the spiritual fetters of tradition, and to turn them into followers of the progressive bourgeoisie. The middle-class intelligentsia – professors, engineers, doctors – were the most zealous propagandists of the new enlightenment.

The essence of natural science was the discovery of laws operating in nature. A careful study of natural phenomena disclosed recurring regularities which allowed for scientific predictions. The 17th century had already known the Galilean law of falling bodies and gravity, Kepler's laws of the planetary motions, Snell's law of the refraction of light, and Boyle's law of the gas pressure. Towards the end of the century came the discovery of the law of gravitation by Newton, which more than all preceding discoveries exerted a tremendous influence in the philosophical thought of the 18th and 19th centuries. Whereas the others were rules that were not absolutely correct, Newton's law of gravitation proved to be the first real exact law strictly dominating the motions of the heavenly bodies, which made possible predictions of the phenomena with the same precision with which they could be observed. From this the conception developed that all natural phenomena follow entirely rigid definite laws. In nature causality rules: gravity is the cause of bodies falling, gravitation causes the movements of the planets. All occurring phenomena are effects totally determined by their causes, allowing for neither free will, nor chance nor caprice.

This fixed order of nature disclosed by science was in direct contrast to the traditional religious doctrines in which God as a despotic sovereign arbitrarily rules the world and deals out fortune and misfortune as he sees fit, strikes his enemies with thunderbolts and pestilence and rewards others with miracles. Miracles are contradictory to the fixed order of nature; miracles are impossible, and all reports about them in the Bible are fables. The biblical and religious interpretations of nature belong to an epoch in which primitive agriculture prevailed under the overlordship of absolute despots. The natural philosophy of the rising bourgeoisie, with its natural laws controlling all phenomena, belongs to a new order of

into order and system." Human mind takes from a group of phenomena what is common to them (e.g. from a rose, a cherry, a setting sun their colour), leaves out their specific differences, and fixes their general character (red) in a concept; or it expresses as a rule what repeats itself (e.g. stones fall to the earth). The object is concrete, the spiritual concept is abstract. "By means of our thinking we have, potentially, the world twofold, outside as reality, inside, in our head, as thoughts, as ideas, as an image. Our brains do not grasp the things themselves but only their concept, their general image. The endless variety of things, the infinite wealth of their characters, finds no room in our mind". For our practical life indeed, in order to foresee events and make predictions, we do not want all the special cases but only the general rule. The antithesis of mind and matter, of thought and reality, of spiritual and material, is the antithesis of abstract and concrete, of general and special.

This, however, is not an absolute antithesis. The entire world, the spiritual as well as the visible and tangible world, is object to our thinking. Things spiritual do exist, they too are really existing, as thoughts; thus they too are materials for our brain activity of forming concepts. The spiritual phenomena are assembled in the concept of mind. The spiritual and the material phenomena, mind and matter together, constitute the entire real world, a coherent entity in which matter determines mind and mind, through human activity, determines matter. That we call this total world a unity means that each part exists only as a part of the whole, is entirely determined by the action of the whole, that, hence, its qualities and its special character consists in its relations to the rest of the world. Thus also mind, i.e. all things spiritual, is a part of the world's totality, and its nature consists in the totality of its relations to the world's whole, which we then, as the object of thinking, oppose to it under the name material, outer, or real world. If now we call this material world primary and the mind dependent, it means for Dietzgen simply that the entirety is primary and the part secondary.

whose theory of value and capital he entirely comprehended. In philosophy he was an independent original thinker, who set forth the philosophical consequences of the new world view. Marx and Engels, though they honourably mentioned him as “the philosopher of the proletariat” did not agree with everything he wrote; they blamed his repetitions, often judged him confused, and it is doubtful whether they ever understood the essence of his arguments, far removed from their own mode of thinking. Indeed, whereas Marx expresses the new truth of his views as precise statements and sharp logical arguments, Dietzgen sees his chief aim in stimulating his readers to think for themselves on the problem of thinking. For this purpose he repeats his arguments in many forms, exposes the reverse of what he stated before, and assigns to every truth the limits of its truth, fearing above all that the reader should accept any statement as a dogma. Thus he teaches practical dialectics. Whereas in his later writings he is often vague, his first work **The nature of human brain work** (1869), and his later **A socialist’s excursions into the field of epistemology** (1877), as well as some smaller pamphlets are brilliant contributions to the theory of knowledge. They form an essential part in the entirety of the world-view that we denote by the name of Marxism. The first problem in the science of human knowledge: the origin of ideas, was answered by Marx in the demonstration that they are produced by the surrounding world. The second, adjoining problem, how the impressions of the surrounding world are transformed into ideas, was answered by Dietzgen. Marx stated what realities determine thought; Dietzgen established the relation between reality and thought. Or, in the words of Herman Gorter, Marx pointed out what the world does to the mind, Dietzgen pointed out what the mind does itself.

Dietzgen proceeds from the experiences of daily life, and especially from the practice of natural science. “Systematisation is the essence, is the general expression of all activity of science. Science seeks only by our understanding to bring the objects of the world

state and society where the arbitrary rule of the despot is replaced by laws valid for all.

The natural philosophy of the Bible, which theology asserts to be absolute, divine, truth is the natural philosophy of ignorance that has been deceived by outward appearances, that saw an immovable earth as the centre of the universe, and held that all matter was created and was perishable. Scientific experience showed, on the contrary, that matter which apparently disappeared (as for instance in burning) actually changes into invisible gaseous forms. Scales demonstrated that a reduction of the total weight did not occur in this process and that, therefore, no matter disappeared. This discovery was generalised into a new principle; matter cannot be destroyed, its quantity always remains constant, only its forms and combinations change. This holds good for each chemical element; its atoms constitute the building stones of all bodies. Thus science with its theory of the conservation of matter, of the eternity of nature, opposed the theological dogma of the creation of the world some 6,000 years ago.

Matter is not the only persistent substance science discovered in the transient phenomena. Since the middle of the 19th century the law known as the conservation of energy came to be regarded as the fundamental axiom of physics. Here, too, a fixed and far reaching order of nature was observed; in all phenomena changes of the form of energy take place: heat and motion, tension and attraction, electrical and chemical energy; but the total quantity never changes. This principle led to an understanding of the development of cosmic bodies, the sun and the earth, in the light of which all the assertions of theology appeared like the talk of a stuttering child.

Of even greater consequence were the scientific discoveries concerning man’s place in the world. Darwin’s theory of the origin of species, which showed the evolution of man from the animal kingdom, was in complete contradiction to all religious doctrines. But even before Darwin, discoveries in biology and chemistry re-

vealed the organic identity of all human and living creatures with non-organic nature. The protoplasm, the albuminous substance of which the cells of all living beings are composed and to which all life is bound, consists of the same atoms as all other matter. The human mind, which was elevated into a part of divinity by the theological doctrine of the immortal soul, is closely bound up with the physical properties of the brain; all spiritual phenomena are the accompaniment to or the effect of material occurrences in the brain cells.

Middle-class materialism drew the most radical conclusions from these scientific discoveries. Everything spiritual is merely the product of material processes; ideas are the secretion of the brain, just as bile is the secretion of the liver. Let religion – said Büchner – go on talking about the fugacity of matter and the immortality of the mind; in reality it is the other way around. With the least injury of the brain everything spiritual disappears; nothing at all remains of the mind when the brain is destroyed, whereas the matter, its carrier, is eternal and indestructible. All phenomena of life, including human ideas, have their origin in the chemical and physical processes of the cellular substance; they differ from non-living matter only in their greater complexity. Ultimately all their processes must be explained by the dynamics and movements of the atoms.

These conclusions of natural-science materialism, however, could not be upheld to their utmost consequences. After all, ideas are different from bile and similar bodily secretions; mind cannot be considered as a form of force or energy, and belongs in a quite different category. If mind is a product of the brain which differs from other tissues and cells only in degree of complexity, then, fundamentally, it must be concluded that something of mind, some sensation, is to be found in every animal cell. And because the cellular substance is only an aggregate of atoms, more complex but in substance not different from other matter, the conclusion must be that something of what we call mind is already present

## Chapter 3. Dietzgen

Middle-class materialism, when it came up in Western Europe in connection with the fight of the middle class for emancipation, was inevitable in practice; but as theory it was a retrogression compared with Historical Materialism. Marx and Engels were so far ahead that they saw it only as a backsliding into obsolete ideas of the 18th-century enlightenment. Because they saw so very clearly the weaknesses of the bourgeois political fight in Germany – while underrating the vitality of the capitalist system – they did not give much attention to the accompanying theory. Only occasionally they directed at it some contemptuous words, to refute any identification of the two kinds of materialism. During their entire lifetime their attention was concentrated upon the antithesis of their theory to the idealist systems of German philosophy, especially Hegel. Middle-class materialism, however, was somewhat more than a mere repetition of 18th-century ideas; the enormous progress of the science of nature in the 19th century was its basis and was a source of vigour. A criticism of its foundations had to tackle problems quite different from those of post-Hegelian philosophy. What was needed was a critical examination of the fundamental ideas and axioms which were universally accepted as the results of natural science and which were in part accepted by Marx and Engels too.

Here lies the importance of the writings of Joseph Dietzgen. Dietzgen, an artisan, a tanner living in Rhineland, who afterwards went to America and there took some part in the working-class movement, was a self-made socialist philosopher and author. In social and economic matters he considered himself a pupil of Marx,

energy, led to all kinds of superstition. The theory of bourgeois society was able to destroy the ideologies of primitive agricultural economy. But religion in bourgeois society is anchored in its unknown and uncontrollable social forces; middle-class materialism was unable to deal with them. Only the theory of the workers' revolution can destroy the ideologies of bourgeois economy. Historical Materialism explains the social basis of religion and shows why for certain times and classes it was a necessary way of thought. Only thus was its spell broken. Historical Materialism does not fight religion directly; from its higher vantage point it understands and explains religion as a natural phenomenon under definite conditions. But through this very insight it undermines religion and foresees that with the rise of a new society religion will disappear. In the same way Historical Materialism is able to explain the temporary appearance of materialist thought among the bourgeoisie, as well as the relapse of this class into mysticism and religious trends. In the same way, too, it explains the growth of materialist thought among the working class as being not due to any anti-religious argument but to the growing recognition of the real forces in capitalist society.

in the atom: in every smallest particle of matter there must be a particle of the "spiritual substance." This theory of the "atom-soul" we find in the works of the prominent zoologist Ernst Haeckel, energetic propagandist of Darwinism and courageous combater of religious dogmatism. Haeckel did not consider his philosophical views as materialism but called them monism – strangely enough since he extends the duality of mind-matter down to the smallest elements of the world.

Materialism could dominate the ideology of the bourgeois class only for a short time. Only so long as the bourgeoisie could believe that its society of private property, personal liberty, and free competition, through the development of industry, science and technique, could solve the life problems of all mankind – only so long could the bourgeoisie assume that the theoretical problems could be solved by science, without the need to assume supernatural and spiritual powers. As soon, however, as it became evident that capitalism could not solve the life problems of the masses, as was shown by the rise of the proletarian class struggle, the confident materialist philosophy disappeared. The world was seen again full of insoluble contradictions and uncertainties, full of sinister forces threatening civilisation. So the bourgeoisie turned to various kinds of religious creeds, and the bourgeois intellectuals and scientists submitted to the influence of mystical tendencies. Before long they were quick to discover the weaknesses and shortcomings of materialist philosophy, and to make speeches on the "limitations of science" and the insoluble "world-riddles."

Only a small number of the more radical members of the lower and middle classes, who clung to the old political slogans of early capitalism, continued to hold materialism in respect. Among the working class it found a fertile ground. The adherents of anarchism always were its most convinced followers. Socialist workers embraced the social doctrines of Marx and the materialism of natural science with equal interest. The practice of labour under capitalism, their daily experience and their awakening understanding of

social forces contributed greatly towards undermining traditional religion. Then, to solve their doubts, the need for scientific knowledge grew, and the workers became the most zealous readers of the works of Büchner and Haeckel. Whilst Marxist doctrine determined the practical, political and social ideology of the workers, a deeper understanding asserted itself only gradually; few became aware of the fact that middle-class materialism had long since been outdated and surpassed by Historical Materialism. This, by the way, concurs with the fact that the working-class movement had not yet reached beyond capitalism, that in practice the class struggle only tended to secure its place within capitalist society, and that the democratic solutions of the early middle class movements were accepted as valid for the working class also. The full comprehension of revolutionary Marxist theory is possible only in connection with revolutionary practice.

Wherein then, do middle-class materialism and Historical Materialism stand opposed to one another?

Both agree insofar as they are materialist philosophies, that is, both recognise the primacy of the experienced material world; both recognise that spiritual phenomena, sensation, consciousness, ideas, are derived from the former. They are opposite in that middle-class materialism bases itself upon natural science, whereas Historical Materialism is primarily the science of society. Bourgeois scientists observe man only as an object of nature, the highest of the animals, determined by natural Laws. For an explanation of man's life and action, they have only general biological Laws, and in a wider sense, the laws of chemistry, physics, and mechanics. With these means little can be accomplished in the way of understanding social phenomena and ideas. Historical Materialism, on the other hand, lays bare the specific evolutionary laws of human society and shows the interconnection between ideas and society.

The axiom of materialism that the spiritual is determined by the material world, has therefore entirely different meanings for the

molecules that fall within the sphere of chemistry. Where in this succession living matter ceases to exist and dead matter begins cannot be determined; phenomena change gradually, become simplified, are still analogous and yet already different. This does not mean that we are unable to ascertain demarcation lines; it is simply the fact that nature knows of no boundaries. A condition of quality "life", which either is or is not present, does not exist in nature: again life is a mere name, a concept we form in order to comprehend the endless variety of gradations in life phenomena. Because middle-class materialism deals with life and death, matter and mind, as if they were genuine realities existing in themselves, it is compelled to work with hard and sharp opposites, whereas nature offers an immense variety of more or less gradual transitions.

Thus the difference between middle-class materialism and Historical Materialism reaches down to basic philosophical views. The former, in contradiction to the comprehensive and perfectly realistic Historical Materialism is illusionary and imperfect – just as the bourgeois class movement, of which it was the theory, represented an imperfect and illusionary emancipation, in contrast to the complete and real emancipation by way of the proletarian class struggle.

The difference between the two systems of thought shows itself practically in their position towards religion. Middle-class materialism intended to overcome religion. However, a certain view arisen out of social life cannot be vanquished and destroyed merely by refuting it with argumentation; this means posing one point of view against another: and every argument finds a counter-argument. Only when it is shown why, and under what circumstances such a view was necessary, can it be defeated by establishing the transient character of these conditions. Thus the disproof of religion by natural science was effective only insofar as the primitive religious beliefs were concerned, where ignorance about natural laws, about thunder and lightning, about matter and

Thus, for instance, the theory of the origin of species often leads to the notion that the human mind, having evolved from the animal mind, is qualitatively identical with the latter and has only increased in quantity. On the other hand, the qualitative difference between the human and the animal mind, a fact of common experience, was raised by theological doctrine, in enunciating the immortality of the soul, into an absolute anti-thesis. In both cases there is a lack of dialectic thinking according to which a similarity in original character, when through the process of growth the increasing quantitative difference turns into qualitative difference – the so-called inversion of quantity into quality – requires new names and characteristics, without leading to complete antithesis and loss of affinity.

It is the same metaphysical, non dialectic thinking to compare thought, because it is the product of brain processes with such products of other organs as bile; or to assume that mind, because it is a quality of some material substance, must be a characteristic quality of all matter. And especially, to think that because mind is something other than matter, it must belong to an absolutely and totally different world without any transition, so that a dualism of mind and matter, reaching down to the atoms, remains sharp and unbridgeable. To dialectic thinking mind simply is a concept incorporating all those phenomena we call spiritual, which, thus, cannot reach beyond their actual appearance in the lowest living animals. There the term mind becomes questionable, because the spiritual phenomena disappear gradually into mere sensibility, into the more simple forms of life. “Mind” as a characteristic existing quality, a separate something, which either is or is not there, does not exist in nature; mind is just a name we attach to a number of definite phenomena, some perceived clearly, others uncertainly, as spiritual.

Life itself offers a close analogy. Proceeding from the smallest microscopic organisms to still smaller invisible bacteria and viruses, we finally come to highly complicated albuminous

two doctrines. For middle-class materialism it means that ideas are products of the brain, are to be explained out of the structure and the changes of the brain substance, finally out of the dynamics of the atoms of the brain. For Historical Materialism, it means that the ideas of man are determined by his social conditions; society is his environment which acts upon him through his sense organs. This postulates an entirely different kind of problem, a different approach, a different line of thought, hence, also a different theory of knowledge.

For middle class materialism the problem of the meaning of knowledge is a question of the relationship of spiritual phenomena to the physico-chemical-biological phenomena of the brain matter. For Historical Materialism it is a question of the relationship of our thoughts to the phenomena which we experience as the external world. Now man’s position in society is not simply that of an observing being: he is a dynamic force which reacts upon his environment and changes it. Society is nature transformed through labour. To the scientist, nature is the objectively given reality which he observes, which acts on him through the medium of his senses. To him the external world is the active and dynamic element, whilst the mind is the receptive element. Thus it is emphasised that the mind is only a reflection, an image of the external world, as Engels expressed it when he pointed out the contradiction between the materialist and idealist philosophies. But the science of the scientist is only part of the whole of human activity, only a means to a greater end. It is the preceding, passive part of his activity which is followed by the active part; the technical elaboration, the production, the transformation of the world by man.

Man is in the first place an active being. In the Labour process he utilises his organs and aptitudes in order to constantly build and remake his environment. In this procedure he not only invented the artificial organs we call tools, but also trained his physical and mental aptitudes so that they might react effectively to his natural

environment as instruments in the preservation of life. His main organ is the brain whose function, thinking, is as good a physical activity as any other. The most important product of brain activity, of the efficient action of the mind upon the world is science, which stands as a mental tool next to the material tools and, itself a productive power, constitutes the basis of technology and so an essential part of the productive apparatus.

Hence Historical Materialism looks upon the works of science, the concepts, substances, natural Laws, and forces, although formed out of the stuff of nature, primarily as the creations of the mental Labour of man. Middle-class materialism, on the other hand, from the point of view of the scientific investigator, sees all this as an element of nature itself which has been discovered and brought to light by science. Natural scientists consider the immutable substances, matter, energy, electricity, gravity, the Law of entropy, etc., as the basic elements of the world, as the reality that has to be discovered. From the viewpoint of Historical Materialism they are products which creative mental activity forms out of the substance of natural phenomena.

This is one fundamental difference in the method of thinking. Another difference lies in dialectics which Historical Materialism inherited from Hegel. Engels has pointed out that the materialist philosophy of the 18th-century disregarded evolution; it is evolution that makes dialectic thinking indispensable. Evolution and dialectics since have often been regarded as synonymous; and the dialectic character of Historical Materialism is supposed to be rendered by saying that it is the theory of evolution. Evolution, however, was well known in the natural science of the 19th century. Scientists were well acquainted with the growth of the cell into a complete organism, with the evolution of animal species as expressed in Darwinism, and with the theory of evolution of the physical world known as the law of entropy. Yet their method of reasoning was undialectic. They believed the concepts they handled to be fixed objects, and considered their identities and opposites as

absolutes. So the evolution of the world as well as the progress of science brought out contradictions, of which many examples have been quoted by Engels in his **Anti-Dühring**. Understanding in general and science in particular segregate and systematise into fixed concepts and rigid laws what in the real world of phenomena occurs in all degrees of flux and transition. Because language separates and defines groups of phenomena by means of names, all items falling into a group, as specimens of the concept, are considered similar and unchangeable. As abstract concepts, they differ sharply, whereas in reality they transform and merge into one another. The colours blue and green are distinct from each other but in the intermediary nuances no one can say where one colour ends and the other begins. It cannot be stated at what point during its life cycle a flower begins or ceases to be a flower. That in practical life good and evil are not absolute opposites is acknowledged every day, just as that extreme justice may become extreme injustice. Judicial freedom in capitalist development manifests itself as actual slavery. Dialectic thinking is adequate to reality in that in handling the concepts it is aware that the finite cannot fully render the infinite, nor the static the dynamic, and that every concept has to develop into new concepts, even into its opposite. Metaphysical, undialectical thinking, on the other hand, leads to dogmatic assertions and contradictions because it views conceptions formulated by thought as fixed, independent entities that make up the reality of the world. Natural science proper, surely, does not suffer much from this shortcoming. It surmounts difficulties and contradictions in practice insofar as it continually revises its formulations, increases their richness by going into finer details, improves the qualitative distinctions by mathematical formulas, completes them by additions and corrections, thereby bringing the picture ever closer to the original, the world of phenomena. The lack of dialectic reasoning becomes disturbing only when the scientist passes from his special field of knowledge towards general philosophical reasonings, as is the case with middle-class materialism.

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we can observe nowhere, they are as every substance products of thought” (**Die Mechanik in ihrer Entwicklung**, p.463). But because they are impractical abstractions. They mean an attempt to reduce all physics to mechanics, to the motion of small particles, “and it is easy to see that by mechanical hypotheses a real economy of scientific thought cannot be achieved” (**Die Mechanik in ihrer Entwicklung**, p.469). But his criticism of heat as a form of motion of small particles, already in 1873, and of electricity as a streaming fluid, found no echo among physicists. On the contrary these explanations developed in ever wider applications, and their consequences were confirmed ever again; atomic theory could boast of ever more results and was extended even to electricity in the theory of electrons. Hence the generation of physicists that followed him, while sympathising with his general views and accepting them, did not follow him in his special applications. Only in the new century, when atomic and electronic theory had progressed in a brilliant display, and when the theory of relativity arose, there appeared a host of glaring contradictions in which Mach’s principles showed themselves the best guides in clearing up the difficulties.

## Chapter 5. Avenarius

The title of Lenin's work **Materialism and Empirio-Criticism** imposes the necessity to treat here the Zürich philosopher Richard Avenarius, because empirio-criticism was the name he gave to his doctrine, in many parts touching upon Mach's views. In his chief work **Kritik der reinen Erfahrung (Criticism of pure experience)** he starts from simple experience, considers carefully what is certain about it, and then tests critically what man derived and assumed about the world and himself, what is tenable and justifiable in it and what is not.

In the natural world view, he explains, I find the following things. I find myself with thoughts and feelings within a surrounding world; to these surroundings belong fellow-men acting and speaking as I do, whom therefore I assume to be similar to myself. Strictly speaking, the interpretation of the movements and sounds connected with fellow-man as having a meaning just as mine is an assumption, not a real experience. But it is a necessary assumption without which a reasonable world view would be impossible: "the empiriocritical basic assumption of human equality." Then this is my world: first my own statements, e.g. "I see (or touch) a tree" (I call this an observation); I find it, repeatedly, back at the same spot, I describe it as an object in space; I call it "world," distinct from myself, or "outer world." Moreover I have remembrances (I call them ideas), somehow analogous to observations. Secondly there are fellow-men as part of the world. Thirdly there are statements of the fellow-men dealing with the same world; he speaks to me of the tree he, too, is seeing; what he says clearly depends on the

Here we see the possible significance of Lenin's book for the future working-class movement. The Communist Party, though it may lose ground among the workers, tries to form with the socialists and the intellectual class a united front, ready at the first major crisis of capitalism to take in its hands the power over and against the workers. Leninism and its philosophical textbook then will serve, under the name of Marxism, to overawe the workers and to impose upon the intellectuals, as the leading system of thought by which the reactionary spiritual powers are beaten, Thus the fighting working class, basing itself upon Marxism, will find Lenin's philosophical work a stumbling-block in its way, as the theory of a class that tries to perpetuate its serfdom.

"world." So far all is simple and natural, there is nothing more to have thoughts about, nothing of inner and outer, of soul and body.

Now, however, I say: my world is object of the observation of my fellow-man; he is the bearer of the observation, it is part of him; I put it into him, and so I do with his other experiences, thoughts, feelings, of which I know through his sayings. I say that he has an "impression" of the tree, that he makes himself a "conception" of the tree. An impression, a conception, a sensation of another person, however, is imperceptible to me; it finds no place in my world of experience. By so doing I introduce something that has a new character, that can never be experience to me, that is entirely foreign to all that so far was present. Thus my fellow-man has now got an inner world of observations, feelings, knowledge, and an outer world that he observes and knows. Since I stand to him as he stands to me I too have an inner world of sensations and feelings opposite to that which I call the "outer" world. The tree I saw and know is split into a knowledge and an object. This process is called "introjection" by Avenarius; something is introduced, introjected into man that was not present in the original simple empirical world conception.

Introjection has made a cleavage in the world. It is the philosophical fall of man. Before the fall he was in a state of philosophical innocence; he took the world as simple, single, as the senses show it; he did not know of body and soul, of mind and matter, of good and evil. The introjection brought dualism with all its problems and contradictions. Let us look at its consequences already at the lowest state of civilisation. On the basis of experience introjection takes place not only into fellow-man but also into fellow-animals, into fellow-things, into trees, rocks, etc: this is animism. We see a man sleeping; awakened he says he was elsewhere; so part of him rested here, part left the body temporarily. If it does not return, the first part is rotting away, but the other part appears in dreams, ghostly. So man consists of a perishable body and a non-perishing spirit. Such spirits also live in trees, in the air, in heaven. At a

higher stage of civilisation the direct experience of spirits disappears; what is experienced is the outer world of senses; the inner spiritual world is super-sensual. "Experience as things and experience as knowledge now stand against one another, incomparable as a material and a spiritual world" (**Kritik der reinen Erfahrung**, p.110).

In this short summary of Avenarius's exposure of his views we omitted one thing that to him is an essential link in the chain. To the sayings of the fellow-man belongs not only himself and his body, but belongs in particular his brain. In my experience, Avenarius says, I have three dependencies: between the sayings of man and his outer world, between his brain and the outer world, and between his brain and his sayings. The second is a physical relation, part of the law of energy; the other two belong to logic.

Avenarius now proceeds first to criticise and then to eliminate introjection. That actions and sayings of fellow-men are related to the outer world is my experience. When I introduce it as ideas into him, it is into his brain that I introduce them. But no anatomical section can disclose them. "We cannot find any characteristic in the thought or in the brain to show that thought is a part or character of the brain" (**Kritik der reinen Erfahrung**, p.125). Man can say truly: I have brain; i.e. to the complex called "myself" brain belongs as a part; he can say truly: I have thoughts, i.e. to the complex "myself" thoughts belong as a part. But that does not imply that my brain have these thoughts. "Thought is thought of myself, but not therefore thought of my brain" (**Kritik der reinen Erfahrung**, p.131) "Brain is no lodging or site, no producer, no instrument or organ, no bearer or substratum, etc., of thinking ... Thinking is no resident or commander, no other side, no product either, not even a physiological function of the brain" (**Kritik der reinen Erfahrung**, p.132).

This imposing enumeration of usual psychological statements discloses why the brain was introduced. To refute our introjection of a mental world into fellow-man, Avenarius emphasises that its

idealism, but only under the inspiring daring radicalism of materialist thought. For this the foundation is afforded by Lenin's book. On this basis an extensive literature of articles, reviews, and books has already been published, first in German and then in still greater numbers in English, in Europe and in America, with the collaboration of well-known Russian scholars and Western scientists sympathising with the Communist Party. The contents of these writings make clear at first sight that they are not destined for the working class but for the intellectuals of these countries. Leninism is here expounded before them – under the name of Marxism, or "dialectics" – and they are told that it is the fundamental all-embracing world-doctrine, in which the special sciences must be seen as subordinate parts. It is clear that with real Marxism, as the theory of the real proletarian revolution, such a propaganda would have no chance; but with Leninism, as a theory of middle-class revolution installing a new ruling class, it might be successful.

There is of course this difficulty, that the intellectual class is too limited in number, too heterogeneous in social position, hence too feeble to be able single-handed to seriously threaten capitalist domination. Neither are the leaders of the Second and the Third International a match for the power of the bourgeoisie, even if they could impose themselves by strong and dear politics instead of being rotten through opportunism. When, however, capitalism is tumbling into a heavy economic or political crisis which rouses the masses, when the working class has taken up the fight and succeeds in shattering capitalism in a first victory – then their time will come. Then they will intervene and slide themselves in as leaders of the revolution, nominally to give their aid by taking part in the fight, in reality to deflect the action in the direction of their party aims. Whether or not the beaten bourgeoisie will then rally with them to save of capitalism what can be saved, in any case their intervention comes down to cheating the workers, leading them off from the road to freedom.

Engels, and Dietzgen; this gives strength to the working class to accomplish its great task of self-liberation.

Lenin's book, on the other hand, tries to impose upon the readers, the author's belief in the reality of abstractions. So it cannot be helpful in any way for the workers' task. And as a matter of fact its publication in Western languages was not meant to be that. Workers aiming at the self-liberation of their class stand beyond the horizon of the Communist Party. What the Communist Party can see is the competitor, the rival party, the Second International trying to keep the leadership over the working class. As Deborin was quoted in the Preface, the aim of the publication was to win social-democracy, corrupted by middle class idealistic philosophy, back to materialism – or else to browbeat it by the more captivating radical terms of materialism – as a theoretical contribution to the Red Front. For the rising class-movement of the workers it matters little which of these unmarxian party-lines of thought should get the upper hand.

But in another way Lenin's philosophy may be of importance for their struggle. The aim of the Communist Party – which is called world-revolution – is to bring to power, by means of the fighting force of the workers, a layer of leaders who then establish planned production by means of State-Power; in its essence it coincides with the aims of social democracy. The social ideals growing up in the minds of the intellectual class now that it feels its increasing importance in the process of production: a well-ordered organisation of production for use under the direction of technical and scientific experts – are hardly different. So the Communist Party considers this class its natural allies which it has to draw into its circle. By an able theoretical propaganda it tries to detach the intelligentsia from the spiritual influences of the declining bourgeoisie and of private capitalism, and to win them for the revolution that will put them into their proper place as a new leading and ruling class. Or, in philosophical terms, to win them for materialism. A revolution cannot be made with the meek, softening ideology of a system of

place would then be the brain, and the brain when anatomically dissected does not show it. Elsewhere he says: introjection means that my thinking puts itself at the place of fellow-man, hence my thinking combines with his brain, which can be done only in fantasy, not really. As arguments to serve as the basis of a philosophical system they are rather artificial and unconvincing. What is true and important is the disclosure of the fact of introjection, the demonstration that in our assumption that the world of fellow-man is the same kind of thing as my own, I introduce a second world of fantasy of another character, entirely outside my experience. It corresponds point for point with my own; its introduction is necessary; but it means a doubling of the world, or rather a multiplication of worlds not directly accessible to me, no possible part of my world of experience.

Now Avenarius sees as his task the building up of a world-structure free from introjection, by means of the simple data of experience. In his exposition he finds it necessary to introduce a special system of new names, characters and figures with algebraic expressions to designate our ordinary concepts. The laudable intention is this; not to be led astray by instinctive associations and meanings connected with ordinary language. But the result is an appearance of profoundness with an abstruse terminology that needs to be back-translated into our usual terms if we want to understand its meanings, and is a source of easy misunderstandings. His argument expressed thus by himself in a far more intricate way, may be summarised as follows:

We find ourselves, a relative constant, amidst a changing multitude of units denoted as "trees," "fellow-men," etc., which show many mutual relations, "Myself" and "surroundings" are found both at the same time in the same experience; we call them "central-part" and "counter-part" (*Zentralglied* und *Gegenglied*). That my fellow-man has thoughts, experiences and a world just as I have, is expressed in the statement that part of my surroundings is central-part itself. When in his brain variations take place (they

belong to my world of experience), then phenomena occur in his world; his sayings about them are determined by processes in his brains. In my world of experience the outer world determines the change in his brain (a neurological fact); not my observed tree determines his observation (situated in another world), but the changes caused by the tree in his brain (both belonging to my world) determine his observation. Now my scientific experience declares my brain and his brain to change in the same way through impressions of the outer world; hence the resulting "his world" and my world must be of the same stuff. So the natural world conception is restored without the need of introjection. The argument comes down to this that our practice of assuming similar thoughts and conceptions as our own in fellow-men, which should be illicit notwithstanding our spiritual intercourse, should become valid as soon as we make a detour along the material brains. To which must be remarked that neurology may assume as a valid theory that the outer world produces the same changes in my brain and in another man's; but that, strictly keeping to my experience, I have never observed it and never can observe it.

Avenarius's ideas have nothing in common with Dietzgen; they do not deal with the connection between knowledge and experience. They are cognate to Mach's in that both proceed from experience, dissolve the entire world into experience and believe thus to have done away with dualism.

"If we keep 'complete experience' free from all adulteration, our world-conception will be free from all metaphysical dualism. To these eliminated dualisms belong the absolute antithesis of 'body' and 'mind,' of 'matter' and 'spirit,' in short of physical and psychical" (p.118). "Things physical, matter in its metaphysical absolute sense finds no place in purified 'complete experience,' because 'matter' in this conception is only an abstractum, indicating the entirety of counter-parts when abstraction is made of all 'central-parts'" (**Bemerkungen zum Begriff des Gegenstandes der Psychologie**, p.119).

frightened by capitalist development. Its basis has been continually undermined by capitalism itself. Middle-class philosophy then put up in its place the belief in all those lesser idols, deified abstractions, such as matter, force causality in nature, liberty and progress in society. In modern times these now forsaken idols have been replaced by new, more powerful objects of veneration: state and nation. In the struggle of the old and the new bourgeoisies for world power, nationalism, now the most needed ideology, rose to such power as to carry with it even broad masses of the workers. Most important are, besides such spiritual powers as democracy, organisation, union, party, because they have their roots in the working class itself as results of their life practice, their own struggle. Just because there is connected with them the remembrance of passionate exertion, of devoted sacrifices, of feverish concern with victory or defeat, their merit – which is bound as a class tool to those particular past times and conditions – is exalted to the belief in their absolute excellence. That makes the transition to new necessities under new conditions difficult. The conditions of life frequently compel the workers to take up new forms of fight; but the old traditions can hamper and retard it in a serious way. In the continuous contest between inherited ideology and practical needs, it is essential for the workers to understand that their ideas are not independently existing truths but generalisations of former experiences and necessities; that human mind always has the tendency to assign to such ideas an unlimited validity, as absolutely good or bad, venerated or hated, and thus makes the people slaves to superstition; but that by understanding limits and conditions, superstition is vanquished and thought is made free. And, conversely, what is recognised as the lasting interest, as the essential basis of the fight for his class, must be unerringly kept in mind – though without being deified – as the brilliant guiding star in all action. This – besides its use as explanation of daily experience and class struggle – is the significance of Marxian philosophy, the doctrine of the connection of world and mind, as conceived by Marx,

tion of capitalism, so the results of social science are necessary for the organisational construction of communism. What was needed first was political economy, that part of Marxism that expounds the structure of capitalism, the nature of exploitation, the class-antagonism, the tendencies of economic development. It gave, directly, a solid basis to the spontaneously arising fight of the workers against the capitalist masters. Then, in the further struggle, by its theory of the development of society from primitive economy through capitalism to communism, it gave confidence and enthusiasm through the prospect of victory and freedom. When the not yet numerous workers took up their most difficult fight, and the hopeless indifferent masses had to be roused, this insight was the first thing needed.

When the working class has grown more numerous, more powerful, and society is full of the proletarian class struggle, another part of Marxism has to come to the forefront. That they should know that they are exploited and have to fight, is not the main point any more; they must know how to fight, how to overcome their weakness, how to build up their unity and strength. Their economic position is so easy to understand, their exploitation so manifest that their unity in struggle, their common will to seize power over production should presumably result at once. What hampers them is chiefly the power of the inherited and confused ideas, the formidable spiritual power of the middle-class world, enveloping their minds into a thick cloud of beliefs and ideologies, dividing them, and making them uncertain and confused. The process of enlightenment, of clearing up and vanquishing this world of old ideas and ideologies is the essential process of building the working-class power, is the progress of revolution. Here that part of Marxism is needed that we call its philosophy, the relation of ideas to reality.

Among these ideologies the least significant is religion. As the withered husk of a system of ideas reflecting conditions of a far past, it has only an imaginary power as a refuge for all, who are

This is analogous to Mach; but it is different from Mach in being built out into a finished and closed system. The equality of the experience of fellow-man, settled by Mach in a few words, is a most difficult piece of work to Avenarius. The neutral character of the elements of experience is pointed out with more precision by Avenarius; they are not sensations, nothing psychical, but simply something “found present” (Vorgefundenes).

So he opposes prevailing psychology, that formerly dealt with the “soul,” afterwards with “psychic functions,” because it proceeds from the assumption that the observed world is an image within us. This, he says, is not a “thing found present,” and neither can it be disclosed from what is “found present.”

“Whereas I leave the tree before me as something seen in the same relation to me, as a thing ‘found present’ to me, prevailing psychology puts the tree as ‘something seen’ into man, especially into his brain” (**Bemerkungen zum Begriff des Gegenstandes der Psychologie**, p.45 Note). Introjection created this false object of psychology; it changed “before me” into “in me,” what is “found present” into what is “imagined” it made “part of (real) surroundings” into “part of (ideal) thinking.”

For Avenarius, instead, the material changes in the brain are the basis of psychology. He proceeds from the thesis taken over from the special science of physiology that all action of the surroundings produces changes in the brain and that these produce thoughts and sayings – and this certainly lies outside direct experience. It is a curious fact that Mach and Carnap too speak of observing (ideally, not really) the brain (by physical or chemical methods, or by a “brain-mirror”) to see what happens there in connection with sensations and thoughts. It seems that middle-class theory of knowledge cannot do without having recourse to this materialist conception. Avenarius is the most radical in this respect; for him psychology is the science of the dependence of behaviour upon the brain; what belongs to the actions of man is not psychical but physiological, mere brain processes. When we speak

of ideas and ideologies, empirio-criticism speaks of changes in the central nervous system. The study of the great world-moving ideas in the history of mankind turns into the study of their nervous systems. Thus empirio-criticism stands close to middle-class materialism that also, in the problem of the determination of ideas by the surrounding world, appeals to brain-matter. In comparing Avenarius with Haeckel we should rather call him Haeckel reversed. Both can understand mind only as an attribute of the brain; since mind and matter, however, are fundamentally disparate, Haeckel attributes a particle of mind to every atom, whereas Avenarius entirely dispenses with the mind as a special something. But therefore the world for him takes instead the somewhat shadowy character – frightening to materialists and opening the gate to ideological interpretations – of consisting of “my experience” only.

Right as Avenarius may be that it is not strictly expedience, the equalisation of fellow-men with ourselves and the identity of their world with ours is an inevitably natural affair, whatever kind of spiritual or material terms are used to express it. The point is again that middle-class philosophy wants to criticise and correct human thinking instead of trying to understand it as a natural process.

In this context a general remark must be made. The essential character in Mach and Avenarius, as in most modern philosophers of science, is that they start from personal experience. It is their only basis of certainty; to it they go back when asked what is true. When fellow-men enter into the play, a kind of theoretical uncertainty appears, and with difficult reasonings their experience must be reduced to ours. We have here an effect of the strong individualism of the middle-class world. The middle-class individual in his strong feeling of personality has lost social consciousness; he does not know how entirely he is a social being. In everything of himself, in his body, his mind, his life, his thoughts, his feeling, in his most simple experiences he is a product of society, human society made them all what they are. What is considered a purely personal sensation: I see a tree – can enter into consciousness only

tions, ways and means of their fight; when every man knows from his own judgement, what to do. They must, every man of them, act themselves, decide themselves, hence think out and know for themselves. Only in this way will a real class organisation be built up from below, having the form of something like workers’ councils. It is of no avail that they have been convinced that their leaders know what is afoot and have gained the point in theoretical discussion – an easy thing when each is acquainted with the writings of his own party only. Out of the contest of arguments they have to form a clear opinion themselves. There is no truth lying ready at hand that has only to be imbibed; in every new case truth must be contrived by exertion of one’s own brain.

This does not mean, of course, that every worker should judge on scientific arguments in fields, that can be mastered only by professional study. It means, first, that all workers should give attention not only to their direct working and living conditions but also to the great social issues connected with their class struggle and the organisation of labour; and should know how to take decisions here. But it implies, secondly, a certain standard of argument in propaganda and political strife. When the views of the opponent are rendered in a distorted way because the willingness or the capacity to understand them is lacking, then in the eyes of the believing adherents you may score a success; but the only result – intended indeed in party strife – is to bind them with stronger fanaticism to the party. For the workers however, what is of importance is not the increase of power of a party but the increase of their own capacity to seize power and to establish their mastery over society. Only when, in arguing and discussing, the opponent is given his full pound, when in weighing arguments against one another each solid opinion is understood out of social class relations, will the participant hearers gain such well-founded insight as is necessary for a working class to assure its freedom.

The working class needs Marxism for its liberation. Just as the results of natural science are necessary for the technical construc-

bureaucracy under the leadership of the Communist Party. The state officials, forming the new ruling class, have the disposal over the product, hence over the surplus-value, whereas the workers receive wages only, thus forming an exploited class. In this way it has been possible in the short time of some dozens of years to transform Russia from a primitive barbarous country into a modern state of rapidly increasing industry on the basis of advanced science and technics. According to Communist Party ideas, a similar revolution is needed in the capitalist countries, with the working class again as the active power, leading to the overthrow of the bourgeoisie and the organisation of production by a state bureaucracy. The Russian revolution could be victorious only because a well-disciplined united bolshevist party led the masses, and because in the party the clear insight and the unyielding assurance of Lenin and his friends showed the right way. Thus, in the same way, in world revolution the workers have to follow the Communist Party, leave to it the lead and afterwards the government; and the party members have to obey their leaders in rigid discipline. Essential are the qualified capable party leaders, the proficient, experienced revolutionaries; what is necessary for the masses is the belief that the party and its leaders are right.

In reality, for the working class in the countries of developed capitalism, in Western Europe and America, matters are entirely different. Its task is not the overthrow of a backward absolutist monarchy. Its task is to vanquish a ruling class commanding the mightiest material and spiritual forces the world ever knew. Its object cannot be to replace the domination of stockjobbers and monopolists over a disorderly production by the domination of state officials over a production regulated from above. Its object is to be itself master of production and itself to regulate labour, the basis of life. Only then is capitalism really destroyed. Such an aim cannot be attained by an ignorant mass, confident followers of a party presenting itself as an expert leadership. It can be attained only if the workers themselves, the entire class, understand the condi-

through the distinctness given to it by names. Without the inherited words to indicate things and species, actions and concepts, the sensation could not be expressed and conceived. Out of the indistinctive mass of the world of impressions the important parts come forward only when they are denoted by sounds and thus become separated from the unimportant mass. When Carnap constructs the world with out using the old names, he still makes use of his capacity of abstract thinking. Abstract thinking, however, by means of concepts, is not possible without speech; speech and abstract thinking developed together as a product of society.

Speech could never have originated without human society for which it is an organ of mutual communication. It could develop in a society only, as an instrument in the practical activity of man. This activity is a social process that as the deepest foundation underlies all my experiences. The activity of fellow-man, inclusive his speaking, I experience as co-natural with my activity because they are parts of one common activity; thus we know our similarity. Man is first an active being, a worker, To live he must eat, i.e. he must seize and assimilate other things; he must search, fight, conquer. This action upon the world, a life-necessity, determines his thinking and feeling, because it is his chief life content and forms the most essential part of his experiences. It was from the first a collective activity, a social labour process. Speech originated as part of this collective process, as an indispensable mediator in the common work, and at the same time as an instrument of reflexive thinking needed in the handling of tools, themselves products of collective working. In such a way the entire world of experience of man bears a social character. The simple "natural world view" taken by Avenarius and other philosophers as their starting point, is not the spontaneous view of a primitive single man but, in philosophical garb, the outcome of a highly developed society.

Social development has, through the increasing division of labour, dissected and separated what before was a unit. Scientists and philosophers have the special task of investigating and

reasoning so that their science and their conceptions may play their role in the total process of production—now the role chiefly of supporting and strengthening the existing social system. Cut off from the root of life, the social process of labour, they hang in the air and have to resort to artificial reasonings to find a basis. Thus the philosopher starts with imagining himself the only being on earth and suspiciously asks whether he can demonstrate his own existence; till he is happily reassured by Descartes “I think, so I exist.” Then along a chain of logical deductions he proceeds to ascertain the existence of the world and of fellow-men; and so the self-evident comes out along a wide detour – if it comes out. For the middle-class philosopher does not feel the necessity to follow up to the last consequences, to materialism, and he prefers to stay somewhere in-between, expressing the world in ideological terms.

So this is the difference: middle-class philosophy looks for the source of knowledge in personal meditation, Marxism finds it in social labour. All consciousness, all spiritual life of man, even of the most lonely hermit, is a collective product, has been made and shaped by the working community of mankind. Though in the form of personal consciousness – because man is a biological individual – it can exist only as part of the whole. People can have experiences only as social beings; though the contents are personally different, in their essence experiences are super-personal, society being their self-evident basis. Thus the objective world of phenomena which logical thought constructs out of the data of experience, is first and foremost, by its origin already, collective experience of mankind.

struggle against materialism in general and Historical Materialism in particular.” (371)

Nothing here of the immense power of the foe, the bourgeoisie, master of all the riches of the world, against which the working class hardly can make any progress. Nothing of its spiritual power over the minds of the workers, still strongly dominated by middle-class culture and hardly able to overcome it in a continuous struggle for knowledge. Nothing of the new powerful ideologies of nationalism and imperialism threatening to gain a hold over the workers too, and indeed, soon afterwards, dragging them along into the world war. No, the Church, the organisation of “fideism” in full armour, that is to Lenin the most dangerous hostile power. The fight of materialism against religious belief is to him the theoretical fight accompanying the class struggle. The limited theoretical opposition between the former and the later ruling class appears to him the great world fight of ideas which he connects with the proletarian class fight, the essence and ideas of which lie far outside his view. Thus in Lenin’s philosophy the Russian scheme is transferred upon Western Europe and America, the anti-religious tendency of a rising bourgeoisie is transferred to the rise of the proletariat. Just as among German reformists at that time the division was made between “reaction” and “progress” and not according to class but according to political ideology – thus confusing the workers – so here it is made according to religious ideology, between reactionaries and free-thinkers, instead of establishing its class-unity against bourgeoisie and State, to get mastery over production, the Western proletarian class is invited to take up the fight against religion. If this book and these ideas of Lenin had been known in 1918 among Western Marxists, surely there would have been a more critical attitude against his tactics for world revolution.

The Third International aims at a world revolution after the model of the Russian revolution and with the same goal. The Russian economic system is state capitalism, there called state-socialism or even communism, with production directed by a state

## Chapter 8. The Proletarian Revolution

The publication first of a German, then of an English translation of Lenin's work shows that it was meant to play a wider role than its function in the old Russian party conflict. It is presented now to the younger generation of socialists and communists in order to influence the international workers' movement. So we ask what can the workers in capitalist countries learn from it? Of the refuted philosophical ideas it gives a distorted view; and under the name of Marxism another theory, middle class materialism is expounded. It does not aim at bringing the reader to a clear independent judgement in philosophical questions; it intends to instruct him that the Party is right, and that he has to trust and to follow the party leaders. What way is it that this party leader shows to the international proletariat? Let us read Lenin's view of the world-contest of the classes in his final sentences: "... behind the epistemological scholasticism of empirio-criticism it is impossible not to see the struggle of parties in philosophy, a struggle which in the last analysis rejects the tendencies and ideology of the antagonistic classes in modern society ... The contending parties are essentially ... materialism and idealism. The latter is merely a subtle, refined form of fideism, which stands fully armed, commands vast organisations and steadily continues to exercise influence on the masses, turning the slightest vacillation in philosophical thought to its own advantage. The objective class role played by empirio-criticism entirely consists in rendering faithful service to the fideists in their

## Chapter 6. Lenin

How Mach's idea could acquire importance in the Russian socialist movement, may be understood from social conditions. The young Russian intelligentsia, owing to the barbarous pre-capitalist conditions, had not yet, as in Western Europe, found its social function in the service of a bourgeoisie. So it had to aspire for the downfall of Czarism, and to join the socialist party. At the same time it stood in spiritual intercourse with the Western intellectuals and so took part in the spiritual trends of the Western world. Thus it was inevitable that efforts should be made to combine them with Marxism.

Of course Lenin had to oppose these tendencies. Marxian theory, indeed, can gain nothing essential from Mach. Insofar as a better understanding of human thinking is needed for socialists, this can be found in Dietzgen's work. Mach was significant because he deduced analogous ideas out of the practices of natural science, for the use of scientists. In what he has in common with Dietzgen, the reduction of the world to experience, he stopped midway and gave, imbued with the anti-materialist trends of his time, a vague idealistic form to his news. This could not be grafted upon Marxism. Here Marxist criticism was needed.

### The Criticism

Lenin, however in attacking Mach, from the start presents the antagonism in a wrong way. Proceeding from a quotation of Engels, he says:

“But the question here is not of this or that formulation of materialism, but of the opposition of materialism to idealism, of the difference between the two fundamental lines in philosophy. Are we to proceed from things to sensation and thought? Or are we to proceed from thought and sensation to things? The first line, i.e., the materialist line, is adopted by Engels. The second line, i.e., the idealist line, is adopted by Mach” (33-4).

It is at once clear that this is not the true expression of the antithesis. According to materialism the material world produces thought, consciousness, mind, all things spiritual. That, on the contrary, the spiritual produces the material world, is taught by religion, is found with Hegel, but is not Mach’s opinion. The expression “to proceed from ... to” is used to intermix two quite different meanings. Proceeding from things to sensations and thought means: things create thoughts. Proceeding – not from thoughts to things, as Lenin wrongly imputes to Mach but – from sensations to things, means that only through sensations we arrive at the knowledge of things. Their entire existence is built up out of sensations; to emphasise this truth Mach says: they consist of sensations.

Here the method followed by Lenin in his controversy makes its appearance he tries to assign to Mach opinions different from the real ones. Especially the doctrine of solipsism. Thus he continues:

“No evasions, no sophisms (a multitude of which we shall yet encounter) can remove the clear and indisputable fact that Ernst Mach’s doctrine of things as complexes of sensations in subjective idealism and a simple rehash of Berkeleianism. 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. Much as Mach, Avenarius, Petzoldt and the others may abjure solipsism, they cannot in fact escape solipsism without falling into howling logical absurdities.” (34)

down, to destroy their scientific credit, and thus to expose the Russian Machists as ignorant parrots of reactionary blockheads.

And he succeeded. His fundamental views were the views of the bolshevist party at large, as determined by its historical task. As so often, Lenin had felt exactly the practical exigencies. Machism was condemned and expelled from the party. As a united body the party could take its course again, in the van of the working class, towards the revolution.

The words of Deborin quoted in the beginning thus are only partially true. We cannot speak of a victory of Marxism, when there is only question of a so-called refutation of middle-class idealism through the ideas of middle-class materialism. But doubtless Lenin’s book was an important feature in the history of the Party, determining in a high degree the further development of philosophic opinions in Russia. Hereafter the revolution, under the new system of state capitalism – a combination of middle class materialism and the marxian doctrine of social development, adorned with some dialectic terminology – was, under the name “Leninism,” proclaimed the official State-philosophy. It was the right doctrine for the Russian intellectuals who, now that natural science and technics formed the basis of a rapidly developing production system under their direction, saw the future open up before them as the ruling class of an immense empire.

origin, and thus rendering them ineffectual; nowhere in his book do we find an attempt at or a trace of such an understanding. To Lenin materialism was the truth established by Feuerbach, Marx and Engels, and the middle-class materialists; but then stupidity, reaction, money-interests of the bourgeoisie and the spiritual power of theology had brought about a revulsion in Europe. Now this corruption threatened to assail bolshevism too; so it had to be opposed with the utmost vigour.

In this action Lenin of course was entirely right. To be sure, it was not a question of the truth of Marx or Mach, nor whether out of Mach's ideas something could be used in Marxism. It was the question whether middle-class materialism or middle-class idealism, or some mixture, would afford the theoretical basis for the fight against Czarism. It is clear that the ideology of a self-contented, already declining bourgeoisie can never fit in with a rising movement, not even with a rising middle class itself. It would have led to weakness, where unfolding of the utmost vigour was necessary. Only the rigour of materialism could make the Party hard, such as was needed for a revolution. The tendency of Machism, somehow parallel to revisionism in Germany, was to break the radicalism of struggle and the solid unity of the party, in theory and in practice. This was the danger that Lenin saw quite clearly. "When I read it (Bogdanov's book) I became exceedingly provoked and enraged," he wrote to Gorky, February 1908. Indeed, we perceive this in the vehemence of his attack upon the adversary, in every page of the work; it seems to have been written in a continuous fury. It is not a fundamental discussion clearing the ideas, as was, for example Engels's book against Dühring; it is the war-pamphlet of a party leader who has to ward off by any means the danger to his party. So it could not be expected that he should try really to understand the hostile doctrines; in consequence of his own unmarxian thinking he could only misinterpret and misrepresent them. The only thing needed was to knock them

Now, if anything can be asserted beyond any doubt about Mach and Avenarius, it is that their opinions are not solipsism fellow-men similar to myself, deduced with more or less stringent logic, are the basis of their world conception. Lenin, however, manifestly does not care about what Mach really thinks, but about what he should think if his logic were identical with Lenin's.

"From which there is only one possible inference, namely that the 'world consists only of my sensations.' The word 'our' employed by Mach instead of 'my' is employed illegitimately." (36)

That indeed is an easy way of arguing: what I write down as the opinion of my adversary he replaces unjustifiably by what he wrote down himself. Lenin, moreover, knows quite well that Mach speaks of the objective reality of the world, and himself gives numerous quotations to that effect. But he does not let himself be deceived as so many others were deceived by Mach.

"Similarly, even Mach ... frequently strays into a materialist interpretation of the word experience ... (171). Here nature is taken as primary and sensation and experience as products. Had Mach consistently adhered to his point of view in the mental questions of epistemology ... Mach's special 'philosophy' is here thrown overboard, and the author instinctively accepts the customary standpoint of the scientists." (172)

Would it not have been better if he had tried to understand in what sense it was that Mach assumes that things consist of sensations?

The "elements" also are an object of difficulty to Lenin. He summarises Mach's opinion on the elements in six theses, among which we find, in numbers 3 and 4:

"Elements are divided into the physical and the psychical: the latter is that which depends on the human nerves and the human organism generally; the former does not depend on them: the connection of physical elements and the connection of psychical elements, it is declared, do not exist separately from each other they exist only in conjunction." (49)

Anybody, even if acquainted only superficially with Mach, can see how he is rendered here in an entirely wrong and meaningless way. What Mach really says is this: every element, though described in many words, is an inseparable unity, which can be part of a complex that we call physical, but which combined with different other elements can form a complex that we call psychical. When I feel the heat of a flame, this sensation together with others on heat and thermometers and with visible phenomena combines into the complex "flame" or "heat," treated in physics. Combined with other sensations of pain and pleasure, with remembrances and with observations on nerves, the context belongs to physiology or psychology. "None (of these connections) is the only existing one, both are present at the same time" says Mach. For they are the same elements in different combinations. Lenin makes of this that the connections are not independent and only exist together. Mach does not separate the elements themselves as physical and psychical ones, nor does he distinguish a physical and psychical part in them the same element is physical in one context, psychical in another. If Lenin renders these ideas in such a sloppy and unintelligible way it is no wonder that he cannot make any sense out of it, and speaks of "an incoherent jumble of antithetical philosophical points of view." (49) If one does not take the pains or is unable to unravel the real opinions of his adversary and only snatches up some sentences to interpret them from one's own point of view, he should not wonder that nonsense comes out. This cannot be called a marxian criticism of Mach.

In the same faulty way he renders Avenarius. He reproduces a small summary by Avenarius of a first division of the elements: what I find present I partly call outer world (e.g. I see a tree), partly not (I remember a tree, trunk of a tree). Avenarius denotes them as thing-like (*sachhaft*) and thoughtlike (*gedankenhaft*) elements. Thereupon Lenin indignantly exclaims:

"At first we are assured that the 'elements' are something new, both physical and psychical at the same time then a little correc-

that way. Every page of Lenin's philosophical work is there to prove it; and Marxism itself, by its thesis that theoretical opinions are determined by social relations and necessities, makes clear that it could not be otherwise. Marxism, however, at the same time shows the necessity of the legend; every middle-class revolution, requiring working-class and peasant support, needs the illusion that it is something different, larger, more universal. Here it was the illusion that the Russian revolution was the first step of world revolution liberating the entire proletarian class from capitalism; its theoretical expression was the legend of Marxism.

Of course Lenin was a pupil of Marx; from Marx he had learnt what was most essential for the Russian revolution, the uncompromising proletarian class struggle. Just as for analogous reasons, the social-democrats were pupils of Marx. And surely the fight of the Russian workers, in their mass actions and their soviets, was the most important practical example of modern proletarian warfare. That, however, Lenin did not understand Marxism as the theory of proletarian revolution, that he did not understand capitalism, bourgeoisie, proletariat in their highest modern development, was shown strikingly when from Russia, by means of the Third International, the world revolution was to be started, and the advice and warnings of Western Marxists were entirely disregarded. An unbroken series of blunders, failures, and defeats, of which the present weakness of the workers' movement was the result, showed the unavoidable shortcoming of the Russian leadership.

Returning now to the time that Lenin wrote his book we have to ask what then was the significance of the controversy on Machism. The Russian revolutionary movement comprised wider circles of intellectuals than Western socialism; so part of them came under the influence of anti-materialist middle-class trends. It was natural that Lenin should sharply take up the fight against such tendencies. He did not look upon them as would a Marxist who understands them as a social phenomenon, explaining them out of their social

of life and action, into communism. The Russian workers and intellectuals could not make this their object; they had first to open the way for a free development of a modern industrial society. To the Russian Marxists the nucleus of Marxism is not contained in Marx's thesis that social reality determines consciousness, but in the sentence of young Marx, inscribed in big letters in the Moscow People's House, that religion is the opium of the people.

It may happen that in a theoretical work there appear not the immediate surroundings and tasks of the author, but more general and remote influences and wider tasks. In Lenin's book, however, nothing of the sort is perceptible. It is a manifest and exclusive reflection of the Russian Revolution at which he was aiming. Its character so entirely corresponds to middle-class materialism that, if it had been known at the time in Western Europe – but only confused rumours on the internal strifes of Russian socialism penetrated here – and if it could have been rightly interpreted, one could have predicted that the Russian revolution must somehow result in a kind of capitalism based on a workers' struggle.

There is a widespread opinion that the bolshevist party was marxist, and that it was only for practical reasons that Lenin, the great scholar and leader of Marxism, gave to the revolution another direction than what Western workers called communism – thereby showing his realistic marxian insight. The critical opposition to the Russian and C.P. politics tries indeed to oppose the despotic practice of the present Russian government – termed Stalinism – to the “true” Marxist principles of Lenin and old bolshevism. Wrongly so. Not only because in practice these politics were inaugurated already by Lenin. But also because the alleged Marxism of Lenin and the bolshevist party is nothing but a legend. Lenin never knew real Marxism. Whence should he have taken it? Capitalism he knew only as colonial capitalism; social revolution he knew only as the annihilation of big land ownership and Czarist despotism. Russian bolshevism cannot be reproached for having abandoned the way of Marxism: for it was never on

tion is surreptitiously inserted: instead of the crude, materialist differentiation of matter (bodies, things) and the psychical (sensations, recollections, fantasies) we are presented with the doctrine of ‘recent positivism’ regarding elements substantial and elements mental.” (53)

Clearly he does not suspect how completely he misses the point.

In a chapter superscribed with the ironical title *Does man think with his brain?* Lenin quotes Avenarius's statement that the brain is not the lodging, the site, etc. of thinking; thinking is no resident, no product, etc. of the brain. Hence: man does not think with his brain. Lenin has not perceived that Avenarius further on expresses clearly enough, though garbled in his artificial terminology, that the action of the outer world upon the brain produces what we call thoughts; manifestly Lenin had not the patience to unravel Avenarius's intricate language. But to combat an opponent you have to know his point ignorance is no argument. What Avenarius contradicts is not the role of the brain but that we call the product thought when we assign to it, as a spiritual being, a site in the brain and say it is living in the brain, is commanding the brain, or is a function of the brain. The material brain, as we saw, occupies precisely the central place of his philosophy. Lenin, however, considers this only as a “mystification”:

“Avenarius here acts on the advice of the charlatan in Turgenev: denounce most of all those vices which you yourself possess. Avenarius tries to pretend that he is combating idealism... While distracting the attention of the reader by attacking idealism, Avenarius is in fact defending idealism, albeit in slightly different words; thought is not a function of the brain: the brain is not the organ of thought; sensations are – not functions of the nervous system, oh, no: sensations are – ‘elements’.” (92-3)

The critic rages here against a self-mystification without any basis. He finds “idealism” in that Avenarius, proceeds from elements, and elements are sensations. Avenarius, however, does not proceed from sensations but from what simple unsophisticated man

finds present; things, surroundings, a world, fellow-men, remembrances. Man does not find present sensations, he finds present a world. Avenarius tries to construct a description of the world without the common language of matter and mind and its contradictions. He finds trees present, and human brains, and – so he believes – changes in the brains produced by the trees, and actions and talk of fellow-men determined by these changes. Of all this Lenin manifestly has no inkling. He tries to make “idealism” of Avenarius’s system by considering Avenarius’s starting point, experience, to be sensations, something psychical, according to his own materialist view. His error is that he takes the contradistinction materialism-idealism in the sense of middle-class materialism, with physical matter as its basis. Thus he shuts himself off completely from any understanding of modern views that proceed from experience and phenomena as the given reality.

Lenin now brings forward an array of witnesses to declare that the doctrines of Mach and Avenarius are idealism or solipsism. It is natural that the host of professional philosophers, in compliance with the tendency of bourgeois thinking to proclaim the rule of mind over matter, try to interpret and emphasise the anti-materialist side of their ideas; they too know materialism only as the doctrine of physical matter. What, we may ask, is the use of such witnesses? When disputed facts have to be ascertained, witnesses are necessary. When, however, we deal with the understanding of somebody’s opinions and theories, we have to read and render carefully what he himself has written to expound them; this is the only way to find out similarities and differences, truth and error. For Lenin, however, matters were different. His book was part of a law-suit, an act of impeachment; as such it required an array of witnesses. An important political issue was at stake; Machism threatened to corrupt the fundamental doctrines, the theoretical unity of the Party; so its spokesmen had to do away with them. Mach and Avenarius formed a danger for the Party; hence what mattered was not to find out what was true and

This identification was supported by still another circumstance. In Russia capitalism had not grown up gradually from small-scale production in the hands of a middle class, as it had in Western Europe. Big industry was imported from outside as a foreign element by Western capitalism, exploiting the Russian workers. Moreover Western financial capital, by its loans to Czarism, exploited the entire agrarian Russian people, who were heavily taxed to pay the interests. Western capital here assumed the character of colonial capital, with the Czar and his officials as its agents. In countries exploited as colonies all the classes have a common interest in throwing off the yoke of the usurious foreign capital, to establish their own free economic development, leading as a rule to home capitalism. This fight is waged against world-capital, hence often under the name of socialism; and the workers of the Western countries, who stand against the same foe, are the natural allies. Thus in China Sun Yat-Sen was a socialist; since, however, the Chinese bourgeoisie whose spokesman he was, was a numerous and powerful class, his socialism was “national” and he opposed the “errors” of Marxism.

Lenin, on the contrary, had to rely on the working class, and because his fight had to be implacable and radical, he espoused the most radical ideology of the Western proletariat fighting world-capitalism, viz. Marxism. Since, however, the Russian revolution showed a mixture of two characters, middle-class revolution in its immediate aims, proletarian revolution in its active forces, the appropriate bolshevist theory too had to present two characters, middle-class materialism in its basic philosophy, proletarian evolutionism in its doctrine of class fight. This mixture was termed Marxism. But it is clear that Lenin’s Marxism, as determined by the special Russian attitude toward capitalism, must be fundamentally different from the real Marxism growing as their basic view in the workers of the countries of big capitalism. Marxism in Western Europe is the world view of a working class confronting the task of converting a most highly developed capitalism, its own world

his writings without perceiving at the time the differences hidden within them. Thus he was determined by Russian conditions less exclusively than Lenin.

Lenin was the practical leader of the Russian revolutionary movement. Hence in his theoretical ideas its practical conditions and political aims are shown more clearly. The conditions of the fight against Czarism determined the basic views exposed in his book. Theoretical, especially philosophic views are not determined by abstract studies and chance reading in philosophical literature, but by the great life-tasks which, imposed by the needs of practical activity, direct the will and thought of man. To Lenin and the Bolshevik party the first life-task was the annihilation of Czarism and of the backward barbarous social system of Russia. Church and religion were the theoretical foundations of that system, the ideology and glorification of absolutism, expression and symbol of the slavery of the masses. Hence a relentless fight against them was needed; the struggle against religion stood in the centre of Lenin's theoretical thought; any concession however small to "fideism" was an attack on the life-nerve of the movement. As a fight against absolutism, landed property, and clergy, the fight in Russia was very similar to the former fight of bourgeoisie and intellectuals in Western Europe; so the thoughts and fundamental ideas of Lenin must be similar to what had been propagated in middle-class materialism, and his sympathies went to its spokesmen. In Russia, however, it was the working class who had to wage the fight; so the fighting organisation had to be a socialist party, proclaiming Marxism as its creed, and taking from Marxism what was necessary for the Russian Revolution: the doctrine of social development from capitalism to socialism, and the doctrine of class war as its moving force. Hence Lenin gave to his materialism the name and garb of Marxism, and assumed it to be the real – i.e. peculiarly working-class as contrasted with middle-class – Marxism.

valuable in their teachings in order to widen our own views. What mattered was to discredit them, to destroy their reputation, to reveal them as muddle-heads contradicting themselves, speaking confused fudge, trying to hide their real opinions and not believing their own assertions.

All the middle-class philosophical writers, standing before the newness of these ideas, look for analogies and relationships of Mach and Avenarius with former philosophic systems; one welcomes Mach as fitting in with Kant, another sees a likeness to Hume, or Berkeley, or Fichte. In this multitude and variety of systems it is easy to find out connections and similarities everywhere. Lenin registers all such contradictory judgements and in this way demonstrates Mach's confusion. The like with Avenarius. For instance:

"And it is difficult to say who more rudely unmasks Avenarius the mystifier – Smith by his straightforward and clear refutation, or Schuppe by his enthusiastic opinion of Avenarius's crowning work. The kiss of Wilhelm Schuppe in philosophy is no better than the kiss of Peter Struve or Menshikov in politics." (73)

If we now read Schuppe's Open Letter to Avenarius, in which in flattering words he expresses his agreement, we find that he did not at all grasp the essence of Avenarius's opinion; he takes the "myself" as the starting point instead of the elements found present, out of which Avenarius constructs the "myself". He misrepresents Avenarius in the same way as Lenin does, with this difference, that what displeased Lenin pleased him. In his answer Avenarius, in the courteous words usual among scholars, testifies to his satisfaction at the assent of such a famous thinker, but then again expounds the real contents of his doctrine. Lenin neglects the contents of these explanations which refute his conclusions, and quotes only the compromising courtesies.

## Natural Science

Over against Mach's ideas Lenin puts the materialistic views, the objective reality of the material world, of matter, light ether, laws of nature, such as natural science and human common sense accepted. These last are two respectable authorities; but in this case their weight is not very great. Lenin sneeringly quotes Mach's own confession that he found little consent among his colleagues. A critic, however, who brings new ideas cannot be refuted by the statement that it is the old criticised ideas that are generally accepted. And as to common sense, i.e. the totality of opinions of uninstructed people: they usually represent the dicta of science of a former period, that gradually, by teaching and popular books, seeped down the masses. That the earth revolves around the sun, that the world consists of indestructible matter, that matter consists of atoms, that the world is eternal and infinite – all this has gradually penetrated into the minds, first of the educated classes, then of the masses. When science proceeds to newer and better views, all this old knowledge can, as "common sense," be brought forward against them.

How unsuspectingly Lenin leans upon these two authorities – and even in a wrong way – is seen when he says:

"For every scientist who has not been led astray by professorial philosophy, as well as for every materialist, sensation is indeed the direct connection between consciousness and the external world: it is the transformation of the energy of external excitation into a state of consciousness. This transformation has been, and is, observed by each of us a million times on every hand." (45)

This "observing" is of the same kind as when one should say: we see a thousand times that our eye sees and that light falls upon the retina. In reality we do not see our seeing and our retina; we see objects and infer the retina and the seeing. We do not observe energy and its transitions we observe phenomena, and out of these phenomena physicists have abstracted the concept of energy. The

class to join up with, in order to become its spokesmen in a socialist party.

Thus the proletarian class struggle in Russia was at the same time a struggle against Czarist absolutism, under the banner of socialism. So Marxism in Russia, developing as the theory of those engaged in the social conflict, necessarily assumed another character than in Western Europe. It was still the theory of a fighting working class, but this class had to fight first and foremost for what in Western Europe had been the function and work of the bourgeoisie, with the intellectuals as its associates. So the Russian intellectuals, in adapting the theory to this local task, had to find a form of Marxism in which criticism of religion stood in the forefront. They found it in an approach to earlier forms of materialism, and in the first writings of Marx from the time when in Germany the fight of the bourgeoisie and the workers against absolutism was still undivided.

This appears most clearly in Plechanov, the "father of Russian Marxism." At the time that in Western countries theorists occupied themselves with political problems, he turned his attention to the older materialists. In his **Beiträge zur Geschichte des Materialismus (Contributions to the History of Materialism)** he treats the French materialists of the 18th century, Helvetius, Lamettrie, and compares them with Marx, to show how many valuable and important ideas were already contained in their works. Hence we understand why in his **Grundprobleme des Marxismus** he stresses the concordance between Marx and Feuerbach and emphasises the viewpoints of middle-class materialism.

Yet Plechanov was strongly influenced by the Western, especially the German workers', movement. He was known as the herald of the Russian working-class struggle, which he predicted theoretically at a time when practically there was hardly any trace. He was esteemed as one of the very few who occupied themselves with philosophy; he played an international role and took part in the discussions on Marxism and reformism. Western socialists studied

science has no significance for the workers; they know, moreover, that its roots will be cut off anyhow first by capitalist development, then by their own class struggle. Neither have they any use for the obvious fact that thoughts are produced by the brain. They have to understand how ideas are produced by society. This is the content of Marxism, as it grows among the workers as a living and stirring power, as the theory expressing their growing power of organisation and knowledge. When in the second half of the 19th century capitalism gained complete mastery in Western and Central Europe as well as in America, middle-class materialism disappeared. Marxism was the only materialist class-view remaining.

In Russia, however, matters were different. Here the fight against Czarism was analogous to the former fight against absolutism in Europe. In Russia too church and religion were the strongest supports of the system of government: they held the rural masses, engaged in primitive agrarian production, in complete ignorance and superstition. The struggle against religion was here a prime social necessity. Since in Russia there was no significant bourgeoisie that as a future ruling class could take up the fight, the task fell to the intelligentsia during scores of years it waged a strenuous fight for enlightenment of the masses against Czarism. Among the Western bourgeoisie, now reactionary and anti-materialist, it could find no support whatever in this struggle. It had to appeal to the socialist workers, who alone sympathised with it, and it took over their acknowledged theory, Marxism. Thus it came about that even intellectuals who were spokesmen of the first rudiments of a Russian bourgeoisie, such as Peter Struve and Tugan Baranovski, presented themselves as Marxists. They had nothing in common with the proletarian Marxism of the West: what they learned from Marx was the doctrine of social development with capitalism as the next phase. A power for revolution came up in Russia for the first time when the workers took up the fight, first by strikes only, then in combination with political demands. Now the intellectuals found a revolutionary

transformation of energy is a summarised physical expression for the many phenomena in which one measured quantity decreased, another increased. They are all good expedient concepts and inferences, reliable in the prediction of future phenomena, and so we call them true. Lenin takes this truth in such an absolute way that he thinks he expresses an observed fact “adopted by every materialist,” when he pronounces what is actually a physical theory. Moreover his exposition is wrong. That energy of the light-impression is converted into consciousness may have been the belief of middle-class materialists, but science does not know of it. Physical science says that energy transforms exclusively, and completely, into other energy; the energy of the light-impression is transformed into other forms: chemical, electrical, heat-energy; but consciousness is not known in physics as a form of energy.

This confounding of the real, observed world and the physical concepts permeates Lenin’s work on every page. Engels denoted materialists as those who considered nature the original thing. Lenin speaks of a “materialism which regards nature, matter, as primary” (38). And in another place: “matter is the objective reality given to us in sensations” (144-5). To Lenin nature and physical matter are identical; the name matter has the same meaning as objective world. In this he agrees with middle-class materialism that in the same way considers matter as the real substance of the world. Thus his angry polemics against Mach can be easily understood. To Mach matter is an abstract concept formed out of the phenomena – or more strictly: sensations. So Lenin, now finding the denial of the reality of matter, then reading the simple statement of the reality of the world, sees only confusion; and he pretends, now, that Mach is a solipsist and denies the existence of the world, and then scornfully remarks that Mach throws his own philosophy to the winds and returns to scientific views.

With the laws of nature the case is analogous. Mach’s opinion that cause and effect as well as natural laws do not factually exist

in nature, but are man-made expressions of observed regularities, is asserted by Lenin to be identical with Kant's doctrine.

"... It is man who dictates laws to nature and not nature that dictates laws to man! The important thing is not the repetition of Kant's doctrine of apriorism ... but the fact that reason, mind, consciousness are here primary, and nature secondary. It is not reason that is a part of nature, one of its highest products, the reflection of its processes, but nature that is a part of reason, which 'thereby is stretched from the ordinary, simple human reason known to us all to a 'stupendous,' as Dietzgen puts it, mysterious, divine reason. The Kantian-Machian formula, that 'man gives laws to nature,' is a fideist formula." (185)

This confused tirade, entirely missing the point, can only be understood if we consider that for Lenin "nature" consists not only in matter but also in natural laws directing its behaviour, floating somehow in the world as commanders who must be obeyed by the things. Hence to deny the objective existence of these laws means to him the denial of nature itself; to make man the creator of natural laws means to him to make human mind the creator of the world. How then the logical salto is made to the deity as the creator must remain an enigma to the unsophisticated reader.

Two pages earlier he writes:

"The really important epistemological question that divides the philosophical trends is ... whether the source of our knowledge of these connections is objective natural law or properties of our mind, its innate faculty of apprehending certain a priori truths, and so forth. This is what so irrevocably divides the materialists Feuerbach, Marx and Engels from the agnostic (Humeans) Avenarius and Mach." (183)

That Mach should ascribe to the human mind the power to disclose certain aprioristic truths is a new discovery or rather fantasy of Lenin. Where Mach deals with the practice of the mind to abstract general rules from experience and to assign to them unlim-

## Chapter 7. The Russian Revolution

The concordance of Lenin and Plechanov in their basic philosophical views and their common divergence from Marxism points to their common origin out of the Russian social conditions. The name and garb of a doctrine or theory depend on its spiritual descent; they indicate the earlier thinker to whom we feel most indebted and whom we think we follow. The real content, however, depends on its material origin and is determined by the social conditions under which it developed and has to work. Marxism itself says that the main social ideas and spiritual trends express the aims of the classes, i.e. the needs of social development, and change with the class struggles themselves. So they cannot be understood isolated from society and class struggle. This holds for Marxism itself.

In their early days Marx and Engels stood in the first ranks of the middle-class opposition, not yet disjoined into its different social trends, against absolutism in Germany. Their development towards Historical Materialism, then, was the theoretical reflex of the development of the working class towards independent action against the bourgeoisie. The practical class-antagonism found its expression in the theoretical antagonism. The fight of the bourgeoisie against feudal dominance was expressed by middle-class materialism, cognate to Feuerbach's doctrine, which used natural science to fight religion as the consecration of the old powers. The working class in its own fight has little use for natural science, the instrument of its foe: its theoretical weapon in social science, the science of social development. To fight religion by means of natural

ideas”; he explains that Feuerbach took man in his passive relations, Marx in his active relation to nature. He points to the later statement in **Das Kapital**: “Whilst man works upon outside nature and changes it, he changes at the same time his own nature,” and he adds: “The profundity of this thought becomes clear in the light of Marx’s theory of knowledge ... It must be admitted, though, that Marx’s theory of knowledge is a direct offspring of Feuerbach’s or, more rightly, represents Feuerbach’s theory of knowledge which, then, has been deepened by Marx in a masterly way.” And again, on the next page, he speaks of “modern materialism, the materialism of Feuerbach, Marx and Engels.” What must be admitted, rather, is that the ambiguous sentence: being determines thought, is common to them, and that the materialist doctrine that brain produces thought is the most unessential part of Marxism and contains no trace yet of a real theory of knowledge.

The essential side of Marxism is what distinguished it from other materialist theories and what makes them the expression of different class struggles. Feuerbach’s theory of knowledge, belonging to the fight for emancipation of the middle class, has its basis in the lack of science of society as the most powerful reality determining human thinking. Marxian theory of knowledge proceeds from the action of society, this self-made material world of man, upon the mind, and so belongs to the proletarian class struggle. Certainly Marx’s theory of knowledge descended, historically, from Hegel and Feuerbach; but equally certainly it grew into something entirely different from Hegel and Feuerbach. It is a significant indication of the point of view of Plechanov that he does not see this antagonism and that he assigns the main importance to the trivial community of opinion – which is unimportant for the real issue – that thoughts are produced by the brain.

ited validity, Lenin, captivated by traditional philosophical ideas, thinks of disclosing aprioristic truths. Then he continues:

“In certain parts of his works, Mach ... frequently ‘forgets’ his agreement with Hume and his own subjectivist theory of causality and argues ‘simply’ as a scientist, i.e., from the instinctive materialist standpoint. For instance, in his **Mechanik**, we read of the ‘uniformity ... which nature teaches us to mind in its phenomena.’ But if we do find uniformity in the phenomena of nature, does this mean that uniformity exists objectively outside our mind? No. On the question of the uniformity of nature Mach also delivers himself thus: ... ‘That we consider ourselves capable of making predictions with the help of such a law only proves that there is sufficient uniformity in our environment, but it does not prove the necessity of the success of our predictions’ (**Wärmelehre**, p.383). It follows that we may and ought to look for a necessity apart from the uniformity of our environment, i.e., of nature.” (183)

The embroilment in this tangle of sentences, further embellished by courtesies here omitted is understandable only when conformity of nature is identical for Lenin with the necessity of success of our prophecies; when, hence, he cannot distinguish between regularities as they occur in various degrees of clearness in nature, and the apodictic expression of exact natural law. And he proceeds:

“Where to look for it is the secret of idealist philosophy which is afraid to recognise man’s perceptive faculty as a simple reflection of nature.” (184)

In reality there is no necessity, except in our formulation of natural law; and then in practice ever again we find deviations, which, again, we express in the form of additional laws. Natural law does not determine what nature necessarily will do, but what we expect her to do. The silly remark that our mind should simply reflect nature we may leave undiscussed now. His concluding remark:

“In his last work, **Erkenntnis und Irrtum**, Mach even defines a law of nature as a ‘limitation of expectation’ (2.Auflage, S.450ff.)! Solipsism claims its own.” (184)

This lacks all sense since the determination of our expectation by natural law is a common affair of all scientists. The embodiment of a number of phenomena in a short formula, a natural law, is denoted by Mach as “economy of thinking”; he exalts it into a principle of research. We might expect that such a reducing of abstract theory to the practice of (scientific) labour should find sympathy among Marxists. In Lenin, however, it meets with no response, and he exposes his lack of understanding in some drolleries:

“That it is more ‘economical’ to ‘think’ that only I and my sensations exist is unquestionable, provided we want to introduce such an absurd conception into epistemology. Is it ‘more economical’ to ‘think’ of the atom as indivisible, or as composed of positive and negative electrons? Is it ‘more economical’ to think of the Russian bourgeois revolution as being conducted by the liberals or as being conducted against the liberals? One has only to put the question in order to see the absurdity, the subjectivism of applying the category of ‘the economy of thought’ here.” (196-7)

And he opposes to it his own view:

“Human thought is ‘economical’ only when it correctly reflects objective truth, and the criterion of this correctness is practice, experiment and industry. Only by denying objective reality, that is, by denying the foundations of Marxism, can one seriously speak of economy of thought in the theory of knowledge.” (197)

How simple and evident that looks. Let us take an example. The old, ptolemaic world-system placed the earth as resting in the centre of the world, with the sun and the planets revolving around it, the latter in epicycles, a combination of two circles. Copernicus placed the sun in the centre and had the earth and the planets revolving around it in simple circles. The visible phenomena are exactly the same after both theories, because we can observe the relative motions only, and they are absolutely identical. Which, then, pictures the objective world in the right way? Practical experience cannot distinguish between them; the predictions are identical. Copernicus pointed to the fixed stars which by the parallax

## Plechanov’s Views

The kinship with middle-class materialism revealed in Lenin’s book is not simply a personal deviation from Marxism. Analogous views are found in Plechanov, at the time the acknowledged first and prominent theorist of Russian socialism. In his book **Grundprobleme des Marxismus (Fundamental Problems of Marxism)**, first written in Russian, with a German translation in 1910, he begins by broadly treating the concordance between Marx and Feuerbach. What usually is called Feuerbach’s Humanism, he explains, means that Feuerbach proceeds from man to matter. “The words of Feuerbach quoted above on the ‘human head’ show that the question of ‘brain matter’ was answered at the time in a materialist sense. And this point of view was also accepted by Marx and Engels. It became the basis of their philosophy.” Of course Marx and Engels assumed that human thoughts are produced in the brain, just as they assumed that the earth revolved around the sun. Plechanov, however, proceeds: “When we deal with this thesis of Feuerbach, we get acquainted at the same time with the philosophical side of Marxism.” He then quotes the sentences of Feuerbach: “Thinking comes from being, but being comes not from thinking. Being exists in itself and by itself, existence has its basis in itself;” and he concludes by adding “Marx and Engels made this opinion on the relation between being and thinking the basis of their materialist conception of history.” Surely; but the question is what they mean by “being”. In this colourless word many opposing concepts of later times are contained undistinguished. All that is perceptible to us we call being; from the side of natural science it can mean matter, from the side of social science the same word can mean the entire society. To Feuerbach it was the material substance of man: “man is what he eats”; to Marx it is social reality, i.e. a society of people, tools, production-relations, that determines consciousness.

Plechanov then speaks of the first of Marx’s theses on Feuerbach; he says that Marx here “completes and deepens Feuerbach’s

ately translated into all languages and that it appeared in special cheap editions, clearly demonstrates that the book 'has found its way to the masses', that there are numbers of readers whom Ernst Haeckel at once won over to his side. This popular little book became a weapon in the class struggle. The professors of philosophy and theology in every country of the world set about denouncing and annihilating Haeckel in every possible way." (423)

What class-fight was this? Which class was here represented by Haeckel against which other class? Lenin is silent on this point. Should his words be taken to imply that Haeckel, unwittingly, acted as a spokesman of the working class against the bourgeoisie? Then it must be remarked that Haeckel was a vehement opponent to socialism, and that in his defence of Darwinism he tried to recommend it to the ruling class by pointing out that it was an aristocratic theory, the doctrine of the selection of the best, most fit to refute "the utter nonsense of socialist levelling". What Lenin calls a tempest raised by the **Weltraetsel** was in reality only a breeze within the middle class, the last episode of its conversion from materialism to idealistic world conception. Haeckel's **Weltraetsel** was the last flare up, in a weakened form, of middle-class materialism, and the idealist, mystic, and religious tendencies were so strong already among the bourgeoisie and the intellectuals that from all sides they could pounce upon Haeckel's book and show up its deficiencies. What was the importance of the book for the mass of its readers among the working class we have indicated above. When Lenin speaks here of a class fight he demonstrates how little he knew of the class fight in countries of developed capitalism, and saw it only as a fight for and against religion.

could give a decision; but in the old theory we could have the stars making a yearly circle just as the planets did; and again both theories give identical results. But then everybody will say: it is absurd to have all those thousands of bodies describe similar circles, simply to keep the earth at rest. Why absurd? Because it makes our world-picture needlessly complicated. Here we have it – the Copernican system is chosen and stated to be true because it gives the most simply world system. This example may suffice to show the naïvité of the idea that we choose a theory because after the criterion of experience it pictures reality rightly.

Kirchhoff has formulated the real character of scientific theory in the same way by his well-known statements that mechanics, instead of "explaining" motions by means of the "forces" producing them, has the task "to describe the motions in nature in the most complete and simple way." Thus the fetishism of forces as causes, as a kind of working imps, was removed; they are a short form of description only. Mach of course pointed to the analogy of Kirchhoff's views and his own. Lenin, to show that he does not understand anything of it, because he is entirely captivated in this fetishism, calls out in an indignant tone: "Economy of thought, from which Mach in 1872 inferred that sensations alone exist ... is declared to be ... equivalent to the simplest description (of an objective reality, the existence of which it never occurred to Kirchhoff to doubt!)" (198)

It must be remarked, besides, that thinking never can picture reality completely; theory is an approximate picture that renders only the main features, the general traits of a group of phenomena.

After having considered Lenin's ideas on matter and natural laws, we take as a third instance space and time.

"Behold now the 'teachings' of 'recent positivism' on this subject. We read in Mach: 'Space and time are well ordered (wohlgeordnete) systems of series of sensations' (**Mechanik**, 3. Auflage, p.498). This is palpable idealist nonsense, such as inevitably follows from the doctrine that bodies are complexes of sensations. Accord-

ing to Mach, it is not man with his sensations that exists in space and time, but space and time that exist in man, that depend upon man and are generated by man. He feels that he is falling into idealism, and ‘resists’ by making a host of reservations and ... burying the question under lengthy disquisitions ... on the mutability of our conceptions of space and time. But this does not save him, and cannot save him, for one can really overcome the idealist position on this question only by recognising the objective reality of space and time. And this Mach will not do at any price. He constructs his epistemological theory of time and space on the principle of relativism, and that is all. Resisting the idealist conclusions which inevitably follow from his premises, Mach argues against Kant and insists that our conception of space is derived from experience (**Erkenntnis und Irrtum**, 2. Auflage, p.530, 385). But if objective reality is not given us in experience (as Mach teaches) ...” (206)

What is the use of going on quoting? It is all a sham battle, because we know that Mach assumes the reality of the world; and all phenomena, constituting the world, take place in space and time. And Lenin could have been warned that he was on a false track, by a number of sentences he knows and partly quotes, where Mach discusses the mathematical investigations on multi-dimensional spaces. There Mach says: “That which we call space is a special real case among more general imagined cases ... The space of vision and touch is a threefold manifold, it has three dimensions ... The properties of given space appear directly as objects of experience ... About the given space only experience can teach us whether it is finite, whether parallel lines intersect, etc... To many divines who do not know where to place hell, and to spiritists, a fourth dimension might be very convenient.” But “such a fourth dimension would still remain a thing of imagination.” These quotations may suffice. What has Lenin to say to all this, besides a number of groundless squibs and invectives?

“But how does he (Mach) dissociate himself from them in his theory of knowledge? By stating that three-dimensional space alone

connections. Further, that Mach because he belonged to the middle class and was bound to its fundamental line of thought, by necessity was indeterminist in his social views; and that in this way his ideas were backward and incompatible with Marxism. But nothing of the sort is found in Lenin; that ideas are determined by class is not mentioned; the theoretical differences hang in the air. Of course theoretical ideas must be criticised by theoretical arguments. When, however, the social consequences are emphasised with such vehemence, the social origins of the contested ideas should not have been left out of consideration. This most essential character of Marxism does not seem to exist for Lenin.

So we are not astonished that among former authors it is especially Ernst Haeckel who is esteemed and praised by Lenin. In a final chapter inscribed “Ernst Haeckel and Ernst Mach” he compares and opposes them. “Mach ... betrays science into the hands of fideism by virtually deserting to the camp of philosophical idealism” (422). But “every page” in Haeckel’s work “is a slap in the face of the ‘sacred’ teachings of all official philosophy and theology.” Haeckel “instantly, easily and simply revealed ... that there is a foundation. This foundation is natural-scientific materialism.” (423).

In his praise it does not disturb him that the writings of Haeckel combine, as generally recognised, popular science with a most superficial philosophy – Lenin himself speaks of his “philosophical naïveté” and says “that he does not enter into an investigation of philosophical fundamentals.” What is essential to him is that Haeckel was a dauntless fighter against prominent religious doctrines.

“The storm provoked by Ernst Haeckel’s **The Riddle of the Universe** in every civilised country strikingly brought out, on the one hand, the partisan character of philosophy in modern society and, on the other, the true social significance of the struggle of materialism against idealism and agnosticism. The fact that the book was sold in hundreds of thousands of copies, that it was immedi-

already; in hundreds of places all through the book we find fideism as the opposite of materialism. Marx and Engels did not know of fideism; they drew the line between materialism and idealism. In the name fideism emphasis is laid upon religion. Lenin explains whence he took the word. "In France, those who put faith above reason are called fideists (from the Latin fides, faith)." (306)

This oppositeness of religion to reason is a reminiscence from pre-marxian times, from the emancipation of the middle-class, appealing to "reason" in order to attack religious faith as the chief enemy in the social struggle; "free thinking" was opposed to "obscurantism." Lenin, in continually pointing to fideism as the consequence of the contested doctrines indicates that also to him in the world of ideas religion is the chief enemy.

Thus he scolds Mach for saying that the problem of determinism cannot be settled empirically: in research, Mach says every scientist must be determinist but in practical affairs he remains indeterminist.

"Is this not obscurantism ... when determinism is confined to the field of 'investigation,' while in the field of morality, social activity, and all fields other than 'investigation' the question is left to a 'subjective estimate'." (223) ... "And so things have been amicably divided: theory for the professors, practice for the theologians!" (224)

Thus every subject is seen from the point of view of religion. Manifestly it was unknown to Lenin that the deeply religious Calvinism was a rigidly deterministic doctrine, whereas the materialist middle class of the 19th century put their faith into free will, hence proclaimed indeterminism. At this point a real Marxian thinker would not have missed the opportunity of explaining to the Russian Machists that it was Historical Materialism that opened the way for determinism in the field of society; we have shown above that the theoretical conviction that rules and laws hold in a realm – this means determinism – can find a foundation only when we succeed in establishing practically such laws and

is real! But what sort of defence is it against the theologians and their like when you deny objective reality to space and time?" (211)

What difference might there be between real space and objective reality of space? At any rate he sticks to his error.

What, then, is that sentence of Mach that was the basis of this fantasy? In the last chapter of his **Mechanik**, Mach discusses the relation between different branches of science. There he says: "First we perceive that in all experiences on spatial and temporal relations we have more confidence, and a more objective and real character is ascribed to them, than to experiences on colour, heat or sound ... Yet, looking more exactly, we cannot fail to see that sensations of space and time are sensations just as those of colour, sound or smell; only, in the former we are more trained and clear than in the latter. Space and time are well-ordered systems of series of sensations ..." Mach proceeds here from experience; our sensations are the only source of knowledge; our entire world, including all we know about space and time, is built up out of them. The question of what is the meaning of absolute space and time is to Mach a meaningless question; the only sensible question is how space and time appear in our experience. Just as with bodies and matter we can form a scientific conception of time and space only through abstraction out of the totality of our experiences. With the space-and-time pattern in which we insert these experiences we are versed, as most simple and natural, from early youth. How it then appears in experimental science cannot be expressed in a better way than by the words of Mach: well-ordered systems of series of experiences.

What, contrariwise, Lenin thinks of space and time, transpires from the following quotation:

"In modern physics, he says, Newton's idea of absolute time and space prevails (pp.442-4), of time and space as such. This idea seems 'to us' senseless, Mach continues – apparently not suspecting the existence of materialists and of a materialist theory of knowledge.

But in practice, he claims, this view was harmless (unschädlich, p.442) and therefore for a long time escaped criticism.” (208)

Hence, according to Lenin, “materialism” accepts Newton’s doctrine, the basis of which is that there exists an absolute space and an absolute time. This means that the place in space is fixed absolutely without regard to other things, and can be ascertained without any doubt. When Mach says that this is the point of view of contemporary physicists he surely represents his colleagues as too old-fashioned; in his time already it was rather generally accepted that motion and rest were relative conceptions, that the place of a body is always the place relative to other bodies, and that the idea of absolute position has no sense.

Still there was a certain doubt whether or not space-filling world ether did not offer a frame for absolute space; motion or rest relative to world-ether could be rightly called then absolute motion or rest. When, however, physicists tried to determine it by means of the propagation of light, they could find nothing but relativity. Such was the case with Michelson’s famous experiment in 1889, arranged in such a way that in its result nature should indicate the motion of our earth relative to the ether. But nothing was found; nature remained mute. It was as if she said: your query has no sense. To explain the negative result it was assumed that there always occurred additional phenomena that just cancelled the expected effect – until Einstein in 1905 in his theory of relativity combined all facts in such a way that the result was self-evident. Also within the world-occupying ether – absolute position was shown to be a word without meaning. So gradually the idea of ether itself was dropped, and all thought of absolute space disappeared from science.

With time it seemed to be different; a moment in time was assumed to be absolute. But it was the very ideas of Mach that brought about a change here. In the place of talk of abstract conceptions, Einstein introduced the practice of experiment. What are we doing when we fix a moment in time? We look at

materialists believe in matter only, hence the doctrine that in all matter there is something spiritual is, to him, no materialism at all. Plechanov, on the other hand, considers it a small modification of materialism that makes it more resistant.

Lenin was quite well aware of the concordance of his views with middle-class materialism of the 19th century. For him “materialism” is the common basis of Marxism and middle-class materialism. After having expounded that Engels in his booklet on Feuerbach charged these materialists with three things – that they remained with the materialist doctrine of the 18th century, that their materialism was mechanical, and that in the realm of social science, they held fast to idealism and did not understand Historical Materialism – he proceeds:

“Exclusively for these three things and exclusively within these limits, does Engels refute both the materialism of the eighteenth century and the doctrines of Büchner and Co.! On all other, more elementary, questions of materialism (questions distorted by the Machians) there is and can be no difference between Marx and Engels on the one hand and all these old materialists on the other.” (286)

That this is an illusion of Lenin’s has been demonstrated in the preceding pages these three things carry along as their consequences an utter difference in the fundamental epistemological ideas. And in the same way, Lenin continues, Engels was in accordance with Dühring in his materialism:

“For Engels ... Dühring was not a sufficiently steadfast, clear and consistent materialist.” (288)

Compare this with the way Engels finished Dühring off in words of scornful contempt.

Lenin’s concordance with middle-class materialism and his ensuing discordance with Historical Materialism is manifest in many consequences. The former waged its main war against religion; and the chief reproach Lenin raises against Mach and his followers is that they sustain fideism. We met with it in several quotations

“It is illogical to assert that all matter is conscious but it is logical to assert that all matter possesses a property which is essentially akin to sensation, the property of reflection.” (98)

And still more distinctly he avers against Mach:

“As regards materialism, ... we have already seen in the case of Diderot what the real views of the materialists are. These views do not consist in deriving sensation from the movement of matter or in reducing sensation to the movement of matter, but in recognising sensation as one of the properties of matter in motion. On this question Engels shared the standpoint of Diderot.” (40)

Where Engels may have said so, is not indicated. We may doubt whether Lenin’s conviction that Engels on this point agreed with him and Diderot, rests on precise statements. In his **Anti-Dühring** Engels expressed himself in another way: “Life is the form of existence of albuminous substances”; i.e. life is not a property of all matter but appears only in such complicated molecular structures as albumen. So it is not probable that he should have considered sensitiveness, which we know as a property of living matter only, a property of all matter, Such generalisations of properties observed only in special cases, to matter in general, belong to the undialectic middle-class frame of mind.

The remark may be inserted here that Plechanov exhibits ideas analogous to Lenin’s. In his **Grundprobleme des Marxismus** he criticises the botanist France on the subject of the “spirituality of matter,” the “doctrine that matter in general and organic matter especially always has a certain sensitivity.” Plechanov then expresses his own view in the words: “France considers this contradictory to materialism. In reality it is the transfer of Feuerbach’s materialistic doctrine. We may assert with certainty that Marx and Engels would have given attention to this trend of thought with the greatest interest.” This is a cautious assertion testifying that Marx and Engels in their writings never showed any interest in this trend of thought. France as a limited-minded naturalist knows only the antithesis of views in middle-class thinking; he assumes that ma-

a clock, and we compare the different clocks, there is no other way. In following this line of argument Einstein succeeded in refuting absolute time and demonstrating the relativity of time. Einstein’s theory was soon universally adopted by scientists, with the exception of some anti-semitic physicists in Germany who consequently were proclaimed luminaries of national-socialist “German” physics.

The latter development could not yet be known to Lenin when he wrote his book. But it illustrates the character of such expositions as where he writes:

“The materialist view of space and time has remained ‘harmless,’ i.e., compatible, as heretofore, with science, while the contrary view of Mach and Co. was a ‘harmful’ capitulation to the position of fideism.” (210)

Thus he denotes as materialist the belief that the concepts of absolute space and absolute time, which science once wanted as its theory but had to drop afterwards, are the true reality of the world. Because Mach opposes their reality and asserts for space and time the same as for every concept, viz. that we can deduce them only from experience, Lenin imputes to him “idealism leading to ‘fideism.’”

## Materialism

Our direct concern here is not with Mach but with Lenin. Mach occupies considerable space here because Lenin’s criticism of Mach discloses his own philosophical views. From the side of Marxism there is enough to criticise in Mach; but Lenin takes up the matter from the wrong end. As we have seen he appeals to the old forms of physical theory, diffused into popular opinion, so as to oppose them against the modern critique of their own foundations. We found, moreover, that he identifies the real objective world with

physical matter, as middle class materialism did formerly. He tries to demonstrate it by the following arguments:

“If you hold that it is given, a philosophical concept is needed for this objective reality, and this concept has been worked out long, long ago. This concept is matter. Matter is a philosophical category designating 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.” (144)

Fine; with the first sentence we all can agree. When then, however, we would restrict the character of reality to physical matter, we contradict the first given definition. Electricity too is objective reality; is it physical matter? Our sensations show us light; it is reality but not matter, and the concepts introduced by the physicists to explain its phenomena, first the world ether, then the photons, can not easily be denoted as a kind of matter. Is not energy quite as real as is physical matter? More directly than the material things, it is their energy that shows itself in all experience and produces our sensations. For that reason Ostwald, half a century ago, proclaimed energy the only real substance of the world; and he called this “the end of scientific materialism,” And finally, what is given to us in our sensations, when fellow-men speak to us, is not only sound coming from lips and throat, not only energy of air vibrations, but besides, more essentially, their thoughts, their ideas. Man’s ideas quite as certainly belong to objective reality as the tangible objects; things spiritual constitute the real world just as things called material in physics. If in our science, needed to direct our activity, we wish to render the entire world of experience, the concept of physical matter does not suffice; we need more and other concepts; energy, mind, consciousness.

If according to the above definition matter is taken as the name for the philosophical concept denoting objective reality, it embraces far more than physical matter. Then we come to the view repeatedly expressed in former chapters, where the material world was spoken of as the name for the entire observed reality.

This is the meaning of the word material, matter in Historical Materialism, the designation of all that is really existing in the world, “including mind and fancies,” as Dietzgen said. It is not, therefore, that the modern theories of the structure of matter provoke criticism of his ideas, as Lenin indicates above on the same page, but the fact that he identifies physical matter at all with the real world.

The meaning of the word matter in Historical Materialism, as pointed out here, is of course entirely foreign to Lenin; contrary to his first definition he will restrict it to physical matter. Hence his attack on Dietzgen’s “confusion”:

“Thinking is a function of the brain, says Dietzgen. ‘My desk as a picture in my mind is identical with my idea of it But my desk outside of my brain is a separate object and distinct from my idea.’ These perfectly clear materialistic propositions are, however, supplemented by Dietzgen thus: ‘Nevertheless, the non-sensible idea is also sensible, material, i.e., real..’ This is obviously false. That both thought and matter are ‘real,’ i.e., exist, is true. But to say that thought is material is to make a false step, a step towards confusing materialism and idealism. As a matter of fact this is only an inexact expression of Dietzgen.” (290)

Here Lenin repudiates his own definition of matter as the philosophical expression of objective reality. Or is perhaps objective reality something different from really existing? What he tries to express but cannot without “inexactness of expression” – is this: that thought may really exist, but the true genuine reality is only found in physical matter.

Middle-class materialism, identifying objective reality with physical matter, had to make every other reality, such as all things spiritual, an attribute or property of this matter. We cannot wonder, therefore, that we find with Lenin similar ideas. To Pearson’s sentence: “It is illogical to assert that all matter has consciousness” he remarks: