

From The Original Myth to the Unified Science of Tomorrow

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Revolution does not give answers, it destroys old questions

At the last meeting I referred back to what was said and reported very extensively, also in writing, at the previous meeting held in La Spezia, about the very important theses contained in Marx's Economic Philosophical Manuscripts, and about researching and comparing the texts in that document that are particularly difficult to translate into the various languages. I then answered the last part perhaps more thoroughly than in Milan, while I did not fully complete what I had set out to do, namely to quote the final part of Marx's study containing Hegel's critique of the philosophical dialectic. I have done this in large parts but not systematically. I have, however, thoroughly carried out the part that is provisionally, practically speaking, considered to be 'philosophical', i.e. I think I have done it a little better.

Since I would now like to develop some concepts that are a continuation of those, I must assume that you have almost all read, I won't say studied, this last instalment. We have quoted certain fundamental passages, the most famous of which we quote for the second time after translating and retranslating it between the various languages:

'Communism, positive abolition of that estrangement of man from himself which is private property, therefore effective conquest of the human essence by man and for man, therefore complete, conscious return, achieved through the entire richness of man's past development for himself as a social man i.e. as a human man'.

As you know, in this whole movement [the theoretical structure is Marx's], the only literary form is taken from Hegel, because it was particularly convenient and also, if you like, brilliant and successive, being a double moment, [both of research and affirmation]. Thus communism is the abolition of that alienation of man which is private property. Private property and capitalism are the alienation: man goes outside himself, then returns to it, and the return is finally described in the [characters of] past development. So you see that we are always going back to the work we have done, even if in this meeting, apparently, this work will be at all haphazard, we must recognise that the various areas treated are very closely related to each other and are really important, to our material end.

In dealing with this last topic, we are occasionally returning to this morning's economic report and yesterday's, because this return is based on the entire wealth of past development. In the chronicle of pre-capitalist forms, which was carried out yesterday by the French and Milanese comrades, it is precisely a question of highlighting in what sense this future realisation, for which we fight, utilises a quantity of elements that have come from the depths of history and the succession of the various capitalist forms. The passage from the Manuscripts has been slightly misrepresented [by the translators], as we say dialectally in Naples. Read correctly it sounds like this:

'This communism is, as complete naturalism, humanism and, as complete humanism, naturalism. It is the true dissolution of the contrast between nature and man and between man and man. It is the true resolution of the contrast between existence and essence, between objective reality and subjective consciousness, between freedom and necessity, between individual and species. Communism is the solved enigma of history and sees itself as such a solution'.

Philosophy has done nothing more than transmit from one school to another and from one author to another certain traditional enigmas, certain traditional problems. In trying to solve them, it has done nothing but dribble between one extreme and the other of the solution; and this eternal conundrum - whether to throw itself this way or that way between the usual antitheses - has never been solved. Communism solves it by completely shifting the task of

philosophy. As we have said, every [philosopher's] stratagem is merely an opinion on an enigma, not its resolution. I think you are clearly aware of the previous instalment of Il Programma Comunista, the one in which I summarised the exposition on spatial questions, in which I tried to show how the appearance of revolutionary truths takes place. It always happens through the resolution of an enigma. But solving the riddle does not consist in deciding whether it is white or black by answering 'white' or 'black', it is something else. Which means: it is neither white nor black, but it is a third thing, and this is such that the old distinction between black and white becomes complete nonsense. So to connect the true revolutionary results of man in his history - of his knowledge and theory - is a procedure inaccessible to philosophy, which has always sought one of two answers.

Ours is a result that does not find an answer to the question but destroys it, as I have shown with the example of Galileo, with the example of Newton, with examples that are more concrete and inherent to physical nature, and therefore more comprehensible. Like when the famous doubt arises that it is not the Sun that revolves around the Earth, something that was not contradicted even by the proponents of the ancient geocentric system. [More properly] it is a question of explaining why the Earth does not fall on the Sun and why the Moon does not fall on the Earth. This ancient question seeks an answer. Newton is not the one who discovered the answer, he is the one who discovered that this question was nonsense because the Moon does indeed fall on the Earth but it is the way it falls that keeps it always at the same distance. This seems a paradox. All new truths when they appear seem paradoxes. All discoverers of new truths are actually revolutionaries who go against the current ideas of the time. Many times they discover just for the sake of denial, the elaboration comes later. When the concept of the rectilinear motion of the body moving forward with its uniform velocity has been well explained, [in combination with] the motion it would go through if it really fell to Earth going - pac! - slamming into it according to a vertical, and one makes the composition of these motions according to the idea first expressed by Galileo, one finds that the Moon travels in a constant orbit and will never fall on the Earth.

Inadequate field choices

All of man's discoveries in the course of his history, when they are truly useful, truly revolutionary, that is to say, in those favourable times when they are possible, consist in dissolving old enigmas. To dissolve them is not to give victory to one or the other. And this is why: [we cannot side with fractions that are an expression of the class societies that have succeeded one another in history]. Are we spiritualists or materialists?

Are we those who have finally given victory to matter over spirit? To say: 'we are materialists' and not to add anything else, that is, to say that we have

taken sides, we have become a sub-species of this old line-up of materialists against that of spiritualists, would be an inadequate response. Instead, we have by our system, by non-philosophical means, that is to say, by revolutionary means, through action, through the struggle of men, between men and men, between man and nature, we have given this conundrum another approach whereby the difference between matter and spirit no longer interests us. This is the sense in which Marxism can be said to be a philosophy of praxis and practice. [*"Better, however, would be to say that Marxism is a doctrine or science of the causes and laws of praxis, that it does not deal with the praxis of the individual but with average social behaviour, and that its explanation of facts does not consist in placing such behaviour at the base, but at the summit of research. This is not to say that this effect of ambient causes, material and relative to the material life of the species, does not reverberate in causes of the historical proceeding: it does, and herein lies the mysterious 'reversal' of praxis, when it is discovered not in the thought and will of the individual man, even of exception, but in the intervention in mature time of the social classes in the broadest sense and of the class party in the narrowest sense"*].

The difference between spiritualism and materialism does not oblige us to opt for one or the other conventionally by classifying ourselves in a line-up, as if we were to take a history of philosophy and classify the names of all the philosophies and divide them into two parties, one was for the spirit, the other for matter, going to swell one of these line-ups. [Only to discover that] there have been others who have been for both because some are monists and others dualists. No! We go beyond the one and the other ranks; we use the one and the other ranks; we respect the one and the other ranks; we contend with immense interest for the one and the other; we make one and the other contribute, and our response is neither 'right' nor 'left', it is not that of the eternal contrast, it is a third and new response made possible only because human action in human-to-human relations and in human-to-nature relations has reached a new stage and course, which only at this level of evolution could be given. Not because human thought and spirit have developed.

Marx returns to the demonstration that these conundrums are solved [in communism]. It is useless for us to linger on it, for it would become very long and heavy. Perhaps it could even be instructive, but let us take the path too long, with too grandiose an intention. Let us return [instead] to our semi-finished work. I repeat, this study is not done in vain because all of our research, all of our expositions are to be framed within each other. The discussion on Russia is framed with the discussion on economics, the discussion on economics with the discussion on philosophy, and from now on we will say: it is better to call this part of our work not 'philosophy' nor 'philosophical criticism' but 'criticism of philosophy', just as Marx did not call his work by the name of one of the many schools of political economy but called it 'criticism of political economy'. And critique is to be understood in a revolutionary, restrictive sense.

And we come to the old antithesis that Marx derides, on which [is based] the contrast between existence and essence. What is the contrast between existence and essence? I don't want to get into a textbook course in philosophy from the People's Library, but it has become topical. Now there are the existentialists, who have given up explaining essence: 'I do not care to descend into the depths of the essence of nature, to define what spirit is, what matter is, what idea is, what reality is, what fact is; I only care about one theorem: I exist and I want to exist in the most satisfactory way possible'. They then draw hedonistic consequences from this, they fall into completely vulgar solutions.... The element is missing, the certainty that human knowledge can reach [the species level; for them the problem] is only that of existing.

[Philosophers in general and existentialists in particular] return to an old problem, the theological problem, which was posed concerning the existence of God. Science was once the science of divinity because since it could not be - still unable to be - the science of man and nature, and not knowing how to get out of the antithesis of the contrast between the science of man and the science of nature, ancient thought had solved this problem by making everything philosophy and theology. Because man did not realise that they are the same thing [and still insists on the misunderstanding]. For one of the many oppositions to be abolished is that between man and nature.

It is easily abolished when, in thinking of man, we do not think of him as the single individual, but as the species. Man, as we have seen in the other parts, is but a sector, a part of nature, and the problem [of the opposition] no longer interests us. [Whereas at one time] it was only important to discuss the nature of God because God explained everything; because having caused, drawn from himself, created nature and man, God explained everything.

Having admitted the theorem of God's omnipotence and will [everything else came as a consequence]. Then it was argued: what matters, the essence or the existence of God? These are two different problems. That of existence arises when I the believer, I the theologian, find myself before the atheist who says: 'God does not exist'. And I bring him arguments to show that he does exist. I prove that God is - quod est, that is, that he exists - and thus I formulate a proof of the thesis of God's existence. He answers me with proof of non-existence. He is within his rights. He says, 'I don't believe it', he is an atheist and that is fine. The essence argument is another. The essence of God is the totality of the qualities and characteristics of God, of this entity, of its nature. It is no longer a question of determining quod est, which in Latin means to establish that he is, interpreting 'that' as a conjunction, but quid est, that is, what God is, what he is made of. That is, let us give him the anatomy, let us see what he keeps inside this special little machine powered by candles, incense, obols and prayers, let us see how it works, what its gears are, let us get to the

bottom of it. The ancient philosophers had found a rather brilliant solution: God's existence is demonstrated by the theory of his essence: since God is that subject, that entity that has all qualities as his qualities, he is omnipotent, he has all values, he has all susceptibilities, nothing is limited to him, he can do everything, he contains everything, he therefore also has the quality of existing. Such a complete essence must of necessity include existence; it is the famous ontological proof of God's existence: if He did not exist He could not be infinite, omnipotent, perfect or otherwise, therefore He exists. So essence proves existence. Entity creates existence, the ancient philosophers said.

This old conundrum, which could be debated for another millennia, is no longer needed, no longer matters. We do not care if God exists and what he is. We do, however, care very much about the whole discussion about what God is or is not. We have not suddenly become atheists, we have not passed into the rank and file of those who say: '*God does not exist and therefore we destroy all treatises on theology*'. No! They are a product of man. At a certain stage they have been a useful, positive product, they are an arch in the bridge of revolutions. And we will try to give an idea of that, if forces allow us, at this meeting. So we will study theology and we will study religious myths without worrying about it at all, without reasoning like the bourgeois: '*I burn all church books etc.*' (except then have a copy reprinted and genuflect again). In short, he says: '*I destroy them all because I am now only interested in scientific treatises etc.*' We will return to this subject in a moment.

Overcoming dualisms: object and subject

Another subject [is the contrast] between objective reality and subjective consciousness. This antithesis has been created between reality and consciousness: between the cosmos, matter, the phenomena that are before us and we who observe them, in a certain way register them, photograph them in our brain and give them a form of talk or written paper or mathematical formula, etc. Now, there would be a contrast between these two worlds. The ancient great enigmas are reduced, excuse me, to that of the chicken and the egg: if you tell me that the egg was born first, where was the chicken that made it? If you now say that the chicken was born first, where was the egg from which it grew? Then the question of whether subjective consciousness or objective reality should prevail is one of those silly quarrels [that are part of classist knowledge].

We do not take sides between the objectivists or the subjectivists by saying: '*Let us reinforce the ranks of the objectivists and tear up all the books of the subjectivists*' or vice versa. As dialectical materialists, we will probably find support for our struggle and our battle - which is not so much a battle of thoughts against thoughts but of men against men in the concrete sense - perhaps in those very people who were the proponents of subjective consciousness and denied the validity of objective reality.

We do not rely on the old classifications of the philosophical churches. We, rather than abolishing religion, want to abolish all churches. The church today is an organisation that has certain preservation purposes. We know with certainty that the communist society will have no churches, and this answers the question of religion. We don't care to answer [the question of religion] in the sense that we want to suppress the Eternal Father, Our Lady, St Joseph, Buddha or Vishnu. We are not interested in suppressing gods. It is enough for us to have outlined a course of society according to which, at a certain moment, we see that it functions very well without churches; without the need to distribute a revealed word, a divine gospel. We get completely [out of this problem of other societies].

Another argument is the contradiction between individual and species. I will refrain from illustrating it because it seems obvious to me that [with party work] we have already come out of it. All we are saying and agitating is to show that this is an insane contradiction. We will never save the individual, we will never arrive at an elaboration, at an overall knowledge, if we do not agree that only through the species can we solve the problem. The individual in a certain sense does not exist. The individual does not exist without the species. Consequently, it is necessary to study the dynamics of the species and not that of the individual.

So let us return to the point: communism is the solved enigma of history and is seen as the solution. This is extremely important. Because, if communism is the solved enigma of history, humanity, to have these already solved enigmas before its eyes, would have to wait until it is in communism, in communist society. But communist society for us exists as of now, it is anticipated in the historical party that possesses the doctrine. It does not possess it in that complete way, in that elaborate way [which will be characteristic of the future society], it possesses it in an approximate way. The communist party is the only entity that can possess it and the only one that can call itself the subject of revolution. It cannot be that the class possesses it, let alone the trade union. There remains only the party, therefore, [to represent the conscious path of the species].

The school of the pre-eminence of the spirit, of the subjective consciousness, of the theological interpretation of the human journey, has elaborated conceptions that have then been stratified in history, have constituted the layers of that certain geology of knowledge that we believe corresponds to the geology of physical matter on which the entire world of today rests. It represents one of the many arches of the bridge [linking primitive humanity to the developed and need-free humanity]. From this bridge, which has already been started, we take off. We cannot yet walk across it before we have launched the last arch - for we are all of us, after all, the launchers of this last arch - but we know that we can, we know that it will close the enigmas of previous

societies. Our knowledge of the world cannot therefore have the value of a perfect and concluded work, as in the scholastic, academic, scientific pretensions that have always been characteristic of conservative and counter-revolutionary ideologies. It has an essentially open, dynamic character; and the subject of this position that liquidates the old ideological contentions is the party. It is the party that superimposes on them a new theory, a pre-consciousness of future society; that represents subjective consciousness; that makes 'our' subject an essence that is no longer individual. We have not completely abolished the subject by turning everything back into an object; in short, we still need a subject. But it is no longer a person, an individual: it is an entity, the party, which serves as a bridge of transition. Or rather: it serves as a mighty thrower of the bridge of passage to the future society.

Dialectical power of the logos (but you have to know how to handle it)

At the end of this section (which I will be careful not to re-read to you because you can well do it yourself) there is a hint of some of the ancient enigmas of philosophy that were unravelled in the revolutionary phases of history. When I allude to Galileo, Newton, etc., it is to consider them as anticipators of the bourgeois revolution. They are in a way a section of the revolutionary party that was to overthrow the old theological and feudal society. I have cited a few examples, where they break through some ancient enigma, some ancient antithesis, some ancient problem of philosophy. And I have cited the example of Galileo, whom you have already read in the other issue of the journal and will read again here [in his Dialogue Concerning the Two Chief World Systems]. In his discussion with the peripatetic Simplicio, there is the ancient dispute: by whom are we to be guided, whom are we to believe, by what are we to be guided: by material sense, by the reports that our senses make to us of the external world, or by the reconstruction that our thought makes of it?

Is the discourse right or is the sense right? The first revolutionary leap has already come out of this misunderstanding of categories, which is why it is so useful to consider it.

How it is applied now by fanatical academics is destructive, counterproductive and ridiculous. They think they are worth much more than Galileo and Newton just because they live three centuries after them. We say instead that they were worth much more. We take their achievements as true conquests of the great human course, capable of definitively liquidating the contradictions of previous knowledge.

I have made what I think is an interesting comparison - pardon my immodesty - between Galileo's position against Simplicio who mishandles Aristotle and Marx's position against his contradictors who mishandle Hegel. Galileo says to the peripatetic: 'You do not want to believe what I tell you: that I

have made the experiment and that the light body and the heavy body fall at the same time. Because the logos warns you that it must be false, that the heavier one must come first. But now I leave my experimental laboratory, I stop teaching you the new method of the assayer which is not made for your head, and I come to your ground; I use Aristotle's logos, logic, reasoning, and by reasoning I prove to you that you are talking nonsense.'

[I take a candy, which falls with a certain speed; then I remove the paper from it and show you that the paper falls slowly, while the candy falls more or less as fast as before. Aristotelian theory tells you that the heavy and the light fall differently and the senses confirm this, but the same senses tell you that when the paper was around the candy everything fell at the same speed as the heavier. A contradiction arises: the candy with the paper should fall faster because it is heavier; but at the same time it should fall slower because the 'light nature' of the paper should hold the candy. The senses deceive you and the logos too, if you misuse them. Aristotle was wrong because he believed that air helps motion, instead it brakes it: Galileo's pupils will demonstrate that in a vacuum paper and candy fall at the same speed]. So the falling time is the same for the heavy and the light. So your thesis, the Aristotelian thesis, is nonsense even by Aristotle's standards, and if he were here arguing with us, he would modify his theory. Marx replies the same to all those on the German Hegelian left: 'You talk a world of nonsense in your articles believing that you have surpassed Hegel and have gone further towards absolute truth than him etc. etc., because in reality you, like Simplicio, do not even know how to handle the mechanism of Aristotle's logos; you have not understood the logos of Hegel's Encyclopaedia. For my part, however, even if I use Hegel's logic, I do not subscribe to it, just as Galileo did not subscribe to Aristotle's logic. I do not give a damn about all logics, from Aristotle to Hegel, because I adopt them in a non-philosophical way, I rely on experience, its theoretical interpretation and the return to experience itself [to modify it according to theory]'

In those historical turning points one was at the moment when the arch of the bridge begins to rise, not at the moment when it descends again, and we must do the same, [take] a similar position in our study, hint, sketch on this difficult problem of human knowledge. To put ourselves in the historical position in which Galileo found himself in the 17th century and in which Marx finds himself in the 19th century [does not therefore mean burning books or even using them without criterion, but learning the method for using them]. Basically, it is the same problem of the entire development of mankind, its action, its relationship with the world, or rather, the world's relationship with itself.

Overcoming dualisms: joy and suffering

We have therefore touched on some unravelling of enigmas. Of course, we need to lighten up the treatment, just to suit our paucity of individuals, for we

have no pretensions to having heads stuffed with culture like libraries. Here we go for simple things.

We return to the contrast between nature and subject, to the notion of the imprint that [the subject would leave on nature]. And we return to the notion that [it is nature that imprints itself].

Here is a millennial contradiction dissolved: should reality, being, be assumed first, or thought first? Marx's formula, in his discussion of Hegel, is that thought and being are distinct but at the same time in unity with each other. The old contrast of thought and being boiled down to this: did thought exist before being, material substance, and then reality was born, or did reality exist and then thought was born? Marx's answer, which we will have to elucidate in what we are going to say now, is that at a certain moment their mutual relationship is so close that they are in unity with each other and thus were born simultaneously: the one was born because there is the other, the other because there is the one. And here, however, is the doubt that we must examine in our further development. All traditional thinkers say: when we establish this priority, this precedence [we will have achieved truth]. They always reason according to hierarchies because they come from hierarchised societies. They can see nothing but the master and the servant; the leader, the one who has the higher rank, and the one who obeys; therefore even in the categories of philosophy they always look for a priority, a pre-eminence, a presupposition, they have to presuppose one thing in order to rise above the other. Either they must presuppose reality in order to ascend over thought or presuppose thought in order to ascend over reality. Which is absurd because one has never seen thinking without reality being there and one has never seen a reality that did not presuppose 'thought'. However, that is how they reason. Our answer comes out of the eternal enigma.

The question of the individual and the species is developed by Marx to the point where he even replaces the subjective sense with a collective sense: there is no eye or ear of the individual, there is the eye or ear of the species, and he develops this concept. Then he addresses another thesis that is truly interesting and revolutionary in the widest sense of the word:

'Man appropriates his omnilateral being in an omnilateral manner and thus as a total man. All the human relations that man has with the world, and thus seeing, hearing, smelling, tasting, touching, thinking, intuiting, feeling, wanting, acting, loving, in short all the organs that make up his individuality as organs that are in their form immediately common organs, are in their objective behaviour, that is, in their behaviour towards the object, the appropriation of this for human effectuality. Their relation to the object is the ascertainment of human effectuality. This effectivity is as multiple as the determinations of human activity, human acting and suffering, because suffering taken in the human sense is a human enjoyment'.

It is an old quandary that of acting and suffering. Does man act on the external world, does he mould it to his will? Do I completely deform the nature around me and subject it to my will? Pragmatic philosophies place particular emphasis on this fact. Or is it nature that keeps me in a bottleneck, suffocates me, assaults me, and thus makes me suffer? It makes every attempt I make to free myself or to go in a certain direction turn into suffering, so living [would be nothing more than a continuous attempt to free myself from suffering?] It would be generalised envy, the whole revolutionary spirit would be reduced to the motto: *'We sufferers want to pass into the category of the enjoyers'*.

Instead, this difference between acting and suffering in our conception is completely overcome: man enjoys because he suffers; suffering and enjoying are the same thing; he would not enjoy if he did not suffer, and this could also be demonstrated for many relations of nature, for the male-female relationship itself. Can it really be established whether it is pain or pleasure? They coincide, they touch each other directly. The enormous joy that man will have in the future, that of succeeding as a species to harmonise with the nature around him, in a certain sense to succeed in transmitting his imprints, his will, not that of his individual brain, but of the collective organisation, of the future society now anticipated by the party, into the malleable reality of the outside world, will always imply, at the same time, that he will suffer. When I want to lift a weight, to make an effort to achieve a result, when for example I want to have the joy, the pure enjoyment of a high mountain hike, of a sixth degree climb tackled with the torment of my limbs, I suffer to achieve that result. Every result is achieved by suffering.

My action is not the path to joy, nor the path to avoid pain: it is the path to have a rational, natural and human combination of joy and pain, because man's relationship with nature regards these two elements as inseparable. Marx's passage is truly grandiose, and with other passages he goes beyond everything philosophers have ever thought and said before or since him, for suffering taken in the human sense is man's own enjoyment. Sufferings connected with the act of attaining an [intended] end are part of enjoyment. And since man's history, ever since he learnt to overthrow animal praxis and began to plan his future, albeit for now still in a very limited way, is all a moving towards a goal, that of the future society, here the movement towards an end is *'suffering taken in the human sense, as enjoyment proper to man'*. This *'going towards'* is the human history of man. Just as motion is the mode of being of matter, so it is also the social mode of being of man and his successive societies. There is no metaphysical separation between motion and stillness].

Overcoming dualisms: stillness and motion

The enigma of the dichotomy between motion and stillness was solved by Galileo and provided the track through which Einstein has channeled himself. ['If we ground the absoluteness of Time, we destroy that upon which mankind has always sworn: the mysterious chime which, marking the present, raises a rigid barrier, as self-propelled as it is impassable, between the Past and the Future. With this memorable battle, Einstein does not inscribe himself between the two contemporary degenerations of bourgeois thought that undermine both the theory of nature and the theory of society, but emerges from them completely. One is positivism, understood in a sloppy sense, whereby science notes what is in the Past, and other responsibility it does not want, nor does it know how to build in the Future. The other is the trivial indecent existentialism, the level to which a rotten society, long since ripe for the purifying Revolution, is further slipped. It knows only the Present and denies constructive laws and backbones to the Future. Not only that, but it denies them to the Past itself, of which the intoxicated campaigner in the same breath does not give a damn!'].]

Man's history is one, it is dynamic, made up of relationships; it is no longer possible to say whether a body is in motion or is at rest. All bodies are in motion, and they move in as many different ways as there are different references to other bodies; therefore they are in a relative relationship, a dialectical relationship, because relativity basically means dialectics: it replaces the definition of an absolute. This is why Marx's main criticism of Hegel culminates in the thesis in which Hegel wants to arrive at the absolute. The value of dialectics is to show precisely that there are no absolutes, there are only relations, and the essential thing is to move from first-order relations to higher-order relations, more advanced in history.

Overcoming dualisms: nature and thought

We have given some hint of object and subject, of matter and thought, of enjoyment and suffering. What remains is the problem of the antithesis between the physical world, the natural world, and thought. First of all, we have already given an answer by looking at the world, by photographing the world as it is today, without making the whole film from its origins. This is because Marx says that meditating insufficiently on origins is nothing more than a means of falling into the deception of religious mysticism and being able to recreate religion. So much so that Hegel, after his formidable critique, can be retired. Hegel and his school reintroduced religion historically not only with theoretical admissions about the Absolute, but also because the movement that formed on the basis of that philosophy ended up paying homage again to the power of the Catholic and other churches. So we must not let ourselves be blinded - says Marx - by this speculation: 'How did it begin?'

I can give you a complete explanation of how the Moon revolves around the Earth, how its fall turns into a circulatory motion, but then the other guy comes along and asks me the usual insidious question: OK, he says, you have explained that the Moon has a living force that gives it a linear velocity of about 1 kilometre per second; the Moon has an enormous weight, who gave it this first push? If you can't tell me that, then you have to admit that the Allfather exists'. Laplace came along and tried to explain that the planets and the Sun were formed by the condensation of a rotating fluid mass that slowly diversified, then condensed out of itself to form the planets, so one would have to imagine that the Moon broke away from the Earth when it was still in the form of a very hot fluid mass, at enormous temperatures (obviously long before life appeared there). The answer was incomplete, but that does not detract from the fact that it was a step forward, a fair report confirming the results Galileo and Newton had arrived at. Marx warned against the usual pitfall of vulgar philosophizing, that of always going back to the origin.

However, the problem of origins, understood in its proper scope, needs to be solved... in short, we must at least ask ourselves this question if we want to answer a question that is becoming very topical: what is the value in modern society of science and technology? Should we rely on it? Has it renounced creationist hypotheses, even if they are hidden? In other words: if we believe that we have done justice to all religions - which the bourgeois say in this blunt way, whereas we say it in a very different way, since we pay homage to them and draw on their historical achievements in many things - [how do we treat bourgeois science, which today is uncritically treated on a par with the Absolutes and therefore religions?] If the bourgeois have had the pretension to throw away all religious dictates and to close the sacred books and never speak of them again; if Marx has established that all philosophies must have had their day, what are we going to do, throw away the Gospels and the treatises of all philosophers, starting with the earliest and most ancient up to Benedetto Croce? And are we going to close down and send to the pulp the latter's Gramscian students, the current ones, PCI members (especially I recommend those!) without even looking at them?

This is what the bourgeois do. They claim that [old metaphysical knowledge is outdated], but that a part of knowledge, exact science, positive science, the science on which modern technology directly relies, will always be valid and can be relied upon.

Only class societies burn books

The French have brought us a precious little book by Marx, where he says many things [of the kind we are discussing here] but he says above all another thing: bourgeois mechanical and mathematical science has been useful to us because it has allowed the bourgeoisie to build machines, to build factories, to

use the mechanical system of production, to use steam, electricity, tomorrow atomic energy, conditions that have allowed a new social development; but the statements of that science are by no means a verb for us to draw on. In other words, of the library we would have burnt - metaphorically speaking, not concretely - the hall of religious texts and the hall of philosophical texts, whereas the hall of scientific texts, the one containing mathematics, chemistry, mechanics, technology, whatever, nuclear physics, the latter should not seem suspicious to us, it would be all good, available to all. I, a communist, and the Christian Democrat and the Stalinist go to the same place and pick up a volume, consult it, get information. And we do this, of course, as isolated individuals: woe betide to think that man can have a concept of a social nature, of a collective nature, woe betide to think that the individual does not want to make his own cultural information on the interpretation, on the interpretative work of the outside world, woe betide to think that the human species can have made a common path of knowledge. It is bad enough that the bourgeoisie, of those ancient volumes that represent [the path of its own scientific achievements], manages to read the main ones, goes and picks them up and sees that there is something good in them.

Now, we must reply that this approach is wrong. Not even the salon containing the scientific books should be drawn upon without suspicion. It is not that we want to burn it. On the other hand, we have said that the bourgeois method of burning Bibles is wrong. If I can manage it, I will conclude my exposition by invoking a biblical text to solve a problem that arises today as a scientific theory.

If I will make it, and if you will make it, to tell the truth, for I do not know whether my breath will be subject to shrinking, to turning into an excruciating affliction of my uvula before the affliction of your stomach from lack of food has overtaken it. In any case, if my breath permits, I will quote the Bible. The first one who quits gets up and leaves.

So we have seen that I do not propose to burn anything. But if it were true that the question would be resolved by burning, then I say: 'Let's burn everything, even the science and technology sector. We will certainly have taken a step forward, a step into a less stinking society. We will preserve what little there is in our collective brain, which is perhaps the best form of transmission - and remission - of the species. We will return to the ancestral system of primary society that the French comrades described to us [in meetings on the succession of forms of production]. We do not want to make this selection of the scientific part at all, especially that part of science which comes from schools, universities and academies: there the probability of there being hogwash in large numbers is certainly greater than the probability of there being hogwash in the Bible or even in the philosophy of Benedetto Croce, because the academics emanate directly from that class which today holds power. The capitalists make their profits,

through their profits they pay the scientists and their laboratories in which they develop some of the technology and the exact science that is needed for this technology; then they pay, with part of their advertising revenue, the university professors so that they teach the university students - the technocrats, the managers, the technicians of tomorrow's productive activity - those solutions that best serve the interests of capitalist society. So even in the scientific field of so-called positive science (what does 'positive' even mean? It doesn't mean anything at all) the probability of nonsense still exists, not only that, but it is greater than in religion and philosophy. Now, the bourgeois might say: 'But the two categories have been, in a certain sense, denicotinised by the grandiose achievements of later criticism'. It is true that, in a certain sense, the later work will say better things than the older work. And one could certainly think that Bacon said more reliable things than Galileo did. But it is much to be debated whether all this is true, because in the field of science it is rather the opposite that happens: it is the latest results, the most modern, that are the stingiest and most insidious.

Intuition, science and 'realistic' anticipation

Now, this fundamental concept - that every society has an ideology determined by the interests of the ruling class - entails the fact that all its manifestations are ideological not only in the philosophical, religious and legal sense, but also in the scientific sense. So we can - and all the better we can and will have to do in the future - fabricate by our own efforts another complete science, equally complete, from the same wealth of resources, from the same scaffolding that supports the laboratories paid for by the major industries, the universities, the various associations, the various academies.

One could object:

'Let us do it after we have accomplished the revolution, since it would be crazy to try to do it now; let us not even try, we are not able. All we need for now is mistrust of all the ideological supports of today's society. And we must think that it is not even necessary, as well as not even thinkable, to make this effort to fabricate our own science. We, as a party, only fabricate our general theory; we do not fabricate it with such refinement as [to be able to give us all the answers useful to the future society], but in the raw state, precisely in the state of the beginning [because we are first of all the destroyers of this society]'.

All this is true, and in fact we will then talk about the confrontation between science and intuition, we will opt for intuition and not science, knowing full well that our intuition is against the science of these gentlemen. We opt for that struggle which leads in the direction of a society in which man will truly have a unique and complete science, both of the 'external' world and of himself as a species: a point of arrival, which, according to certain passages of Marx and Lenin, is [a point on the borderline], i.e. a point which it is not necessary to

think of as attainable, which may even remain as a goal which one will approach indefinitely without ever reaching it. It should not be thought that in today's society there are two sciences, one of the ruling class and one of the dominated class: there is only one science, that of the ruling class. Therefore all knowledge is to be held in suspicion, all science, not just a part of it. Nor can we solve the problem by demanding that proletarians, before fighting for revolution, answer us, if asked, by pointing out the errors of this science and expounding the truths of a proletarian science. It would indeed be a huge, impossible effort, if we think of the entire field of technology and science. Perhaps a few attempts in a particular field would be possible. I, for example, am not specialised in anything, but to make a living I do a little construction, reinforced concrete frameworks, so I could take this sector and show you how, if I build on the basis of a treatise from fifty years ago, I build better than if I read the latest treatise out of university. That's where the insidious resources imposed by contractors are, the ones that cause the collapses in Barletta, Catania and Milan, those other buildings that collapsed before they were even finished. A positive criticism of construction and bourgeois town planning can already be made, but to do so for all of science and technology would be an effort that humanity could not face today. Of course, the revolutionary party could partly do it, if we were less distant from power. The bourgeois parties do not do it because they are now absolutely conformist, they kowtow to the academic, the professor, the culture, they accustom the proletariat to imbibing lies that correspond to the interests of the ruling class, they accustom them to letting the ideology, the way of thinking that suits the ruling class, be projected into their brains. This is a polemic that I have been conducting since I was a boy, and I always went hunting for the passage of Marx that I remembered (well, I don't know if I remembered it, if it was already published, or if I had it in my head on my own) and finally found it.

Science as a specific ideology of the ruling class

It was in the German Ideology, in one of the manuscripts, and it clarifies this fact of the ideology of a specific social form. So the proletariat must not first acquire the communist ideology and then be a communist. It must become a communist by kicking ass, by blows to the skull, by cannonade if necessary, and only then will it possess this new form of knowledge, it cannot possess it at all before.

'The ideas of the ruling class are the ideas that dominate in all epochs. This means: the class that has the material power dominating society is at the same time the spiritual power of society. The class that has the means of material production also has, at the same time, the means of intellectual production, so that it is at the same time subjected, on average, to the ideas of those to whom the means of intellectual production are lacking. The dominant ideas are nothing other than the spiritual expression of the dominant material conditions in the form of thought. Hence the conditions that make this class precisely dominant, hence the ideas of its domination'.

One must not believe that in capitalist times capitalists have ideas of their own bourgeois domination, [and that proletarians aspire to their own proletarian domination]. Unfortunately, capitalists and proletarians all have in their heads the idea, inculcated by capitalist domination, that they live in a world that could not be different and that at best they can try to patch up. So if we were to expect the revolutionary assault through a mobilisation of ideas, we would never get there: the assault must come by force, not by reason. Which does not detract from the fact that the party anticipates the solution of future society. This is not a contradiction: it is usually a matter of seeing everything dialectically, and even this anticipation is not the result of thought but of materially acting forces.

'The individuals who constitute the ruling class also have consciousness and therefore think. Insofar as they dominate as a class and determine the entirety of a historical epoch, it goes without saying that they do so in its entirety and therefore dominate, among other things, as ideas, as producers of ideas, and regulate the production and distribution of the ideas of their epoch. The ruling classes are producers of ideas and at the same time regulators of the distribution of the ideas of their epoch. Therefore their ideas are the dominant ideas of the epoch.'

As you can see, our chain, our sequence, is quite different from the bourgeoisie's: the bourgeoisie says that man has solved the technological problem - that is, the problem of man's action against nature - by posing the problem and solving it with rational thought. Technology would be the set of methods that man has chosen to use to attack nature and arrive at production, at the service of which further science is then placed. [In reality, the bourgeois sequence represents in an inverted way, putting forward thought] that system of means described yesterday, very simple, which perhaps first boiled down to the mouth that bites a fruit as in the animal, then to the hand that picks it, then to a club, to a stone axe that prolongs the hand, then, slowly, in a continuous evolution, to the modern machine and the 'scientific' needs it evokes in the overall cycle of production.

It is precisely in this sequence that ideological construction becomes evident; technology precedes the construction of social forms, the construction of forms of property, of forms of power. Only in the end do ideologies, including current science, arise. Only at the end of this entire historical course can we have a complete science at the disposal of mankind, capable of expressing that useful result, the synthesis of all past ages of which Marx speaks. If we go and ask for enlightenment from the science now officially in force and disseminated through schools, libraries, newspapers, radio, television, etc. etc., we will have no other result than to imbue ourselves with the ideas of the ruling class and thus take counter-revolutionary action. We have nothing to draw on, and if we must draw on it, we will do so with extreme suspicion. This suspicion must be all the greater the closer the historical epoch is to us. So, as I have said, we can

handle the Bible with a certain confidence; we can handle Aristotle with a certain confidence; we can handle Benedetto Croce with a relative confidence; we must handle with extreme suspicion precisely the treatises on exact sciences, applied chemistry or construction science because therein lies the rub, because capitalism must fool an entire society. This is the criterion to follow in party work.

Lenin's curious infatuation with Hegel

Broadly speaking, this is the concept we must start from, and one of the tasks of our party would be the reconstruction of a history [of knowledge and material production] in order to have at the same time a history of thought. This undertaking has already been attempted many times, and written about, most recently by Hegel, who considered [the philosophy of nature as the crowning achievement of the path of the Spirit, since material nature for him is 'the Idea in the form of other being', i.e. pure exteriority, pure necessity without that freedom which alone is given by thought. Hence he made] so that the last chapter of the history of thought was natural philosophy and that there was nothing more to be added to the whole of his works, so that his philosopher followers followed the wrong path, i.e. they made history of the efforts that subjective human brains would make to solve the problem of knowledge.

Instead, the path taken by Marx is entirely different, the path that the proletarian movement and the class must also follow, as they strive for victory, which in a sense the party could also take from this very moment. Our sequence sees first the history of the relations between man and nature for the purposes of production, hence of technology; then the history of social forms; then the history of ideologies - as is also said in the work of the French comrades - and finally we can arrive at the formulation of the history of science. This is an idea enunciated also in Lenin and one that I have always intuitively pursued, because I know that in the party to which I have entrusted myself this can be learnt, and therefore I also say this with a sense of belonging to this party. It's not important that I have to be personally convinced - personal conviction doesn't count for anything - I only have to be consistent with that party, with that class for which I have sided: the revolutionary proletariat. Whether its individual members do not then 'understand', even that does not matter, the struggle matters.

So there are similar statements in Lenin as well. I find them in one of his commentaries on Hegel's Science of Logic, a commentary which we will study; we only have it in English for the moment, and we have to return this English book to the French, but sooner or later we will translate it, us or them. It is quite interesting, but there is a bit too much admiration for Hegel. In my opinion, Marx is harsher than Lenin, especially since Lenin studied the Logic, a part of Hegel's work vigorously criticised by Marx. It is true that Engels moved logic and

dialectics from philosophy to science, but he did not allude directly to Hegel. So bear in mind that Lenin at the time was reading and expressed excessive enthusiasm. He even says that no one can claim to understand Marx's Capital if he does not first understand Hegel's Logic. Now, Marx admits that he made use of the Hegelian method in his exposition of the subject matter that he had elaborated at length, dealing in turn with the elaborations of the economists, but he says he made use of it for the sake of convenience of presentation, as a more consequential, more brilliant, more accessible method. Leaving aside this 'innovation' of Lenin's, let us read his two passages, which converge with us on the need to write a history of science and technology, which the bourgeois tried to write but which does not yet appear to have been written by a Marxist (I don't know how the Russians are getting by). As you see even Lenin, however, does not joke with Hegel: he even calls him 'pedantic':

'If I am not mistaken, there is much mysticism and empty pedantry here in Hegel's conclusions, but the basic idea is magnificent: multilateral and living connection of every thing with every other thing, and reflection of this connection - put Hegel materialistically on his feet - in the concept of man, who must be so refined, articulate, flexible, mobile, relative, mutually connected, be a unity despite oppositions so much so that he can embrace the world. The continuation of the work of Hegel and Marx must consist in the dialectical unfolding of the history of human thought, science and technology.'

In Lenin's place, I would have written the sequence reversed: the history of technology, science and human thought. But evidently the idea of technology struck the author. And then, of course, what we continue is the work of Marx, certainly not Hegel.

'On the one hand, we must deepen the knowledge of matter into knowledge of substance (or notion of substance) in order to find the causes of appearance. On the other hand, the actual knowledge of causes is the deepening of knowledge from the exteriority of appearance to substance. Two kinds of examples should explain this point: 1) kind of examples taken from the history of natural sciences; 2) taken from the history of philosophy.' (here Lenin puts the sciences first) *'More precisely: not "examples" - comparaison n'est pas raison - but the quintessence of one and the other plus the history of technology.'*

It is interesting what Lenin wrote, before atomic physics had had all its developments, because he responds to that objection that has always been made to mechanists and materialists: 'We have only an appearance; even the atoms we believe we have arrived at, which nevertheless are not graspable by our senses, are further composed and decomposable. Their substance escapes us. Matter does not have for substance so many smaller, palpable bits of matter that we can grasp between our fingers: this was an anthropomorphic illusion. Within the atom there is a whole world of other particles with their motions, their energies, their electrical charges, their magnetic forces, a whole microscopic

world'. Then Lenin's speech would mean: 'We must really get to the substance in order to explain the appearance'. So we don't have to accept matter as I see it in this glass. Interesting...

Trading one's own skull box for the Universe

Lenin always reminds us, in the last instance, that to solve a problem one must [analyse and know the praxis from which the problem itself arose] What is the history of technology? History is praxis, and so the history of technology is [the history of human praxis, i.e. of the production and reproduction of the species in the making]. We have arrived at the threshold of the fundamental question: if, in order to solve the problem of knowledge, of thought we admit that there is this relationship of knowledge within the species, we have freed ourselves of the single subject, of the thinker-philosopher closed up in his study, who searches more in his head (it is Croce who says that science can only be found by searching in the head), and only when he is forced to open the window and look at the whole world called, precisely, 'external'. We have rid ourselves of the thinker who wants to derive a complete elaboration of his systems from the relationship between the individual brain and a few glances out of the window. We got rid of this first misunderstanding by saying: '*No, it is not the philosopher; it is humanity that knows, through suitable organs*'.

The organs that humanity has given itself to look, not only out of the window but at the whole of nature, are organs of different perception. They change over time in the various epochs. Today, mankind has perhaps the worst organs it has ever possessed because, however 'primitive' the organs were [before capitalism, they were still in harmony with the surrounding world]. Marx in some of his quotations is too apologetic about bourgeois conquests. These are conquests in the relative sense, not in the absolute sense, whereas those achieved by primitive peoples, although based on absolutely naive cognitive initiations (shamanism, divination, astrology, etc.) still have their own certain apparatus [of penetration of reality capable of providing sufficient answers to a given development]. Other epochs have produced their own specific apparatus for knowledge. We certainly cannot manufacture the perfect apparatus now, we can only anticipate some of its characteristics, but we know for certain that capitalist society, especially in its ultra-mature state today, presents the most foul apparatus that human knowledge has ever possessed in order to move. This is the thesis I would like to enunciate.

The difficulty we face is the weight of individualism in today's society. Since we have supported the whole explanation of the becoming of processes within the so-called external world by denying - as I have also reiterated in the paper - that it can be defined by that adjective, here we have also, at the same time, criticised that certain philosopher in his little room, with his little window open to the whole immense environment around him. If the latter is the outside,

then the inside is not even that of the little room but that of the head with which the philosopher 'elaborates'. [The matter only changes when the individual thinker stops thinking for himself, or rather believing this, and realises that he is part of a whole]. If you read the whole article, you will find that Marx states that he made the following argument for himself: 'I work scientifically, therefore I do not work with my own head but I do so with that of a whole. Right now I am not working with my own head, I am working with Marx's head, with the heads of the other two dead men, with all the heads of the rest of you who are alive in this room and so many others. Once we have acquired an undoubted point of advantage - that of freeing ourselves from the single subject -, the world we observe is no longer external, we are part of it, it is full of other men who think like us, it is full of other heads in relation to each other. Thus there is no longer any contrast between cognitive being and known nature: this being, being omnilateral and universal, as Marx says, is itself an inseparable piece of nature. It is nature that knows itself and not some incognito traveller who goes to know nature. It will be said: If you have objections of this kind, rather than resolving them, you must show that they are misleading and that they are a result of preconceived ideas that have remained in our heads - in yours as well as mine - as a result of the previous geological stratifications of social forms that have been superimposed. This is fine. However, in order to explain ourselves a little, given the limitation of time available to us, let us enunciate the thing trivially as one would enunciate it to any self-declared, self-believing materialist.

Dialogue with the halved materialist

He tells us:

'You have arrived at this solution, for you have resolved the antithesis between praxis and thought. Indeed you have given preeminence to human praxis instead of thought. But you have said that in the disagreement between thought and matter you cannot resolve it either by saying that thought commands matter or that matter commands thought; in short, that their dialectical collaboration at all times is constant.'

'If this is so, then all problems, all research, all achievements, you explain them through a struggle of men against men, a struggle that then becomes a formation of ideologies, of knowledge, then again an elaboration of this knowledge in collective man, albeit crystallised from time to time in a form of knowledge that suits a particular ruling class. Thus you have solved a number of problems: that of divinity, which you now dispense with; that of human praxis, of the relationship between being and thought, of the relationship between spirit and matter; that of the spirit that, in a certain way, knows matter as part of matter itself. What matters is the action of men, whether or not they are pervaded by this spirit, even before they have been able to know'.

Says the guy again:

'Then your difficult presentation - the one that I may be making a little obnoxious in expounding in order to be more perspicuous - does not solve any problem for us. The individual-thought-matter relationship, that is, the general problem of knowledge that you want to solve is inherent in a thinking brain, albeit a collective one, albeit of the entire species to which all the brains of men scattered over the entire planet belong. It is, however, a primary condition of this living species of man that he enters into relationship with the rest. But there were times when there was no life. More to the point, there was no thought, and therefore no action of a living, thinking species in relation to 'external' nature. So your second integrative element was missing. Yet evolution ran, the world existed, matter thought. What was the explanation for this matter if the evolution of matter can only be explained by the presence of acting and thinking man? Where did the complex evolutionary programme necessary for the appearance of the complex animal that is man come from?'

The question is insidiously posed because it contains an inaccurate presentation of what our system says, what Marx says, what we say. It could be summarised again:

'Since in order to know, in order to solve the problems of this eternal quest and this eternal struggle you say that you need a naturalism that is at the same time humanism, you continually need the clash between man and nature, how did man evolve? How did man proceed when there was no thought in the cosmos and nowhere? How were the foundations, the stratifications of our present biological and social construction formed in those epochs lasting millions, billions of years when matter existed and evolved, heated up, cooled down, decomposed, atomised, dissolved into nuclear particles, re-aggregated into celestial bodies, when no representative of our species was present?'

'That corporation into which we are transforming humanity, had not sent back in time a representative of its own to bring its contribution to this dialectical integration that you are now doing. Therefore, evidently, your analysis is artificial, whereas the thing would become conceivable if we were to untie spirit from matter, if we were to make of it an absolute, the same one that mystics, metaphysicians or idealists have called God, that Hegel called the Absolute and that Marx shows to be the same God of return. Then thought takes on an entity and an essentiality of its own that is independent of matter. At a certain moment, thought, which existed ab eterno, decided to concretise itself into matter and thus give rise to creation. Only the creationist hypothesis would become logical. Instead, your hypothesis is even more absurd than that of the hard-core materialists, who crudely assert that matter existed, for a time it heated up, cooled down, condensed, then, at a certain point, it became convenient for it to start thinking in the human way.'

"Scientific" proof of pre-existing thought

[Our interlocutor's last sentence] in a way is also correct, and we are not scandalised by it. But it seems to us that we should make this way of linking thinking activity and the activity of matter less crude, and thus come up with a

solution far more difficult than that of the ancient creationist spiritualists, more difficult even than that of the modern materialists or bourgeois positivists. Since the problem is one that really nags at us, let us try to give an answer, but of course I cannot claim to [solve everything myself, so I will get help from our contemporary scientists who have come up with a brilliant idea].

[It must be premised that] distant stellar systems possess planetary systems among which there are almost certainly some with planets on which live thinking mankind; who perhaps, when our solar system was formed, were already studying and had already gone all the way, including religion, science, philosophy. They had even discovered wireless telegraphy, and their scientific development was such that they had already travelled, had come to Earth and, in due course, had been able to teach men something. But then it is true that thought is in some way as eternal as matter. We escape this objection against which Marx warned us by saying: *'Do not let yourselves be fooled by the problem of origins because we can answer that thought and matter condition each other; thought without matter there can be none and neither can matter without thought'*. Marx can now be answered in the sense that a part of matter, in a corner of the cosmos, has always thought: it was not us humans, it was other species that had alluded to another planet and that now, of course, will be dead, but in those epochs they were very civilised, they were very advanced and they transmitted thought and knowledge to us. This is only a hypothesis, it is true, and to build a scientific thesis on it one would have to provide some proof.

Then the 'proof' came from the Russian scientists, of course. What did they tell? That in very ancient times an astral ship, departing from who knows which of these planets, crossed all of space and came ashore on Earth. Among other things, those scientists explained that these members of a distant planet's humanity were extraordinarily evolved and also taught mankind many things; that they were not yet able to understand them because they were still primitive. However, they knew a great deal about astronomy because - as the Russian scientist explained - certain astronomical notions had been learned directly from space visitors (for example, he claims that they already knew about the satellites of Mars). Then what happened? Here the scientist tells you and shows you that scientific evidence would also be found in the Bible. Now let me read it to you.

Chronicles of space archaeology

These spacecraft, after sojourning on Earth and teaching astronomy and other little things to men, had decided to leave. But apparently they had an excess of nuclear fuel (for their ship travelled on nuclear fuel while our rockets still travel on chemical fuel; we have not yet arrived at making an atomic satellite travel in space). Of course, I do not know where the Russian scientist got this information, but the enormous spaceship had a reserve of nuclear fuel,

perhaps uranium, which, who knows why, had to be disposed of before starting the return journey. It was not, however, left on Earth, it was detonated, like a real uranium bomb, plutonium, hydrogen, I don't know.

In any case, these highly intelligent beings, who had already taught so many university courses to the poor men of our forefathers, warned them to stay away because the operation of burning the nuclear fuel was destructive, and those who were hit by the radiation within a short distance would die. So they said, *'We are leaving. We have taught you a lot of things. We bid you fond farewell. We will cultivate the best diplomatic relations and return to our home. Move over, because we do this service or the ship cannot leave'*. Some of those did not move and they are all dead. The proof would be in the Bible where it tells of the destruction of Sodom and Gomorrah and the fact that Lot's wife, having turned back to see the destruction of the city, although the angels of God had warned her not to, turned into a statue of salt. This statue of salt would be a sample of those bodies that were burnt, as a result of American civilisation, in Nagasaki and Hiroshima. So, to see if this [can correspond to a theory of the beginnings of thought on Earth], I will first read you the news and then the passage from the Bible in which the destruction of Sodom and Gomorrah is recounted. The news from Moscow is dated 9 February. I am forced to read it in English, so I will translate it from here, as it comes, it comes.

'Travellers from outer space must have landed on our planet long ago in a gigantic spaceship and attempted to communicate with the very primitive inhabitants who then inhabited it.'

This was said by a modern-day Soviet scientist, Mr Agrest, a professor of physical and mathematical sciences. He said this in the newspaper Literaturnaja Gazeta... Hey! A scientist writes in this literary newspaper: do you know a good thing? That the division of labour begins to cease. As a literary text in fact it can go quite well.

'And after studying this planet, the space visitors must have exploded their surplus stockpile of nuclear fuel, warning the local population so that they would not die from the atomic blast. Then they left for space, probably from a special launch pad built in the mountains of Lebanon'.

Then comes the 'evidence'. The scientist continues:

'The spacecraft reached Earth from very remote parts of the universe, at a speed close to that of light. When it was almost 40,000 kilometres from Earth, it reduced its speed to 3 kilometres per second and, with its machines working, it remained suspended over the Earth like an artificial satellite'.

You can see that he is also well informed. From up there, the space visitors began to look at how things were here with us.

'So the visitors, having chosen a convenient place, descended to Earth. They landed in Lebanon near that valley where the Bible says Sodom and Gomorrah stood because,' he explains, 'no one has yet solved the mystery of the Terrace of Baalbek: a high platform in the mountains of Lebanon made of huge stone tablets.'

I do not know if archaeologists know where Sodom and Gomorrah stood, whether in Lebanon or around the Dead Sea, but he says that four facts support the space visitor theory. First fact:

'Crystallised objects called tectites have been found on Earth, especially in the Libyan desert. They contain radioactive isotopes of aluminium and beryllium that show that their ore is at least a million years old, and that they were produced at extremely high temperatures. No attempt to penetrate the mystery of their origin has been successful so far. It has not been possible to explain where these special radioactive materials came from that have [a decay] of more than a million years and have been preserved until today. They could be the products of a probe-missile used by space travellers in an attempt to find a good landing ground on the Earth's surface'.

Agrest believes that the Baalbek terrace constitutes the remains of a launch pad built by the space travellers, or at least something they built in commemoration of their visit to Earth. He points out that the terrace is comparatively close to the Libyan desert where most of the tectites, those mysterious radioactive minerals, have been found. So... are Sodom and Gomorrah under the Dead Sea or in Lebanon? ...What does 'comparatively' mean?... Um!...that's what it says here too... Ah, that's it! Second fact:

'The Dead Sea Scrolls, texts that confirmed the Bible and discovered in a cave near Qumran, also describe the destruction of Sodom and Gomorrah. And no one can deny that this event has the capacity to greatly attract the attention of a modern man with a minimum of familiarity with nuclear physics'.

In short, anyone who reads about that destruction immediately understands that it was a nuclear bomb. I, actually, did not have the Dead Sea Scrolls. But I did have a vulgar Bible of the parish priests', and from that I can give you quotations. Perhaps, however, we will be better informed by Agrest, according to whom the ancient texts confirm the atomic destruction of the cities of Sodom and Gomorrah. I don't know if those scrolls contain a more widespread news report than the one from Genesis that I will read to you, from which all this can be deduced. However, in my opinion, it is the biblical legend that is recorded in the Dead Sea Scrolls and not vice versa.

The legend, taken up by Agrest, says that the people were warned to leave the area of the coming explosion, not to stay in the open and not to wait for the lightning. Those among the fugitives who looked back, turned their gaze

and died. This indeed confirms why Lot's wife was turned into a pillar of salt since she had turned away. Something is obviously wrong here: those who were hit by radiation from the Hiroshima and Nagasaki bombs, even if they turned their backsides, were still screwed! Blinded and turned into salt statues. It is not clear how this reasoning works. Let us move on to the third fact:

'Some information about celestial bodies was inexplicably known in times when no instruments could be found to obtain it,' says Agrest, and notes that 'Jonathan Swift describes the most interesting characteristics of the satellites of Mars 150 years before these satellites were discovered. One hypothesis is therefore that in ancient times there were people with a good knowledge of astronomy. But modern history reports nothing about them'.

I do not recall reading in Gulliver's Travels a description of the satellites of Mars. It must be some other scientist. But Agrest says so here, go and ask him. I have given you the address: Literaturnaja Gazeta. You sceptics might as well write him a letter. This hypothesis - that there was a primitive population, which first evolved and then completely disappeared after leaving some traces of its knowledge inherited from the heavens - is in itself fully questionable. But that Swift knew about the satellites of Mars because those in the spaceship, at the time of Abraham, had left word of how they revolved, seems a little far-fetched.

But Agrest always suggests an explanation. And we come to the fourth fact:

'During their stay on Earth, the space travellers tried to make the knowledge of the Earth's population develop a great deal'.

Here we come to the point. I wanted to mention the theories of this scientist because in them there is directly involved another path to the formation of human knowledge and the resolution of this terrible question that is the Marxist theory of knowledge: the extraterrestrial origin of human knowledge.

The materialist Yahweh and the immediatist Abraham

So, the fact as the Bible tells it is this: in Sodom and Gomorrah they did - I won't go into the details now - what everyone knows, which annoyed the Eternal Father very much because, of course, if man is to become one with nature he must not go against nature. Which is little but certain. The little story is a bit long, but I will summarise it briefly.

According to the Bible, the Lord comes to Earth in person and brings a team of angel-police like a commissioner of public safety. So he comes with some beings, who were indeed angels, his instruments. He sets out for Sodom and Gomorrah, pausing to confabulate with Abraham to finalise his plans, while the angels go to see how those in the city were behaving; and let us not lift our

veils before the spectacle that unfolded before angelic eyes. According to Agrest, yet another proof that it was a space patrol:

'The Lord therefore said: Surely the cry of Sodom and Gomorrah is great, their sin is very grievous. Now I will go down and see if they have come to the end as the cry has come to me; and if not, I will know. Those men therefore, having departed from there, went out to Sodom, and Abraham stood still before the Lord'.

Here Abraham begins to make a kind of parliamentary defence of his companions of Sodom and Gomorrah, he tries to persuade the Lord to renounce the slaughter and says to him:

'Wilt thou make the righteous perish with the wicked?'

For he understands that the intention of the Eternal Father is to destroy the entire cities. He says: But will they all be sinners? Is it right to make the good perish with the wicked? The question is interesting because it could be linked to the fact that the Eternal Father proved to be a good Marxist: history has always gone on trampling on individuals. If those people continue, it will have been said, it will happen that they will spread that phenomenon all over the Earth, and so the production of human beings will no longer occur, sending Roger's whole scrapheap to forty-nine. It will be appropriate to destroy the entire population. [But Abraham appeals]: not everyone will have taken this twisted path, they will not have to be destroyed anyway, etc. The discourse between Abraham and Yahweh is such that the god shows himself to be much more Marxist than the man: Abraham is a true immediatist, he is a vulgar petty-bourgeois. And he insists:

'Perhaps there are fifty righteous men within that city; would you make them perish? Indeed, would you not forgive that place for the sake of those fifty who were in it? Be it far from thee to do such a thing; to make the righteous die with the wicked! Would not the judge of all the earth do righteous justice?'

Yahweh knew that fifty would not fit there at all, because when there is the ruling ideology there is nothing to be done, they are all infected. So he had no such illusions. However, in a moment of patience he says:

'If I find within your city of Sodom fifty righteous men I will forgive the whole place for their sake'.

You see what democracy exists in ancient mythologies: Abraham argued with the Lord before the verdict was rendered, the inhabitants of Sodom and Gomorrah had the right of defence, so the latter spoke and spoke. You see how tenacious this Abraham is, who humbles himself but insists:

'Behold, now I also have undertaken to speak to the Lord, though I am dust and ashes. For I have the courage before God to make this speech. Perhaps five of those fifty righteous men will be lacking. Wouldst thou destroy the whole city for five?'

The Lord, accommodating, lends himself to this tremendous dialogue:

Yahweh: 'If I find you forty-five, I will not destroy it.'

Abraham: 'Perhaps forty will be found'.

Yahweh: 'For the sake of those forty I will not'.

Abraham: 'Perhaps thirty will be found'.

Yahweh: 'I will not do it if I find thirty.'

Abraham: 'Behold, now I have undertaken to speak to Yahweh. Perhaps twenty will be found'.

Yahweh: 'For the sake of those twenty I will not destroy them'.

Abraham: 'Deh, do not be angry with the Lord, I will speak only this once. Perhaps ten will be found'.

Yahweh: 'For the sake of those ten I will not destroy them'.

When the Lord had finished speaking to Abraham, with a great demonstration of democracy and patience, he no longer had the courage to say a word. He had proved himself worse than a Chinese merchant.

'He - the Lord - departed and Abraham returned to his place. Now those two angels came to Sodom up in the evening, and Lot sat at the gate of Sodom. And when he saw them, he rose up to meet them, and bowed himself toward the ground, and said: Now, my lords, I beseech you, go into your servant's house, and stay this night in the inn, and wash your feet. Then in the morning you shall rise up and go your way'.

Lot was a righteous man, and he alone turned out. Note also the hospitality, which was as sacred to the ancient Semites as to many peoples of the time. The angel-astronauts, however, showed that they did not accept, for they had to make their inspection of the square. And they said:

'Nay, nay, we will stand this night upon the square. But he gave them great strength, so that they came to him and entered into his house. And he made them a feast, and offered them unleavened bread'.

It seems to me that this biblical tradition is still respected here in Florence: the bread that we bake, that we eat here, is without salt. You see that there are these historical returns to great cycles.

'He baked unleavened loaves and they ate. Before they had laid down to lie down, the men of the city of Sodom surrounded the house, young and old, all the people, from the ends of the city. They called Lot and said to him: Where are those men who have come to you this night? Bring them out, that we may know them.'

Oh yes, they did not just want to give him a solemn strawman even though as angels they were immaterial. As a matter of fact, they ate the leaf: the foreigners had come to destroy the city, they told themselves, and instead of defending themselves with the eloquence of Abraham, they wanted to defend themselves with weapons. Lot was a righteous man, so the cases that arose. So to keep them quiet he kept a conciliatory attitude:

'He went out to them, in at the door, and shut the door behind him, and said: Deh, my brothers, do no harm. Behold, I have two daughters who have known no man. Let me take them out and do with them as you will. Only do nothing to these men, for that is why they have come into the shadow of my hedge.'

In short, Lot rather than give them the men - who knows what they do to him, he said to himself - proposes the daughters, thinking that the Lord would be less offended. This shows that the Bible is useful reading for Marxists but, according to the bourgeois, not too suitable for young ladies. The sodomites rejected the girls, of course.

'But they said to him: Step aside! Then they said: This man came here to dwell as a foreigner and yet he is a judge. Now we will do worse to you than to them. Then they made great strength to that man Lot, and came near to break down the door. And those men stretched out their hands, and drew Lot to them inside the house, and then they shut the door. And they smote the men that were at the door of the house, from the least to the greatest, so that they were weary to find the door.'

Those men, that is to say, those angel-astronauts who had come before, held small nuclear-powered weapons. They made a few flashes and the thugs moved away and so on.

'Those men,' that is, the angels, *'said to Lot: Which of your people is still here? Bring forth from this place sons-in-law, sons and daughters, and whoever is of thine in this city'. Perhaps to count them and see if they came to five. 'Therefore we will presently destroy this place, because their cry is great in the sight of the Lord. The Lord has sent us to destroy it. So Lot went out and spake unto his sons-in-law' - that is, those of the daughters whom he found out here*

were already betrothed - *'and said unto them, Arise, get thee out of this place: for the Lord shall destroy the city this day. But it seemed to them that he mocked'.*

The sons-in-law thought Lot was mocking them and shrugged their shoulders: this one is mad, they said to each other; therefore no one moved.

'As dawn began to break, the angels urged Lot, saying, Get up. Take your wife and your two daughters.' The same rejected by those before. *'Lest thou perish in the iniquity of the city'.*

So here is the account that came to the Eternal Father: Lot, his wife and two daughters: there were four who wanted to go away. Five he did not find, and so the destruction of the city took place.

'And he tarried, but those men took him, and his wife, and his two daughters by the hand, because the Lord would spare him, and brought him out, and put him outside the city. When he had brought them out, the Lord said: Scape upon thy soul! Do not look back and do not stop in the whole plain. Flee to the mountain, that thou perish not'.

Now Lot too, like Abraham, quarrels with the very democratic All-Father of those days and says: I can't do it, I'm old:

'Deh, no Lord. Behold, now thy servant, which I am, has found favour with thee. Thou hast shown him great kindness in that which thou hast done towards me, preserving my person alive. But I shall not escape to the mountain, lest evil come upon me, and I die. Deh, behold, this city is near to take refuge there.'

It was a small town called Soar, I do not know whether it exists or not.

'And it is little. Deh, let me save myself there - is it not a little thing? - and my person shall remain alive. And the Lord said unto him, Behold, I have also granted thee this thing, lest thou subvert that city of which thou hast spoken. Make haste, flee thither: for I will do nothing until thou hast come thither. Therefore that city was named Soar. The sun was rising in the earth when Lot came to Soar. And the Lord rained down sulphur and fire from heaven upon Sodom and upon Gomorrah.'

It was sulphur and fire. It was therefore a vulgar chemical fuel that the All-Father used. It was not nuclear fuel, as the Soviet scientist claims.

'And he subverted those cities and all the plain, and all the inhabitants thereof, and the plants of the earth. And Lot's wife looked behind him and became a pillar of salt. And Abraham rose early in the morning and went to the place where he stood before the Lord. And looking toward Sodom and Gomorrah, and toward all the land of the plain, he saw a smoke rising from the earth like the smoke of a furnace. So it came to pass that when God destroyed the cities of the

plain he remembered Abraham and sent Lot out of the way while he subverted the cities in which Lot had dwelt. Then Lot went up from Soar and dwelt in the mountain with his two daughters, for he feared to dwell in Soar, and he and his two daughters dwelt in a cave.'

So only Lot and his two daughters were saved. The Bible then goes on to say that since there was no one left, and human reproduction certainly could not be interrupted, the two girls made old father Lot drink wine and then lay down with him and had two sons: one begat the Moabites and the other the Ammonites. In short, this is history as handed down in myth.

Every revolution is a march towards the 'Promised Land'

Now, I have made this little interlude, trying to make it unborring (and now I will conclude), to show how Agrest's hypothesis - that to solve the problem on the philosophical theory of knowledge, space travellers had to come and give man information - is nothing but an exaggeration of a practice, a joke of the imagination like so many, dressed up as science. The solution obviously has to be another, namely this: knowledge needs action. As we have just established, a first theorem tells us that knowledge, the future science that will replace the succession of philosophies, can only arise from human action. Thus the history of all the previous transitions from one form to another, of the revolutions of the forms of production in the forms of property and the forms of power that have accompanied them, produces usable material for the formation of the ultimate result on which the human species must graze - allow me to use the term -. Biblical results can also be revolutionary results, as long as we do not read them as Agrest did. We cannot link the tale of Lot, Sodom and Gomorrah to a revolutionary crisis because it would obviously require an imagination almost as developed as that of the Russian scientist. But there are undoubtedly other biblical stages that clearly correspond to these fundamental stages in the formation of thought. Practically a part of mankind has walked for three thousand years using these verses, these norms that are developed through documents placed exactly in time, such as the Ten Commandments given to Moses, the law of the Twelve Tables, the Sermon on the Mount given by Jesus Christ at the time of the passage between the Old and New Testaments, the Economic-Philosophical Manuscripts of Karl Marx. Documents that have served to guide humanity down the centuries, have built a substrate on which the development of humanity has been organised. When these organisational plots were insufficient, new forces intervened to break them; and new texts, new gospels, new myths, new sciences replaced what had gone before.

Truths are not only found in science -to the exclusion of philosophy and vice versa, nor only in philosophy to the exclusion of religion. Lies, truth and error are found everywhere. And they are lies and truths depending on the direction from which one looks. In this warning there could be that of the Eternal

Father to Lot's wife: 'Do not look back'. One must look forward, in the right direction, to find the solution to the problem.

She looked backwards and got screwed. Anyway, why do I say that laws like the Ten Commandments or the Twelve Tables are revolutionary fruit and represent an era?

Basically, class domination, the establishment of oppressive social forms in antiquity took place through military conquests. Semitic peoples had subjugated Egypt and were themselves subjugated, [an episode that perhaps passed into myth with the biblical story of Joseph]. The power of the Egyptian monarchy had at its disposal an enormous mass of arms to order the course of the Nile, erect pyramids and build temples - as was played out in yesterday's meeting - and had succeeded in completely subjugating these former enemy and conquering, intelligent and civilised peoples who were probably ancestors of the Hebrews who had come north from Ur, with Abraham, many centuries before. The mythical Joseph had become, in a way, the royal accountant, the first bureaucrat. The Hebrews had perhaps been retained in Egypt not so much to drag blocks of stone and build pyramids as to collaborate in the great Egyptian administration, one of the first efficient central administrations that history remembers.

Their detachment from Egyptian soil and primitive class subjugation to move towards a new goal is a national revolution. It can be placed at the beginning of the descriptive sequence of subjugated peoples to free themselves from oppressor peoples. Moses organises a real revolution, his flight to the Promised Land is a revolutionary victory. Legend has it that Moses, having gathered together all his co-religionists, countrymen and corracians, removes them from Egypt to cross the Red Sea: [every revolution paves the way, opens the way to dryness, and the enemies are overwhelmed by the same forces that enable the advance]. The Hebrews therefore go towards a promised land, as do all revolutions on the way. The Ten Commandments that Moses receives on Sinai, along the way, represent the programme of this revolution. And he hurls it at the unbelievers who do not want to think about the ancient cradle of their tribes, the future nation-territory, as the legend reconstructs, but would be content with the little bread and, according to the text, the many lashes received by the Egyptians. A legend that is worth history to us, that we have the right to handle as such, that today has more validity than the lies scattered in the historiographies of the current dominant band of brigands represented by the capitalist bourgeoisie.

This vision of the Promised Land, dictated in the midst of the barren rocks from which Moses caused blessed water to gush forth, giving rise to streams, canals and torrents, is a true revolutionary programme. Then will come grapes in clusters the size of banana boxes; people will be able to live better than they did

in Egypt at the time of the seven fat cows; the Jews will be able to develop a superior civilisation. Why did the tablets of the Ten Commandments remain for so many years? Why did the Bible remain? Because it was the programme of those ancient revolutionaries, and we are closer to them than to the atheist bourgeois, their current deniers.

Revolutions, synthesis and explosion of knowledge

[The liberation from ancient though prosperous Egypt in favour of the monotheistic patriarchal civilisation of the desert] is another stage of knowledge. It was useful, in order to elucidate the problem of constructing a non-philosophical theory of knowledge today, to compare the biblical narrative with the thinking of an official capitalist scientist (for such are the Russian scientists). We stand with the data of the biblical document, as it has been transmitted to us, however many vicissitudes and manipulations it has undergone over the millennia.

Decisive in the realisation of a theory of knowledge are those moments of momentum of human thought that coincided with the historical phases of the social revolution due to the shattering of the old mode of production. The Hebrews [for themselves] had to break that mode of production in which they were used as a kind of slaves in Egypt, and they gave rise to that revolution which they later called 'flight' and established their new regime, their new organisation in their ancient homeland. The Promised Land described to them by Moses [would have been governed through] the law of the Ten Commandments, and this law remained as the model of human organisation for future generations in a form that was evidently superior and much more developed than the constitution of the Egyptian monarchy, of these ancient ultra-dispotic powers. Now, the solution to the problem tells us that human beings are present not only [in the formation of their own history, but also in the formation and definition of their own knowledge that finds its synthesis in myths, laws, sciences, technologies], in the sense that only those syntheses capable of fixing themselves as great milestones on the path of history are useful for the realisation of a stable theory of knowledge. They coincide with the great revolutions, one of which is the Semitic, another is the Christian, another is the bourgeois and the other will be ours, the proletarian.

And they also lead us to a first answer to that problem we faced, which we stopped at earlier: whether we can explain how the mechanics, the dynamics, the dialectics of nature functioned when no thought was present, because humanity had not yet been born or was not yet able to distinguish itself from the rest of the animal kingdom; above all because we cannot believe that this thought [had finally appeared suddenly with the creation of man by a God or with the landing of the spaceship, as we read in the passages taken from Literaturnaja Gazeta].

Nature knows itself

The problem can be solved by stating that the subject of knowledge is not man alone. Nature, of which man is a part, is the subject of knowledge [long before the appearance of living species]. Nature has known and knows because, even without life, even at the level of the inorganic, mineral world, it leaves imprints that correspond to knowledge of itself. The process of knowledge, through which thought knows the world, has nothing original, miraculous or eschatological about it. It is a process without idealistic finalities that would distinguish it from all other relations between one area of nature and another. For billions of years, there was no 'Man sector' in nature; there were the other sectors influencing each other. Astronomical and interstellar effects - understood in the physico-chemical sense and not in the sense of the migrations of living humans at Agrest - influenced the course of the revolution of the individual planets. These phenomena wrote their own history.

What is knowledge finally reduced to its quintessence? It is memory and relationship. For nature is about having recorded events and sequences of its own evolutionary dynamics. And precisely because of how and how much it has already done so, a billion or a million years ago, we can know and interpret it today. More still, we will be able to know and interpret it tomorrow, free of those prejudices [that now project capitalist man into societies predating our own and even into the completely anthropomorphised animal world]. Moses recorded events four thousand years ago. We interpret today with greater advantage than he did because we can compare Moses, if you like, with Christ, with Bacon, with Voltaire and finally with Marx. Let us say that a trace has been left behind. It was not only human life and the activity, the praxis, of associated humanity that left it. Nature itself, including man, has also left it.

One of the many traces that nature has left behind is the series of strata studied by geology. Nature has thus written the history of the planet since it emerged from the primitive nebula. It is the subject of knowledge for man today, but it is also the work of knowledge ever since these footprints remained in the soils that the geologist goes to explore and reconstruct. Particularly important here is the image Marx gives of the succession of societies (for example in the texts quoted by Roger yesterday) as if they were geological layers gradually overlapping one another. There is a striking analogy between geological strata accumulated continuously over time, then broken violently in faults, and the overlapping social and economic forms that we called primary, secondary and tertiary yesterday.

Hence, knowledge [as the general memory of nature, written by nature for itself].

For us, it is obvious, the development of the social struggle needs man, because it is the living species that [physically faces the effects produced by the collision between classes]. Nature seems not to struggle, but in reality it too struggles. When the great telluric convulsions of primitive volcanism occurred due to internal fire, it was a struggle of nature against itself, as are the class struggles within the species. We could go on with examples. Through these struggles that have left their results, that have transmitted their characteristics over time, it is possible today to know, to draw information and matter, even in a utilitarian sense. And this despite the fact that a billion years ago, no man was there to write down information, to record it, to put coal or iron underground. Nature recorded itself, it needed neither God nor mankind, primitive or civilised, to record it. It wrote its own history by itself. Nature has its own memory and has offered us the results it contains. We do not only work on man's memory. The latter is but a part of the mnemonic heritage transmitted to us by nature. Much of the endowment on which the present humanity rests and, above all, will rest the new one through the social brain of the new party, is of non-human origin. Even much of the heritage of the living is fossilised in the memory of nature. As we can see, the problem of a spiritless knowledge (lest we speak of spirit in a completely mineral world) is proposable and has a solution in three steps:

- 1) physical action;
- 2) memory-recording;
- 3) interpretation.

We can only interpret because there is the determinism of an action that produces recordable effects. All we do is follow an ancient itinerary of predisposed events. We do this with complex and differentiated equipment, determined over time by scientific and technological development, but the matter that tells us about itself is already there. So we do not need, I repeat, to solve the enigma of whether the thinking species or passive matter should prevail: they are both active, they are both collaborating, they are both part of a single system. The ancient enigma has been dissolved in a new and superior conception.

Art and science, intuition and reasoning, faith and evidence

I hope I have succeeded in avoiding an overly convoluted way of communicating and that I have given you as clearly as possible some semi-finished elements for further elaboration. I will close with one last mention of 'art and science'. I read an article in the magazine Scienze, written by an Italian scientist from the Istituto Romano di Fisica Matematica, in which the problem of human knowledge is dealt with and an attempt is made to find a

solution, as is always the case in the modern age, that lies between those of a spiritualistic type and those that I would call facilitistic.

There would be a qualitative difference between artistic knowledge and scientific knowledge. Why is it, the scientist asks, that all philosophical work and all scientific discoveries are temporary, so that new philosophers, new scientists always come along and offer new explanations, new theories that replace the old ones? The scientist, who works, who uses his intelligence as his tool - there is a rather interesting image here - is comparable to someone climbing an infinite staircase of which neither the first steps, those resting somewhere, nor the last ones, those towards which he climbs, can be seen: he climbs step by step, but he has never finished climbing. He dies, his generation dies, his work is forgotten and replaced by other works, but the ladder continues and others continue to climb up it without end. Thus, every work of science is handed down, in the course of mankind's thought and knowledge, as a provisional work and destined to be replaced, just as Aristotle was replaced by Galileo, who in turn was replaced by Einstein: this is the image our writer uses.

Who says that, on the other hand, for the artist it is not so. The artist's work would be eternal insofar as it is perfect in the very moment in which it takes place, since the artist does not climb that infinite ladder but reaches his achievement. For the artist seeks by the power of the spirit, which is an immanent and eternal presupposition, a datum outside of nature and humanity. So the writings of Homer, of Shakespeare, of Dante, of Goethe, would remain eternal without ever losing any of their value as human history unfolds. What would be the reason for this? That the artist proceeds by intuition and the scientist proceeds by intelligence.

Now, in which of these two ranks do we revolutionaries want to place ourselves? Naturally, we cannot proceed by intelligence, because only a society free of class domination and the legacies of these unfavourable and painful epochs will be able to use its intelligence to build the science of tomorrow and will be able to climb to the top of the ladder of knowledge. Indeed, it will climb much higher up the ladder than ever before. But that does not detract from the fact that we also make use of intuition. And perhaps in order to define the artistic movement, this monstrosity that stands outside society and matter, can we accept such a delimitation? To establish that there is a profound difference in nature between art and science?

No and then no. We deny the existence of products that are part of a cognitive activity of a particular nature, which is art, in which is affixed an eternity denied to scientific works, to scientific achievements. First of all, this is not accurate, because there are certain works of science that will certainly remain as eternal as Homer's verses and those of Dante: for example, Euclid's Elements, or Galileo Galilei's The Assayer and Dialogue on the Greatest Systems,

or Newton's *Philosophiae Naturalis Principia Mathematica*, because the elegance of these works is complete. They are works that contain elements of science and art; they achieve the patient, analytical laboriousness of the scientist and the powerful synthesis of the artist. And of many other works the same could be said; but we will not dwell on that. So art and science meet at certain moments. Art and science are two analogous aspects of human knowledge, and we can state with certainty [that they are both part of the more general process of production and reproduction of the species].

The difference should therefore not be made between art and science, between intuition and intelligence. It is with intuition that humanity has always advanced because intelligence is conservative and intuition is revolutionary. Intelligence, science, knowledge originate in the advancing movement (let us abandon the vile term 'progressive'). In the decisive part of its dynamics, knowledge takes its start in the form of an intuition, of an affective, non-demonstrative knowledge; intelligence with its calculations, its accounts, its demonstrations, its proofs will come later. But novelty, the new conquest, the new knowledge does not need proof, it needs faith! it does not need doubt, it needs struggle! it does not need reason, it needs force! its content is not called Art or Science, it is called Revolution!