

5. The Dialectical Conception of Development

Whereas the older philosophies considered that the universe always remained much the same, a perpetual cycle of the same processes, science has demonstrated the fact of evolution. But while recognizing the fact of evolutionary development, bourgeois thinkers have tried to understand and explain it in fantastic, idealist terms. And they have conceived of development as being always a smooth, continuous process, not recognizing the occurrence of abrupt breaks in continuity, the leap from one stage to another.

Following up the ideas of Hegel by taking up the revolutionary side of his philosophy while freeing it of its idealist trammels, Marx and Engels established the dialectical materialist conception of development. The key to understanding development in nature and society and the leaps and breaks in continuity which characterize all real development—lies in the recognition of the inner contradictions and opposite conflicting tendencies which are in operation in all processes.

This discovery by Marx and Engels was a revolution in philosophy and made of it a revolutionary weapon of the working people, a method for understanding the world so as to change it.

The Idea of Evolution

We have seen that the corrections of the mechanistic standpoint made by dialectical materialism are fully justified by and have a basis in the advance of science. Indeed, the advance of science itself has shattered the whole conception of the universe held by the older, mechanistic materialists.

According to that conception, the universe always remained much the same. It was a huge machine which always did the same things, kept grinding out the same products, went on and on in a perpetual cycle of the same processes.

Thus it used to be thought that the stars and the solar system always remained the same—and that the earth, with its continents and oceans and the plants and animals inhabiting them, likewise always remained the same.

But this conception has given way to the conception of evolution, which has invaded all spheres of investigation without exception. Nor was it scientific investigation alone which produced the

idea of evolution. Science does not advance in isolation from society as a whole. The idea of evolution was generated out of the rise of industrial capitalism itself.

"The bourgeoisie cannot exist without constantly revolutionizing the instruments of production, and thereby the relations of production, and with them the whole relations of society. Conservation of the old modes of production in unaltered form was, on the contrary, the first condition of existence of all earlier industrial classes. Constant revolutionizing of production, uninterrupted disturbance of all social conditions, everlasting uncertainty and agitation, distinguish the bourgeois epoch from all earlier ones."¹

The industrial capitalists saw themselves as the bearers of progress. And as they thought progress was the law of capitalism, so they saw it as the law of the whole universe.

So there was made possible a great advance in the scientific picture of the universe. We find developing a picture of the universe, not as static, as always the same, but as in continual progressive development.

The stars did not always exist—they were formed out of masses of dispersed gas.

Once formed, the whole stellar system, with all the stars in it, goes through an evolutionary process, stage by stage.

Some stars, like our sun, acquire planets—a solar system. Thus the earth was born. As its surface cooled, so chemical compounds were formed, impossible in the high temperatures of the stars.

Thus matter began to manifest new properties, non-existent before—the properties of chemical combination.

Then organic compounds were formed out of the complex linking of carbon atoms. And from organic matter the first bodies arose which began to manifest the properties of life, of living matter. Still new properties of matter emerged—the properties of living matter.

Living organisms went through a long evolution, leading eventually to man. With man, human society was born. And still new processes, with new laws, arose—the laws of society, and the laws of thought.

What comes next?

Capitalist science can go no further. Here it ends, since capitalist science cannot contemplate the ending of capitalism. But social-

¹ Marx and Engels, *The Communist Manifesto*, Chapter I.

ist science shows that man himself is about to embark on a new phase of evolution—communist society, in which the whole social process will be brought under his own conscious, planned direction.

All this is the evolutionary history of the material universe.

Apart from the last point, it may be said this is all common knowledge. Bourgeois thinkers know this as well as Marxists, though they often forget it. But Marxism does not only stress the fact that everything in the world goes through a process of development. What Marxism found out was how to understand and explain this development in a materialist way.

The discovery of Marxism was the discovery of the laws of materialist dialectics. And that is why Marxism alone is able to give a fully scientific account of development and to point out the future path.

This is the meaning of Marx's great discovery—how to understand change and development in a materialist way, and therefore how to become masters of the future.

Idealist Conceptions of Change and Development

How did bourgeois thinkers try to account for the universal change and development which they discovered?

Let us consider what some of them have had to say over a period of more than a century.

Hegel said that the whole process of development taking place in history was due to the Absolute Idea realizing itself in history. Herbert Spencer said that all development was a process of increasing "integration of matter," and he put this down to what he called an "Incomprehensible and Omnipresent Power." Henri Bergson said that everything was in process of evolution, due to the activity of "the Life Force." Fairly recently, a school of British philosophers has coined the phrase "emergent evolution." They pointed out that in the course of development new qualities of matter are continually emerging, one after the other. But as to why this should happen, one of the leaders of this school, Professor Samuel Alexander, said that it was inexplicable and must be accepted "with natural piety," while another of its leaders, Professor C. Lloyd Morgan, said that it must be due to some immanent force at work in the world, which he identified with God.

Thus in every case some fantasy, something inexplicable and unpredictable, was conjured up to explain development. And so,

when they thought about the future, all these bourgeois philosophers of evolution either thought, like Hegel, that development had now finished (Hegel taught that the Absolute Idea was fully realized in the Prussian State of which he was a distinguished employee), or else regarded the future as unfathomable.

Nowadays they begin to give up hope altogether and regard everything—past, present and future—as incomprehensible, the result of forces no one can ever understand or control.

It is the same story in the sciences. The cosmogonists, who study the evolution of the stars, appeal to a mysterious creation to start the process off. The biologists who study the evolution of organic life appeal to a series of unpredictable accidents (the random mutations of genes) as the basis for the whole process.

Such ideas are, however, unscientific. Why? Because they assert that the processes they are supposed to be investigating take place without any cause. True, the assertion is often made under a cloak of “scientific” objectivity and humility: it is not positively stated that no cause exists, but only that we have at present no clue as to what the cause, if any, may be. But such reservations do not materially alter the nature of the theories in question. For the fact remains that to say that matter was created, to say that “mutations” occur spontaneously, is to say that something happens for no reason, without any discoverable cause. Such statements do not deserve to be called even provisional scientific hypotheses but are simply idealist inventions, fantasies. Science may not yet know why something happens, but to say that it happens for no reason is to abandon science.

A second defect in the evolutionary ideas of most bourgeois thinkers is that they regard the process of evolution as a smooth, continuous and unbroken process. They see the process of transition from one evolutionary stage to another as taking place through a series of gradations, without conflict and without any break in continuity.

But continuity is not the law of development. On the contrary, periods of smooth, continuous evolutionary development are interrupted by sudden and abrupt changes. The emergence of the new stage in development takes place, when the conditions for it have matured, by a break in continuity, by the leap from one state to another.

Hegel was the first to point this out.

With every period of transition, he observed:

"It is as in the case of the birth of a child; after a long period of nutrition in silence, the continuity of the gradual growth in size, of quantitative change, is suddenly cut short by the first breath drawn—there is a break in the process, a qualitative change—and the child is born."²

But Marx alone followed up this profound observation of Hegel. As for the ensuing bourgeois thinkers, although the investigations of science, and common experience itself, clearly demonstrate that development cannot take place without discontinuity, without abrupt transitions and the leap from one state to another, they have nevertheless in their general theories tried to make unbroken continuity the law of evolution.

This prejudice in favor of a smooth line of evolution has gone hand in hand with the liberal belief that capitalist society will evolve smoothly—through orderly bourgeois progress broadening down "from precedent to precedent," as Tennyson once expressed it. To have thought differently about evolution in general would have implied that we would have to think differently about social evolution in particular.

The Dialectical Materialist Conception of Development

The problem of understanding and explaining development in a materialist way—that is, "in harmony with the facts conceived in their own and not in a fantastic connection"—is answered by dialectical materialism.

Dialectical materialism considers the universe, not as static, not as unchanging, but as in continual process of development. It considers this development, not as a smooth, continuous and unbroken process, but as a process in which phases of gradual evolutionary change are interrupted by breaks in continuity, by the sudden leap from one state to another. And it seeks for the explanation, the driving force, of this universal movement, not in inventions of idealist fantasy, but within material processes themselves—in the inner contradictions, the opposite conflicting tendencies, which are in operation in every process of nature and society.

The main ideas of materialist dialectics, which are applied in dealing with the laws of development of the real material world, including society, will be the subject of the following chapters. But

² G. W. F. Hegel, *Phenomenology of Mind*, Preface.

this is how Lenin summed them up:

The essential idea of materialist dialectics is:

“The recognition of the contradictory, mutually exclusive, opposite tendencies in all phenomena and processes of nature.... This alone furnishes the key to the self-movement of everything in existence. It alone furnishes the key to the leaps, to the break in continuity, to the transformation into the opposite, to the destruction of the old and emergence of the new....

“In its proper meaning, dialectics is the study of the contradiction within the very essence of things.

“Development is the struggle of opposites.”³

From Hegel to Marx

Where contradiction is at work, there is the force of development.

This profound conception was first put forward by Hegel. But he worked it out in an idealist way. According to Hegel, the whole process in the material world, in space and time, is nothing but the realization of the Absolute Idea, outside space and time. The Idea develops through a series of contradictions, and it is this ideal development which manifests itself in the material world. If things in space and time are forced to go through a series of transformations and to arise and pass away one after the other, that is because they are nothing but the embodiment of a self-contradictory phase of the Absolute Idea. For Hegel, the development of real things was due to the self-contradictoriness of their concepts: where the concept was self-contradictory, the thing which realized that concept could not be stable but must eventually negate itself and turn into something else. Thus instead of the concepts of things being regarded as the reflections of those things in our minds, the things were themselves regarded as nothing but the realizations of their concepts.

This is how Engels summed up the materialist criticism of Hegel.

“Hegel was not simply put aside. On the contrary, one started out from his revolutionary side... from the dialectical method. But in its Hegelian form this method was unusable.

“According to Hegel, dialectics is the self-development of the concept. The absolute concept does not only exist—where un-

³ V. I. Lenin, *Philosophical Notebooks*, Russian Edition.

known—from eternity, it is also the actual living soul of the whole existing world....

“According to Hegel, therefore, the dialectical development apparent in nature and history, *i.e.* the causal interconnection of the progressive movement from the lower to the higher, which asserts itself through all zig-zag movements and temporary setbacks, is only a miserable copy of the self-movement of the concept going on from eternity, no one knows where, but at all events independently of any thinking human brain.

“This ideological reversal had to be done away with. We comprehended the concepts in our heads once more materialistically—as images of real things instead of regarding the real things as images of this or that stage of development of the absolute concept.

“Thus dialectics reduced itself to the science of the general laws of motion—both of the external world and of human thought—two sets of laws which are identical in substance, but differ in their expression in so far as the human mind can apply them consciously, while in nature and also up to now for the most part in human history, these laws assert themselves unconsciously in the form of external necessity in the midst of an endless series of seeming accidents.

“Thereby the dialectic of the concept itself became merely the conscious reflection of the dialectical motion of the real world and the dialectic of Hegel was placed upon its head; or rather, turned off its head, on which it was standing before, and placed on its feet again....

“In this way, however, the revolutionary side of Hegelian philosophy was again taken up and at the same time freed from the idealist trammels which in Hegel’s hands had prevented its consistent execution.”⁴

This materialist understanding of dialectics is the key to understanding the forces of development within the material world itself, without recourse to outside causes.

This discovery arises from the whole advance of science and philosophy.

But above all it arises from the investigation of the laws of society, an investigation made imperative thanks to the very development of society—from the discovery of the contradictions of capitalism, explaining the forces of social development, and thereby

⁴ Engels, *Ludwig Feuerbach*, Chapter IV.

showing the way forward from capitalism to socialism.

That is why bourgeois thinkers could not answer the problem of explaining the real material forces of development in nature and society. To answer this problem was to condemn the capitalist system. And here they had a blind spot. Only the revolutionary philosophy of the vanguard of the revolutionary class, the working class, could do it.

Marx's discovery of the laws of materialist dialectics showed us how to understand the dialectical development of nature. But above all it showed us how to understand social change and how to wage the working-class struggle for socialism.

This discovery revolutionized philosophy.

It signalized the triumph of materialism over idealism, by doing away with the limitations of the merely mechanistic materialism of the past.

It likewise spelled the end of all "systems" of philosophy.

It made philosophy into a revolutionary weapon of the working people, an instrument, a method for understanding the world so as to change it.

Summing up the essential ideas of materialist dialectics Stalin wrote:

"Life always contains the new and the old, the growing and the dying, the revolutionary and the counter-revolutionary.

"That in life which is born and grows day after day is invincible, its progress cannot be checked. That is to say, if, for example, the proletariat as a class is born and grows day after day, no matter how weak it may be today, in the long run it must conquer. Why? Because it is growing, gaining strength and marching forward. On the other hand, that in life which grows old and is advancing to its grave, must inevitably sustain defeat, even if today it represents a titanic force. That is to say, if, for example, the ground is gradually slipping further and further back from under the feet of the bourgeoisie, and the latter is slipping further and further back every day, no matter how strong it may be today, it must, in the long run, sustain defeat."⁵

Thus the materialist dialectics of Marx shows us the way forward and gives us unshakable confidence in our cause.

⁵ Joseph Stalin, *Anarchism or Socialism?* Chapter I, Moscow, 1950.

PART TWO: DIALECTICS

6. Dialectics and Metaphysics

Dialectics, as a method of investigation, a method of thinking, is opposed to metaphysics. The metaphysical way of thinking deals with abstractions. It considers things each by itself, in abstraction from their real conditions of existence and interconnections; and it considers things as fixed and frozen, in abstraction from their real change and development. Consequently it invents rigid formulas and is always posing hard and fast antitheses—"either-or." It fails to comprehend the unity and struggle of opposite processes and tendencies manifested in all phenomena of nature and society.

In contrast to metaphysics, the aim of dialectics is to trace the real changes and interconnection in the world and to think of things always in their real motion and interconnection.

Dialectical materialism, the world outlook of the Marxist-Leninist Party, is materialist in its theory, its interpretation and explanation of everything, dialectical in its method.

We have seen how materialist explanation is opposed to idealist explanation. And then we saw how materialists formerly interpreted things in a mechanist way, but how mechanistic materialism proved inadequate to explain real processes of change and development. For this we need materialist dialectics. We need to study and understand things dialectically.

The dialectical method is, indeed, nothing but the method of studying and understanding things in their real change and development.

As such, it stands opposed to *metaphysics*.

What is metaphysics? Or more exactly, what is the metaphysical way of thinking, which is opposed by the dialectical way of thinking?

Metaphysics is essentially an abstract way of thinking. In a sense all thinking is "abstract," since it works with general concepts and cannot but disregard a great deal of particular and unessential detail. For example, if we say that "men have two legs," we are thinking of the two-leggedness of men in abstraction from their other properties, such as having a head, two arms and so on; and similarly we are thinking of all men in general, disregarding the individ-

uality of particular men, of Peter, Paul and so on. But there is abstraction and abstraction. Metaphysics is distinguished by the fact that it makes false, misleading abstractions. As Engels once pointed out, “the art of working with concepts is not inborn... but requires real thought”;¹ the art of right thinking involves learning how to avoid metaphysical abstraction.

Suppose, for example, we are thinking about men, about “human nature.” Then we should think about human nature in such a way that we recognize that men live in society and that their human nature cannot be independent of their living in society but develops and changes with the development of society. We shall then form ideas about human nature which correspond to the actual conditions of men’s existence and to their change and development. But yet people often think about “human nature” in a very different way, as though there were such a thing as “human nature” which manifested itself quite independent of the actual conditions of human existence and which was always and everywhere exactly the same. To think in such a way is obviously to make a false, misleading abstraction. And it is just such an abstract way of thinking that we call “metaphysics.”

The concept of fixed, unchanging “human nature” is an example of metaphysical abstraction, of the metaphysical way of thinking.

The metaphysician does not think in terms of real *men*, but of “Man” in the abstract.

Metaphysics, or the metaphysical way of thinking, is, then, that way of thinking which thinks of things (1) in abstraction from their conditions of existence, and (2) in abstraction from their change and development. It thinks of things (1) in separation one from another, ignoring their interconnections, and (2) as fixed and frozen, ignoring their change and development.

One example of metaphysics has already been given. It is not difficult to find plenty more. Indeed, the metaphysical way of thinking is so widespread, and has become so much part and parcel of current bourgeois ideology, that there is hardly an article in a journal, a talk on the radio, or a book by a learned professor, in which examples of metaphysical fallacy are not to be found.

A good deal is said and written, for example, about democracy. But the speakers and writers usually refer to some pure or absolute

¹ Engels, *Anti-Dühring*, Preface.

democracy, which they seek to define in abstraction from the actual development of society, of classes and of class struggle. But there can be no such pure democracy; it is a metaphysical abstraction. If we want to understand democracy we have always to ask: democracy for whom, for the exploiters or the exploited? We have to understand that since democracy is a form of government, there is no democracy which is not associated with the rule of some particular class, and that the democracy which is established when the working class is the ruling class is a higher form of democracy than capitalist democracy, just as capitalist democracy is a higher form of democracy than, say, the slave-owners' democracy of ancient Greece. In other words, we should not try to think of democracy in abstraction from real social relations and from the real change and development of society.

Again, pacifists try to base their opposition to war on the idea that "all wars are wrong." They think of war in the abstract, without reflecting that the character of each particular war is determined according to the historical epoch, the aims of the war and the classes in whose interests it is fought. Consequently they fail to distinguish between imperialist wars and wars of liberation, between unjust war and just war.

In most British schools today the children are regularly subjected to "intelligence tests." It is alleged that each child possesses a certain fixed quantity of "intelligence," which can be estimated without regard to the actual conditions of the child's existence and which determines his capabilities throughout the whole of his life regardless of whatever conditions for change and development may subsequently come in his way. This is another example of metaphysics. In this case the metaphysical conception of "intelligence" is used as an excuse for denying educational opportunities to the majority of children on the grounds that their intelligence is too low for them to benefit from such opportunities.

In general, metaphysics is a way of thinking which tries to fix the nature, properties and potentialities of everything it considers once and for all. Consequently it presupposes that each thing has a fixed nature and fixed properties.

And it thinks in terms of "things" rather than "processes." It tries to sum up everything in a formula, which says that the whole world, or any part of the world which is under consideration, consists of just such and such things with such and such properties.

Such a formula we may call a "metaphysical" formula.

Thus Engels refers to "the old method of investigation and thought which Hegel calls 'metaphysical,' which preferred to investigate *things* as given, as fixed and stable."²

In philosophy, metaphysics often means the search for the "ultimate constituents of the universe." Thus the materialists who said that the ultimate constituents were small, solid, material particles were just as much metaphysicians as the idealists who said that the ultimate constituents were spirits. All such philosophers thought they could sum up "the ultimate nature of the universe" in some formula. Some have held this formula, some that, but all have been metaphysicians. Yet it has been a hopeless quest. We cannot sum up the whole infinite changing universe in any such formula. And the more we find out about it, the more is this evident.

It should now be clear that the mechanistic materialism which we discussed in the preceding chapters can equally well be called *metaphysical* materialism.

We may also note, in passing, that certain philosophers today, the so-called positivists,³ claim to be against "metaphysics" because they claim to reject any philosophy which seeks for "the ultimate constituents of the universe." For them, "metaphysics" means any theory which deals with "ultimates" not verifiable in sense-experience. By using the term in this way, they conceal the fact that they themselves are, if anything, more metaphysical than any other philosophers. For their own mode of thinking reaches extremes of metaphysical abstraction. What could be more metaphysical than to imagine, as the positivist philosophers do, that our sense-experience exists in abstraction from the real material world outside us? Indeed, they themselves make "sense-experience" into a metaphysical "ultimate."

In opposition to the abstract, metaphysical way of thinking, dialectics teaches us to think of things in their real changes and interconnections. To think dialectically is to think concretely, and to think concretely is to think dialectically. When we oppose the dialectical method to metaphysics, then we show up the inadequacy, one-sidedness or falsity of the abstractions of metaphysics.

² Engels, *Ludwig Feuerbach*, Chapter IV.

³ The *positivists* say we have no right to assert that anything exists except our own sense-perceptions. They say that to assert anything else is "metaphysics."

This consideration enables us to understand the original meaning of the term "dialectics." The word is derived from the Greek *dialego*, meaning to discuss or debate. It was considered that to discuss a question from all sides, and from all angles, allowing different one-sided points of view to oppose and contradict each other during the debate, was the best method of arriving at the truth. Such was the dialectics employed, for example, by Socrates. When anyone claimed to have a formula which answered some questions once and for all, Socrates would enter into discussion with him and, by forcing him to consider the question from different angles, would compel him to contradict himself and so to admit that his formula was false. By this method Socrates considered that it was possible to arrive at more adequate ideas about things.

The Marxist dialectical method develops from and includes dialectics in the sense in which it was understood by the Greeks. But it is far richer in content, far wider in its scope. As a result, it becomes something qualitatively *new* as compared with pre-Marxist dialectics—a new revolutionary method. For it is combined with a consistent materialism and ceases to be a mere method of argument, becoming a method of investigation applicable to both nature and society, a method of materialist understanding of the world which grows out of and guides the activity of changing the world.

The Metaphysical "Either-Or"

Metaphysics presupposes that each thing has its own fixed nature, its own fixed properties, and considers each thing by itself, in isolation. It tries to settle the nature and properties of each thing as a given, separate object of investigation, not considering things in their interconnection and in their change and development.

Because of this, metaphysics thinks of things in terms of hard and fast antitheses. It opposes things of one sort to things of another sort: if a thing is of one sort, it has one set of properties; if of another sort, it has another set of properties; the one excludes the other, and each is thought of in separation from the other.

Thus Engels writes:

"To the metaphysician, things and their mental images, ideas, are isolated, to be considered one after the other, apart from each other, rigid fixed objects of investigation given once and for all. He thinks in absolutely irreconcilable antitheses. 'His communication is Yea, yea, Nay, nay, for whatever is more than these cometh of evil.'

For him a thing either exists or it does not exist; it is equally impossible for a thing to be itself and at the same time something else.”⁴

Philosophers have expressed the essence of this metaphysical way of thinking in the formula: “Each thing is what it is, and not another thing.” This may sound no more than plain common sense. But that only shows that so-called common sense itself conceals misleading ideas which need to be brought into the open. This way of thinking prevents us from studying things in their real changes and interconnections—in all their contradictory aspects and relationships, in their process of changing from “one thing” into “another thing.”

It is not only philosophers who are metaphysicians.

There are left-wing trade unionists, for example, who are as metaphysical as any school of philosophers. For them everyone at their trade union local meeting is either a class-conscious militant or else he is a right-wing opportunist. Everyone must fit into one or other category, and once he is down as “right wing” he is finished so far as they are concerned. That some worker who has been their opponent in the past and on some issues may yet prove an ally in the future and on other issues is not allowed for in their metaphysical outlook on life.

In one of Moliere’s plays there is a man who learns for the first time about prose. When they explain to him what prose is, he exclaims: “Why, I’ve been speaking prose all my life!”

Similarly, there are many workers who may well say: “Why, I’ve been a metaphysician all my life!”

The metaphysician has his formula ready for everything. He says—Either this formula fits or it does not. If it does, that settles it. If it does not, then he has some alternative formula ready. “Either-or, but not both” is his motto. A thing is either this or that; it has either this set of properties or that set of properties; two things stand to one another either in this relationship or in that.

The use of the metaphysical “either-or” leads people into countless difficulties.

For example, difficulties are felt in understanding the relations between American and British imperialism today. For it is argued: Either they are working together, or else they are not. If they are working together, then there is no rift between them; if there is a rift

⁴ Engels, *Anti-Dühring*, Introduction.

between them, then they are not working together. But on the contrary, they are working together and yet there are rifts between them; and we cannot understand the way they work together nor fight them effectively unless we understand the rifts which divide them.

Again, difficulties are felt in understanding the possibility of the peaceful co-existence of capitalist and socialist states. For it is argued: Either they can co-exist peacefully, in which case antagonism between capitalism and socialism must cease; or else the antagonism remains, in which case they cannot co-exist peacefully. But on the contrary, the antagonism remains, and yet the striving of the socialist states and of millions of people in all countries for peace can prevent a war between capitalist and socialist states.

It is often difficult to avoid a metaphysical way of thinking. And this is because, misleading as it is, it yet has its roots in something very necessary and useful.

It is necessary for us to classify things—to have some system of classifying them and assigning their properties and relations. That is a prerequisite of clear thinking. We have to work out what different kinds of things there are in the world, to say that these have these properties as distinct from those which have those other properties, and to say what are their relations.

But when we go on to consider these things and properties and relations each in isolation, as fixed constants, as mutually exclusive terms, then we begin to go wrong. For everything in the world has many different and indeed contradictory aspects, exists in intimate relationship with other things and not in isolation, and is subject to change. And so it frequently happens that when we classify something as “A” and not “B,” then this formula is upset by its changing from “A” into “B,” or by its being “A” in some relationships and “B” in others, or by its having a contradictory nature, part “A” and part “B.”

For example, we all know the difference between birds and mammals, and that while birds lay eggs mammals, in general, produce their young alive and suckle them. Naturalists used to believe that mammals were rigidly distinguished from birds because, among other things, mammals do not lay eggs. But this formula was completely upset when an animal called the platypus was discovered, for while the platypus is undoubtedly a mammal, it is a mammal which lays eggs. What is the explanation of this irregular behavior

of the platypus? It is to be found in the evolutionary relationship of birds and mammals, which are both descended from original egg-laying animals. The birds have continued to lay eggs while the mammals stopped doing so—except for a few conservative animals like the platypus. If we think of animals in their evolution, their development, this appears very natural. But if we try, as the older naturalists tried, to make them fit into some rigid, fixed scheme of classification, then the products of evolution upset that classification.

Again, an idea or a theory which was progressive in one set of circumstances, when it first arose, cannot for that reason be labeled “progressive” in an absolute sense, since it may later become reactionary in new circumstances. For instance, mechanistic materialism when it first arose was a progressive theory. But we cannot say that it is still progressive today. On the contrary, under the new circumstances which have arisen mechanistic theory has become retrograde, reactionary. Mechanism, which was progressive in the rising phase of capitalism, goes hand in hand with idealism as part of the ideology of capitalism in decay.

Common sense, too recognizes the limitation of the metaphysical way of thinking.

For example: When is a man bald? Common sense recognizes that though we can distinguish bald men from non-bald men, nevertheless baldness develops through a process of losing one’s hair, and therefore men in the midst of this process enter into a phase in which we cannot say absolutely either that they are bald or that they are not: they are in process of becoming bald. The metaphysical “either-or” breaks down.

In all these examples we are confronted with the distinction between an *objective process*, in which something undergoes change, and the *concepts* in terms of which we try to sum up the characteristics of the things involved in the process. Such concepts never do and never can always and in all respects correspond to their objects, precisely because the objects are undergoing change. Thus Engels writes:

“Are the concepts that prevail in natural science fictions because they by no means always coincide with reality? From the moment we accept the theory of evolution all our concepts of organic life correspond only approximately to reality. Otherwise there would be no change; on the day that concept and reality absolutely

coincide in the organic world, development is at an end.”⁵

And he pointed out that similar considerations apply to all concepts without exception.

The Unity and Struggle of Opposites

When we think of the properties of things, their relationships, their modes of action and interaction, the processes into which they enter, then we find that, generally speaking, all these properties, relationships, interactions and processes divide into *fundamental opposites*.

For example, if we think of the simplest ways in which two bodies can act on one another, then we find that this action is either repulsion or attraction.

If we consider the electrical properties of bodies, then there is positive and negative electricity.

In organic life, there is the building up of organic compounds and the breaking down of them.

Again, in mathematics, there is addition and subtraction, plus and minus.

And in general, whatever sphere of inquiry we may be considering, we find that it involves such fundamental opposites. We find ourselves considering, not just a number of *different* things, *different* properties, *different* relations, *different* processes, but pairs of *opposites*, fundamental *oppositions*. As Hegel put it: “In opposition, the different is not confronted by any other, but by *its* other.”⁶

Thus if we think of the forces acting between two bodies, there are not just a number of different forces, but they divide into attractive and repulsive forces; if we think of electric charges, there are not just a number of different charges, but they divide into positive and negative; and so on. Attraction stands opposed to repulsion, positive electricity to negative electricity.

Such fundamental oppositions are not understood by the metaphysical way of thinking.

In the first place, the metaphysical way of thinking tries to ignore and discount opposition. It seeks to understand a given subject-

⁵ Karl Marx and Frederick Engels, *Selected Correspondence*, Engels to Schmidt, March 12, 1895, N. Y., 1942.

⁶ Hegel, *Encyclopaedia of Philosophical Sciences*: Logic, Section 119.

matter simply in terms of a whole number of different properties and different relations of things, ignoring the fundamental oppositions which are manifested in these properties and relations. Thus those who think in metaphysical terms about class-divided societies, for example, try to understand society as consisting merely of a large number of different individuals connected together by all kinds of different social relations—but they ignore the fundamental opposition of exploiters and exploited, manifested in all those social relations.

In the second place, when the metaphysical way of thinking does nevertheless come upon the fundamental oppositions and cannot ignore them, then—true to its habit of thinking of each thing in isolation, as a fixed constant—it considers these opposites each in isolation from the other, understands them separately and as each excluding the other. Thus, for example, the older physicists used to think of positive and negative electricity just simply as two different “electrical fluids.”

But contrary to metaphysics, not only are fundamental opposites involved in every subject-matter, but these opposites mutually imply each other, are inseparably connected together, and, far from being exclusive, neither can exist or be understood except in relation to the other.

This characteristic of opposition is known as polarity: Fundamental opposites are polar opposites. A magnet, for example, has two poles, a north pole and a south pole. But these poles, opposite and distinct, cannot exist in separation. If the magnet is cut in two, there is not a north pole in one half and a south pole in the other, but north and south poles recur in each half. The north pole exists only as the opposite of the south, and vice versa; the one can be defined only as the opposite of the other.

In general, fundamental opposition has to be understood as polar opposition, and every subject-matter has to be understood in terms of the polar opposition involved in it.

Thus in physics we find that attraction and repulsion are involved in every physical process in such a way that they cannot be separated or isolated the one from the other. In considering living bodies, we do not find in some cases the building up of organic compounds and in other cases their breaking down, but every life process involves both the building up and the breaking down of organic compounds. In capitalist society the increasing socialization

of labor is inseparable from its opposite, the increasing centralization of capital.

This unity of opposites—the fact that opposites cannot be understood in separation one from another, but only in their inseparable connection in every field of investigation—is strikingly exemplified in mathematics. Here the fundamental operations are the two opposites, addition and subtraction. And so far is it from being the case that addition and subtraction can be understood each apart from the other, that addition can be represented as subtraction and vice versa; thus the operation of subtraction ($a - b$) can be represented as an addition ($-b + a$). Similarly a division a/b can be represented as a multiplication $a \times (1/b)$.⁷

The unity of opposites, their inseparable connection, is by no means to be understood as a harmonious and stable relationship, as a state of equilibrium. On the contrary, “The unity of opposites is conditional, temporary, transitory, relative. The struggle of mutually exclusive opposites is absolute, just as development and motion are absolute.”⁸

The existence of fundamental polar oppositions, manifesting themselves in every department of nature and society, expresses itself in the *conflict* and *struggle* of opposed tendencies, which, despite phases of temporary equilibrium, lead to continual motion and development, to a perpetual coming into being and passing away of everything in existence, to sharp changes of state and transformations.

Thus, for example, the equilibrium of attractive and repulsive forces in the physical world is never more than conditional and temporary; the conflict and struggle of attraction and repulsion always asserts itself, issuing in physical changes and transformations, whether transformations on an atomic scale, chemical changes or, on a grand scale, in the explosion of stars.

Dialectics and Metaphysics

To sum up.

Metaphysics thinks in terms of “ready-made” things, whose properties and potentialities it seeks to fix and determine once and for all. It considers each thing by itself, in isolation from every

⁷ Engels, *Dialectics of Nature*, Chapter 7, “Note on Mathematics.”

⁸ Lenin, *Selected Works*, Vol. 11, “On Dialectics.”

other, in terms of irreconcilable antitheses—"either-or." It contrasts one thing to another, one property to another, one relationship to another, not considering things in their real movement and interconnection, and not considering that every subject-matter represents a unity of opposites—opposed but inseparably connected together.

Contrary to metaphysics, dialectics refuses to think of things each by itself, as having a fixed nature and fixed properties—"either-or"—but it recognizes that things come into being, exist and cease to be, in a process of unending change and development, in a process of complicated and ever-changing interrelationship, in which each thing exists only in its connection with other things and goes through a series of transformations, and in which is always manifested the unity, inseparable interconnection and struggle of the opposite properties, aspects, tendencies characteristic of every phenomenon of nature and society.

Contrary to metaphysics, the aim of dialectics is to trace the real changes and interconnections in the world and to think of things always in their motion and interconnection.

Thus Engels writes:

"The world is not to be comprehended as a complex of ready-made things but as a complex of processes.... One no longer permits oneself to be imposed upon by the antitheses insuperable for the old metaphysics."⁹

"The old rigid antitheses, the sharp impassable dividing lines are more and more disappearing.... The recognition that these antagonisms and distinctions are in fact to be found in nature but only with relative validity, and that on the other hand their imagined rigidity and absoluteness have been introduced into nature only by our minds—this recognition is the kernel of the dialectical conception of nature."¹⁰

"Dialectics... grasps things and their images, ideas, essentially in their inter-connection, in their sequence, their movement, their birth and death."¹¹

Lenin wrote that the understanding of the "contradictory parts" of every phenomenon was "the essence of dialectics." It consists in

⁹ Engels, *Ludwig Feuerbach*, Chapter IV.

¹⁰ *Anti-Dühring*, Preface.

¹¹ *Ibid.*, Introduction.

“the recognition (discovery) of the contradictory, mutually exclusive, opposite tendencies in all phenomena and processes of nature, including mind and society.”¹²

Lastly, Marx wrote that: “dialectic... in its rational form is a scandal and abomination to bourgeoisdom and its doctrinaire professors, because it includes in its comprehension and affirmative recognition of the existing state of things, at the same time also, the recognition of the negation of that state, of its inevitable breaking up; because it regards every historically developed social form as in fluid movement, and therefore takes into account its transient nature not less than its momentary existence; because it lets nothing impose upon it, and is in its essence critical and revolutionary.”¹³

¹² Lenin, *Selected Works*, Vol. 11, “On Dialectics.”

¹³ Karl Marx, *Capital*, Vol. I, Preface to second edition, N. Y., 1947.