

# The Extinction of School and the Formation of Social Man

Published by *Quinterna n+1 #13* in 2003

Translated by the Solar Collective

---

Indispensable premise	2
<b>Today</b>	<b>3</b>
Ideological tool factory for class domination	3
Culture and class domination	5
The School after October	7
Conservation hideouts and revolutionary outposts	10
Stalinist normalisation	12
Culturalist ideological hodgepodge	14
The fate of the school	17
Rough, but still anticipations	19
Dismissing the state and thus the school	21
Impossible reform	23
Knowledge-goods and educational investment	24
<b>Tomorrow</b>	<b>26</b>
Training and the physiology of learning	26
Work, language, learning	29
Education, language, politics	31
The formation of man as complete ontogeny	33
An ancient future	35
There is no child who alone can know	36
From the forming community to the institutional school	39
A communist example of the formation of man	41
The child is not an empty vessel	43
Unity, separateness	45
Liberation of social energy	46
'Lector in fabula'	49
Instead of the state and the school	51
The party of the organic society	55
Self-learning of the social brain	56
Growth and Form	59
Leonardo, the global worker and the human man	61
An anti-utopian communist future	63
<i>Recommended readings</i>	66

---

---

*'The child of Harmony at the age of three will be more intelligent and fit for industry than many children of Civilisation are at ten who at that age have only a dislike for industry and the arts. The education of Civilisation makes nothing but anti-social manias blossom in the cradle child; everyone exercises himself in deforming his senses, waiting for the age when his mind will be deformed' (Charles Fourier, The Theory of the Four Movements, 1808).*

*'Prohibition of work for children! The total abolition of work for children is incompatible with the existence of big industry. Its implementation would be reactionary because, if precautionary measures were taken for the protection of children, the timely union of productive work and teaching would be one of the most powerful means of transforming the present society' (Karl Marx, Critique of the Gotha Programme, 1875).*

*'Teaching is useless except where it is superfluous' (Richard Feynman, Feynman's Physics, 1963).*

---

## **Indispensable premise**

Most of the 20th century pseudo-Marxist production on education adds little to the research carried out in the purely bourgeois field, and moreover pollutes its results with ideologisms that have nothing to do with Marx. One of the last examples was Suchodolski, who died in 1992, author of an essay entitled Fundamentals of Marxist Pedagogy, but also co-author of the reactionary educational programmes of UNESCO.

The vulgar Stalinist materialist current and the idealist-culturalist current founded on Gramsci have in common a kind of philosophy rather than scientific investigation; the trade unionist current, which in Italy is represented by the CGIL-Scuola, does not come out of a low reformist-revendicative 'docentocentric' profile. As true daughters of philosophy, the various 'established' pedagogical currents, such as positivism, structuralism, pragmatism, functionalism, constructivism, behaviourism, etc., are also to be treated with suspicion. They all suffer from that fundamental vice of bourgeois knowledge that is one-sided reductionism.

Let us take an example: it is obvious to us that structures and needs determine the forms of action (Piaget); that function determines form (Bruner); that there are predispositions to language and learning (Montessori, Lorenz, Chomsky); that active praxis is fundamental (Dewey); that man lives a kind of permanent education and that we must think about the man of the future (Suchodolski, UNESCO); and so on. But these are trivialities, if taken one by one. Or pedantries, if each of them is turned into a specialist workhorse on

which to write dozens of books. A separate discourse would deserve Piaget's colossal structuralist, cataloguing and apparently universalist production, given that it 'looks like science, without being science', as Feynman used to say when confronted with too many words, but this is certainly not the place to do so.

More interesting are the ancients, the utopians, the universalists of the Renaissance, the scientists of the 1600s and 1700s, and finally the eclectic out-currents of the last two centuries, some of whom, mistreated during their lifetime, are now considered 'classics' of pedagogy and education. Among them are those who had insights that are today fully confirmed by neurobiology and information science. For our article, we have based ourselves, in addition to the above-mentioned authors, of course, above all on the work of the eclectic forerunners, from which we have extracted the aspects that we consider to be most related to our work programme.

A clarification must be made with regard to the usual division in this series of articles between 'Today' and 'Tomorrow': here one will find in the first part a bit of school history during the October Revolution, which would logically be part of the 'Yesterday' section, while one will even find examples of ancient societies in the 'Tomorrow' section. The apparent inconsistency is quickly explained by the degree of development of society, which in the medium term does not correspond to the calendar: we believe that the school of today is behind the one prefigured in the Fascist School Charter of '39, and that the extracurricular educational experiments of the Russian revolutionary period are ahead of the Fascist Charter, despite the eighty years that have passed. We also believe that the ancient societies of another transition, that between primitive communism and class-based urbanism, may offer a good example to get an idea of what the 'tomorrow' of education may be when classes and property have disappeared, as they did then.

## **Today**

### **Ideological tool factory for class domination**

Continuing our journey around the 'immediate programme of the proletarian revolution' we address the last point of the half-century-old outline we used as a guide:

*'Obvious immediate measures, closer to political ones, to subject the school, the press, all means of diffusion, information, and the entertainment and amusement network to the communist state' (Forlì Meeting' of the PCInt., 1952).*

In this issue of the journal we will deal with the school, while the very topical subject of information and entertainment will be addressed in a future article. Let's say right away that we will deal with the school in a somewhat

peculiar way: to get rid of it. Since in the future society there will be neither social division of labour nor state, a state apparatus called 'school' specialised in the education of children and young people will have no reason to survive. Before we get into the heart of the matter, however, it is essential to remember that every point in Forli's list, and this last one in particular, bears a distinctly 'Bolshevik' stamp, in the meaning that the term had before the forced Bolshevialisation of the International, i.e. before the tactics - ruinous for the establishment of communism - were imposed on all adhering parties, which were derived from the Russian situation of double revolution, and which culminated in the final Stalinist Russification. In each of them, the function of the dictatorship of the proletariat seems to be circumscribed to a series of particular totalitarian measures to control various sectors of human activity. We are thus still faced with a very direct practice, social control by decree supported by the 'red guard', whose necessity is indisputable when society has not yet developed mature solutions.

Today, the dying capitalist society shows us (as usual in a negative way) many potentials of the new society for which, as we shall see, the revolutionary measures of the proletarian dictatorship will be minimally purely coercive, while the energy of the proletariat will be directed to the liberation of the social force, today totally restrained. We note, en passant, that in Forli's point, where it is said that 'obvious immediate measures, closer to political ones, will be taken to subject the school, the press, etc. to the communist state', the attribute 'communist' evidently escaped due to the language of the time. In fact, there will be no state in communist society. One can speak of a Babylonian, Roman, feudal or bourgeois state; it can be an instrument of a class for the transition to communism, e.g. 'proletarian state', in the hands of the communist party; but one cannot say: 'communist state'. It is understandable that in writing Forli's points the old comrades slipped on this definition: they lived through the formation of the CI, its degeneration, Stalinism and the re-proposition of the revolutionary foundations of communism; although they were very sensitive to the correct use of terms, they were affected by their own history and it, like it or not, had a strong Russian matrix.

Thus, 'communist state' is an expression with Bolshevik overtones, which entered common parlance like so many others that, having survived until this decadent era, no longer have the meaning they once had. Since our work programme also includes a commitment to clean up the vocabulary we use, eliminating ambiguous or historically worn-out terms wherever possible, in the course of criticising the current school (and especially in the course of describing the processes of human formation in the new society) we will avoid contrasting the bourgeois school with a 'communist school' or, even worse, a 'communist education'. These are phrases that, beyond the school problem, indicate statist and non-organic conceptions of the future society.

If we dwell on the immediate reality of the Italian school, the communications and entertainment network, the current culture, the 'right to idleness', etc., we have before our eyes a scenario characterised by barbaric polemics and no-holds-barred struggles between the different factions of the bourgeoisie, who hold each other to ransom for their control of the school and the media, thus establishing a partisan dictatorship. And how could it be otherwise? We cannot imagine that a ruling class - represented by right-wingers or left-wingers it makes no difference - would give up such weapons. The situation is certainly not peculiar to Italy, it is the same in every country, although in some it manifests itself more strikingly. For instance in the United States, where the education and communication apparatuses are veritable weapons of war in the service of the state (even though they are privately owned in most cases). We are therefore talking about a sector that is an integral part of the system comprising the army, judiciary, police, intelligence services, etc., as we have seen in the deployment of today's global strategy. On the scale of instruments of class domination, integration and homologation, the school comes before those for the 'adult' world. It is a factory for producing them. It is therefore a direct emanation of class domination. In a society that is not based on this domination, its greatest instrument must also disappear, already beginning in the transition period.

## **Culture and class domination**

Today's state implements such a perfected dictatorship over schools, information and entertainment that it is no longer enough to change its sign, a leap into another dimension of human education is required. And do not think that we are only talking about ideology in the political or economic sense: full bourgeois epistemology, even in the scientific world (and we would say especially in it), is based on ideological assumptions. That is why this point by Forli, more than others, sounds inexorably outdated by the facts, exactly as happened to the immediate programme that Marx and Engels included in the Manifesto. Bourgeois society is the most dynamic in history and grinds down any immediate programme. The context is no longer that of the Russian revolution, which effectively had to introduce ex novo a factor of social control other than the almost exclusively police-like one of the defeated autocratic society. In the developed capitalist West, where superabundant elements of social control are already in place, it will suffice to seize them, turning what is needed into a useful means of transition. Rather than forming new apparatuses, the new society will be busy eliminating old ones while destroying the bourgeois state. Here again we see that the foundations of the new society no longer have to be 'built', as was said for Russia, it is enough to demolish the obstacles that prevent the explosion of the social productive force.

The school is not only a state apparatus for education. It is above all an instrument of reproduction of the dominant ideology through a precise method.

This fact, the overly concise statement of which might sound like one of the usual catchphrases of lubo-communism, is the result of the social division of labour and, at the same time, the most powerful means of preserving and consolidating it. Capital's entire superstructure of domination is based on this preservation mechanism, so the entire firepower of the revolution will have to be directed against this monstrosity, which alone engages, among teachers, employees and pupils, hundreds of millions of people around the world, burning their brains out.

At the Youth Congress in Bologna in 1912, the young people of the PSI rebelled against the 'scholastic' approach that the party wanted to impose on its youth sections, going so far as to promote the transformation of L'Avanguardia, the combative youth struggle newspaper, into a 'cultural' tool. In their motion, the response was stark:

*'Considering that in a capitalist regime the school represents a powerful weapon of preservation in the hands of the ruling class; that no confidence can be placed in a reform of the school in a secular and democratic sense; that the aim of our movement is to oppose the education systems of the bourgeoisie; we affirm that the education of young people is done more in action than in study and consequently we urge all adherents of the socialist youth movement to get together to discuss the problems of socialist action by communicating the results of personal observations and readings and becoming more and more accustomed to the solidarity of the socialist environment'.*

It was in L'Avanguardia that rigorous and consistent attacks on the culturalist conception of the class struggle appeared. In 1913, for example, one of the most fitting and impassioned articles was published on the function of the socialist and proletarian environment in the anti-scholastic education of the proletariat (A programme, the environment). Propaganda, it was written, never appealed to the brain but to feeling, to the disposition to battle, to class hatred of an infamous society. Only a fiercely anti-capitalist environment can be our 'school' and only in this way will we be able to free ourselves from the enslavement to the ideas of the adversary. In those texts, there is never any mention of an alternative 'school' to the bourgeois one, let alone reforming the latter. On the contrary: in another article (Our Mission), also from 1913, the PSI 'culturists' are told that

*'It is a prejudice to believe that the bourgeoisie dominates by means of ignorance: it dominates instead by means of its culture'.*

It follows that bourgeois culture, of which the school is the reservoir and dispenser, is a target against which to hurl the force of the new society represented by the revolutionary Marxist vanguard. Quite differently was Gramsci's view, who, despite having followed (and immediately betrayed) the Communist Left in the formation of the Communist Party of Italy, even argued the need to

'create' an intellectual stratum of specialised proletarians within a mass deemed physiologically inadequate:

*'If you want to create a new stratum of intellectuals, up to the greatest specialisations, from a social group that traditionally has not developed the conforming aptitudes, you will have to overcome unprecedented difficulties' (For the search of the educational principle).*

## **The School after October**

As Trotsky noted in the course of the consolidation of the October Revolution in the early 1920s, the revolution itself and the subsequent civil war had absorbed all social energy and there had been no time to deal systematically with school, education, the family, and everyday life in general. Moreover, even before the seizure of power Lenin, like the young Italian Marxists, laughed at those who imagined the revolution as a cultural fact and called for all energy to be concentrated on the strength of the organised proletariat and the leadership represented by his party's programme.

The anti-culturalist attitude is perfectly consistent with revolutionary tasks and is a useful theme to draw a line between materialistic determinism and idealism. Any question concerning the 'school' must be dealt with by considering the end and not the instrument itself. The latter will only be suitable or not in relation to what it is intended to achieve. The instrument 'bourgeois school' can only be a reservoir of bourgeois 'culture', not the seat of human knowledge that transcends classes. On the other hand, there can be no 'proletarian school', because the proletariat, by defeating the other classes, also eliminates itself as a class. Lenin, significantly, never dealt with the Russian school directly. In the 45 volumes of the Complete Works, it is rare to find any mention of it, and when there is, it mainly concerns extra-curricular courses for revolutionary workers and peasants. However, faced with the lack of communist teachers, even in this field he had to struggle against the force of the old ideologies:

*'Bourgeois intellectuals have regarded the new educational institutions for workers and peasants as a ground for their personal reveries, passing off trivial oddities as novelty and proletarian culture',*

he said at the opening of the first congress for extracurricular education. Instead, he devoted much time to recovering the books scattered around Russia, most of which had been stolen from private collections, especially those of the nobility and landowners, targeted and looted by the peasants. The call to collect them was enthusiastically accepted. Not only books, but also precious art objects were miraculously handed over. Lenin's concern for the fate of the books was well-founded: during the civil war, the few printing presses were requisitioned to print newspapers and bulletins, the only means of connecting the immense territories, and paper was nowhere to be found. The state was bringing in books

in foreign languages from abroad into the libraries, but very few were able to read them.

The wealth of non-individual knowledge contained in books was the only possible basis for forming the nucleus of future public libraries, and they were, for many years, an irreplaceable resource for education. Generalised self-education became by far the predominant 'school' form and, at least in the beginning, was no longer school. The order to open the imperial library and to proceed immediately with the exchange of books between libraries, both Russian and foreign, was issued by Lenin a month after the seizure of power. It sounded like another April fool's folly, but it worked. More than the inter-library distribution network dreamt up by Lenin, and angrily dropped due to the material impossibility of communication, the old clandestine network that workers and intellectuals had set up since 1879 to circulate the books banned by tsarism throughout Russia became fundamental. It was in 1918 that Lenin issued a forceful communication to the head of education, Lunaciarskij, urging him to stop underestimating the problem of the library network and to finally resolve access to books according to the established 'Swiss-American system'.

The actual and symbolic value that was attributed to books is underlined by an episode that occurred in Petrograd during the civil war: in one of its raids, the White Guard attacked some libraries built by the Bolsheviks by burning their books. It was the time when, in the wake of the Futurist movement, theatrical performances had left the theatres and were taking place in factories and squares, so a street play was organised in which thousands of people participated. The charred remains of the books were collected, displayed for several days and placed at the centre of a 'proletarian performance', complete with Red Guard military honours and an Enlightenment funeral in defiance of obscurantism. Today, such an event seems incredibly naive and in 'bad taste', but the new education was to be based on the library rather than the trade teacher, so the book became a real treasure.

Lenin had already addressed the problem of libraries in a 1913 article, *What Can Be Done About Public Education*. He had not spoken at all about the tsarist school, as the title would suggest, but about the New York library and especially the children's reading room, attended there by more than a million young readers every year. Self-education was in any case for Lenin not an individual process to be left to the goodwill of the individual, but one of the functions of society. In 1920, in a speech to the youth, he made it clear that printed paper and individual intelligence were not everything; no book would ever replace the history that produces books, no individual could embrace the infinite relationships that bind books to one another, and no teacher could substitute for the experience of the material life of the book-reader, the work useful to the community and carried out within it.



*'We openly declare that the school alienated from life and politics is a lie and hypocrisy,'* he had said in 1918, at the First Education Congress, and in 1920 he had been furious with Lunaciarskij when the latter, contrary to agreements made, had argued at a Proletkult congress for proletarian culture in a narrow, classist sense. He had therefore drafted a draft resolution to correct the error: Marxism, we read there, has become the world's revolutionary doctrine not because it has rejected the knowledge of the bourgeois epoch, but because on the contrary it has incorporated it, reworking it, along with the entire millennial development of human knowledge. After all, it was from 1909 that Lenin insisted that the future animators of the Proletkult (Bogdanov and comrades) should stop with the intellectual nonsense passed off as 'proletarian culture':

*'By formulating in its platform the task of elaborating a so-called proletarian philosophy, proletarian culture, etc., the Vperiod group is in fact taking the side of the group of literati who propagate anti-Marxist ideas in this field.'*

In Diary Pages, 1923, Lenin reiterates the need to redirect the funds wasted on the state school apparatus, 'which belongs to the old historical epoch', in favour of setting up workers' groups to be sent to the countryside for the elementary education of the peasantry. In this context he also reiterated the need to 'bring communism' to the countryside, but hastened to make it clear that by this he meant not ideological propaganda but 'the material basis for communism', knowledge structures to get the peasants to overcome their age-old sub-human condition.

Lenin admitted that he did not esteem modern figurative art and music, loved traditional painting and was a devourer of literary classics which he happily discussed, but he never even made an attempt to curb or, worse, 'state' the various avant-garde artistic currents. However, he clearly resented intellectuals and artists who tended to form salon cliques, and he resented even less those who theorised the 'creation' of a proletarian culture. The problem was not having a proletarian education but an educated proletariat. When it became clear in 1918 that the high schools could not cope with the enthusiastic demand for admissions from the workers, he wrote a draft that might seem like nonsense if it were not an indication of how he intended to solve the school problems: if places are not enough,

*'Urgent measures should be taken to ensure that all those who wish to study are able to do so. There must be no privileges in law or in fact. For proletarians and peasants, large-scale stipends should be guaranteed' (On Admission to Higher Institutions, 1918).*

Guaranteeing the possibility of attending schools with very limited places to all those who wished to do so and even pay for them might seem like a joke:

it meant instead breaking the logic of the traditional school and lobbying for the creation of new, enlarged institutes, and in fact the 'workers' faculties' were born in that period, which little by little would become very efficient technical-agricultural institutes. Lenin was particularly keen on polytechnic education, i.e. an education that combined manual skills and cross-cutting knowledge of every human productive activity, with the real possibility for boys, in a hypothetical education system, to move freely from one branch of industry and knowledge to another.

If high schools were in a bad state, primary and secondary schools were even worse off, since before October children were treated almost like animal power in the countryside, and in most of Russia schools did not even exist. The problem was evidently only solvable in the extra-curricular sphere, and not only because school had to be neglected for emergency reasons during the period of 'war communism': the emergence of groups dedicated to self-education and the formation of local libraries received more direct attention - Nadezda Krupskaja personally took care of this - because in a completely spontaneous way it responded to the needs of the revolution. It was not just about teaching the illiterate, who were the majority of the population, to read and write, it was about breaking a weapon of the bourgeoisie.

## **Conservation hideouts and revolutionary outposts**

If the school is part of the superstructure of any class domination and can only be a repository of knowledge for the purpose of preservation, when the state apparatus is destroyed, its school must also be destroyed. The basic need for out-of-school education could be the basis for a new perspective. The problem of traditional education was therefore not so much underestimated as deliberately ignored almost everywhere in the heated and chaotic political meetings in the first years after October. There was no lack of resolutions, more often of bluster, but very little was done in practice, so much so that in the works on the Russian revolution there is hardly any mention of Bolshevik school policy. Carr, for example, in his monumental and meticulous work only makes a few mentions of it and does not even once mention the extensive extracurricular experiments.

Of course, at the various levels of the party and collateral organisations, there was no shortage of stances on the subject, nor were there any shortage of experimental schools with their bombastic pronouncements on the new Soviet man, although there were very few of them. But it is very clear that they always referred to a reformation of education, never to a true, well-founded anti-formation on the maturation of man in the new society. Moreover, even the reform documents remained as they were and, incredible as it may seem, the old tsarist school structure was not touched by either Kerensky or the Bolsheviks and remained unchanged for years, with all its staff who, by the way, never

collaborated with the Bolshevik power. By the time the state was able to replace the teaching staff, it was too late: the school, completely Stalinised, proceeded with traditional teaching. That is, it remained nationalist, patriotic, conservative in every branch of knowledge and, in essence, imbued with big-Russian bourgeois ideology.

The People's Commissariat for Education, formed as early as November '17 and presided over by Lunaciarsky, inherited the tsarist apparatus but failed to even know the size of it, from the numerical size of pupils and teachers to the location of schools. Not being directly in the line of fire of the revolution, the tsarist school bureaucracy was able to defend itself better than the bourgeoisie and the landowners, making a vacuum around the red commissars who were totally unprepared to deal with passive sabotage on a non-military level. The figures of inefficiency speak for themselves: in 1897, illiterates made up 77% of Russians between the ages of 15 and 50; by the end of 1918, one year after the first decrees against illiteracy, they had fallen to only 70%. Hence Lenin's appeal: everyone who knows something should teach it to someone else who wants to learn, without waiting for school. It worked: by the end of 1919, out-of-school education alone had reduced the number of illiterate adults by 6 million, and on 1 May 1922, the Red Army declared that it no longer had a single illiterate adult among its millions of soldiers.

During the years of revolutionary turmoil and civil war the elementary schools had come under the management of the teachers' union, run by the Mensheviks and the democratic social-revolutionaries, while the middle and high schools had remained under the strict control of the Teachers' Association, controlled in turn by the cadet party (the party of democratic constitutionalists, before October in favour of a constitutional monarchy, the only major party of the Russian bourgeoisie). While the Bolsheviks had entered into polemics with each other on the so-called 'proletarian education' front, a kind of peaceful coexistence had been established between their exponents and the school apparatus.

The revolution, still full of energy despite the famine and civil war, had no time to wait for the teachers: to facilitate communication between the self-education groups that were being formed, within a few years thousands of premises were requisitioned in and around railway stations. In May 1919, when the school had not yet even felt the revolutionary change, at the first congress of these groups Lenin stated:

*'I am certain that it is difficult to find in Soviet work another field in which in one and a half years such immense successes have been achieved as in the field of out-of-school education'.*

By 1922, as many as 10,000 'illiteracy liquidation posts' had been set up, most of them intercommunicating, subscribing to at least one newspaper, equipped with small libraries, with volunteer teachers moving from one to the other. However, the school was not scaled down. Even Nadezda Krupskaya, who was perhaps the most consistent voice in bringing Lenin's teaching on education back to the field of real relations, ended up recognising, in the 1930s, an irreplaceable role for the institution of the school as such. Thus, the purpose of out-of-school education became in practice a provisional bridge for the inclusion of workers and peasants in mainstream schooling through facilitated entrance examinations, scholarships, etc., in short, all the old-fashioned tools.

Even the formation of school soviets, rather than introducing substantial changes, all in all respected democratic formalisms, e.g. with the election of teachers (who in any case were those available) and the participation of pupils in the drafting of programmes. It is not true, as we sometimes read, that Krupskaya had a revolutionary conception of teaching. She clashed with Lunaciarskij for the simple reason that the latter, despite his vast culture or perhaps because of it, had a blatant bourgeois humanist conception of the school, as of the whole scholastic and artistic superstructure in general; on the other hand, Nadezda also clashed with most of the Bolsheviks because of their centralising statist conceptions, in contrast to her inclination to prevent the school from turning into an organ of the party-state, as happened when Stalinism prevailed over all public and private life.

## **Stalinist normalisation**

The formation of a single labour school, never well delineated, remained on paper and it was not possible - except in isolated experiments that immediately failed - to establish centres in which labour was no longer conceived

*'as work at the service of the material preservation of the school or only as a teaching method, but as a productive and socially necessary activity' (cf. Bettelheim, Class Struggles in the USSR p. 134).*

In the years immediately following October, the issues on the school agenda revolved around how to design the 'socialist' education system and how to plan the transition from blatant sabotage by the inert school system to the new type of schooling, to the involvement of colleges and universities in the implementation of the plan. There was an obvious dualism between the official 'constructive' trend, represented by the People's Commissariat for Education, and the real 'destructive' movement mobilising millions of men. The facts showed, however, that the school could be eliminated and replaced with a practical example of the social formation of man centred more on learning than on teaching. It could be argued that in the educational process, the two terms are perfectly symmetrical, but this is not accurate, as we will see in the second part of the article, when we will deal with the training mechanisms.

The core of the so-called Single State Labour School was the former tsarist teaching staff, forcibly involved in the plan to reform the existing structure, a reform that on paper was radical and still worthy of attention, given the difficulties, but entrusted to a real class of the old society that could only teach what it knew. Instead, the focus of extracurricular education was not a communist teaching corps (which in any case would have been inadequate in numbers and preparation for the revolutionary task), it was not an army of teachers, but the living body of the peasant and working classes, of the great and battered Red Army, whose enormous size was imposed by the civil war. The transmission of knowledge no longer took place one-way from top to bottom, but interactively, horizontally: the so-called teacher did not do this for a living; in order to communicate knowledge he had to acquire it, to become an active part of the two-way street between himself and the 'students'. It was already something else, because it acted as a medium through which horizontal transmission between students who in turn became teachers. Having to make connections of all kinds for necessarily relational learning, in the end the teacher was the one who learned the most. And the demand for knowledge, which the revolution had raised to a social frenzy, was irrepressible. Above all, transmission and the mechanisms that regulated it were an organic whole, present now within a monolithic class understood not as a classroom but as a proletariat that had emerged victorious from the social clash. The campaign for out-of-school education, strongly advocated by Lenin and followed by Krupskaya, was already a new structure of the future society.

Stalinist capitalist and patriotic normalisation swept it away. The Russian school became like all the others, indeed, worse, because it was a fundamental instrument of the counterrevolution, a den of fanatical builders of the new Soviet man, stakhanovist, scientifically deviant precisely in the most delicate subjects such as pedagogy, homologous to the fascist and Nazi schools in terms of its aesthetic sensibility. Secondary and higher education not only remained intact in structure until at least 1928, but continued to be elitist, barring workers and peasants despite the hammering propaganda. The school swallowed up every revolutionary experiment: when in the summer of 1918 the party set up the first workers' faculties, it aimed with them to obtain in a short time a certain number of well-prepared proletarians capable of giving rise to embryonic forms of workers' control. The beginning was exciting, but already by the end of the same year, the Commissariat for Education, obeying the terrible demands of industry, began to reduce the duration of the courses by removing the general education part. Little by little, the institutes were transformed into mere vocational training centres for skilled workers, similar in every way to those in the West. The graduates who came out of these were able to enter university, but their shortcomings were such that very few, for the first few years, managed to graduate. Within a short time, the entire school apparatus was reduced to an assembly line for the mass production of perfectly standardised subjects, suitable for the 'construction of socialism in one country'.

## **Culturalist ideological hodgepodge**

Stalinism naturally 'built' capitalism, and modern capitalism at that, but it was simultaneously a gigantic, lasting restoration of 'Asian' relations that misled the easily deceived social democrats of all stripes. It is known that at the 20th Congress of the PCUS in 1956, Khrushchev disavowed Stalin but not Stalinism, which triumphed for another thirty years and more (indeed, it survives, very strongly, to this day even among anti-Stalinists). This daring social-political stunt had as its fulcrum the farce of abjuration against totalitarianism, identified with the lack of democracy and culture, hence of civilisation. It was the same historical justification put forward by the second-internationalist social-democracy in Stalin's time: the proletarian dictatorship would not be a specific instrument of the anti-capitalist revolution, wherever it broke out, but a peculiar characteristic of uncivilised Russia. Khrushchev, in adopting the social-democratic conception that proletarian dictatorship meant Stalinism of a specifically Russian brand, necessarily subscribed to another, acclaimed at the 20th Congress: instead of 'proletarian dictatorship' it should henceforth be written: 'Democracy, culture, civilisation, emulation'. Except then to resort to dictatorship, terror and violence whenever the power of democratic, acculturated and destalinised emulators was at stake. Just as the uncivilised Stalinists had bloodily repressed the highly civilised German proletarians in Berlin in '53, so the de-Stalinised massacred the no less civilised Hungarian proletarians with cannons, barely seven months after the great proclamations of democracy and civilisation that were supposed to bury Stalinism along with the mummy of the deceased dictator.

Evidently the yardstick of culture and civilisation is not the most suitable one to scientifically assess the facts, since fascisms were the greatest products of both. Democracy, culture, civilisation, emulation, science and in general all the ideology of Stalinism continued to pass into society through the gigantic school-type framework, from the children enrolled in the 'pioneers' to the old and powerful professors, from the military academies to the veritable sect-school that was the Cheka (later Ghepeu). Everything was a direct emanation of the party-state. The bourgeois (and not 'degenerate proletarian' nor simply 'bureaucratic') nature of the Russian state is demonstrated not only by its persistence but by the way it persists: the bourgeois state, in order to fulfil its tasks in full, needs to be firmly established over time, to involve many generations, to properly separate children, youth and adults into watertight compartments, to force them to absorb what a state official conveys on the basis of an almost immutable state programme.

The Russian state could not be called a proletarian state because it was by no means a transitional instrument of class dictatorship for the elimination of all classes; instead it had inherited the genetic code to reproduce itself. The problem of man's education will not be able to take the state route in order to

prevent the state from perpetuating itself through its reproductive organ that is the school. State education is suited to the social-democratic reformism of the Second International, mother of the renegades of all times, including the Stalinist Great-Russian Restoration period. Lenin was accused by the renegades (especially Austro-Marxists) of 'forgetting' school and culture when he went on to say that the communist revolution in Russia meant 'Soviet plus electrification' (i.e. proletarian power plus development of the material basis of socialism). Stalin, according to them, had corrected the mistake by adding school and culture in great patriotic pomp, but he had erred in turn by maintaining the dictatorship.

It is necessary to put some order into this ideological mess. Lenin's critics become semi-critical of Stalin, whom they blame not so much for reinforcing the state from its - shall we say - reproductive foundations (the Family, the School, the Patriotic Army, etc.) as for sterilising the democracy of the People's Councils, i.e. the Soviets. The mess evidently concerns a problem of logical coherence: these social democrats are enemies of the totalitarian state but they want the means to perpetuate it; they cry about the sterilisation of the soviets but do not realise that they become sterile precisely because they are reduced to assembly parliaments, to 'councils', precisely, no longer organs of class dictatorship but of a capillary democracy.

According to one social-democratic version, that of the Bauers, Deutschers and others, a worldwide embrace of all socialisms was close, as Stalin could have been applauded by the reformists if only he had been democratic. For us, we have seen, Stalin was indeed a democrat, but Bauer and Deutscher evidently also wanted appearances, i.e. a traditional parliament. However, they recognised that Stalinist Russia had surpassed Leninist Russia since, in addition to the Soviets and Electrification, it had also implemented the School. The Russian people had been instructed, educated, brought up to the Western techno-ideological level. Since these were the premises of any democratic system, Stalin had unconsciously opened the door to the new social-democratic, liberal, parliamentary, pluralist and electoralist Russia. A variant in support of Bauer-Deutscher was expressed by the secretary of the Second International, Adler, who saw Russia not so much as a potential acculturated democracy etc. but as the only military force sufficient to save democracy against emerging fascisms. For Kautsky, however, things were otherwise: until his death (1938) he maintained that dictatorship was the absolute evil and that the Russian disfigurement of democracy could only be healed by an armed attack by democratic opponents, just as it would be against fascisms. As can be seen, the Bauer-Deutschers were more far-sighted than the hypochondriac Kautsky and were attacked by the latter ('the sozio Bauer') for their optimism towards the acculturated Russia.

The mirror-climbing of opportunistic politics is not worth a digression, but it does bring us back to our usual search for invariants, i.e. common features despite differences. Both the possibilists, who hoped for a democratic evolution of Stalinism without realising that they had it in front of them, and the pessimists à la Kautsky, who would raze the Kremlin to the ground, were united in the gradualist conception of the advent of socialism. For both currents, in capitalistically mature countries socialism would have arrived peacefully, in forms that would have excluded the dictatorship of the proletariat. In Russia, on the other hand, the situation of incivility had led to a dictatorial transition (recoverable or not), so a radically different transition from that conceivable in civilised countries, i.e. countries that were schooled and imbued with culture, had taken place. It sounds like a joke: people who were experiencing the triumph of fascist and Keynesian totalitarianism precisely in the most 'civilised' countries, attributed the determinations of totalitarian Stalinism to the backwardness of tsarism, the ignorance of the Russian people, the primitivism of the peasants, a set of factors that, with their decisive weight, had allowed the rise to power of the 'Asian despot' Lenin (the now universal thesis of anti-communism).

Lenin, unlike Stalin, would therefore not have cared about the school, the culture of the Russian people, the building of civilisation. We, on the contrary, connecting to the anti-culturalism of the socialist youth of 1912-13, see, in the rigorous method that Lenin as an individual was led to represent, the fusion of the revolutionary instinct of the Russian proletariat and his party's ability to adhere to the line of the international future of the revolution. When Lenin, as he stepped off the train at Finlandia station in April 1917, turned his back on the provisional government delegates and jumped into the famous armoured car, he did not shout to the workers to go ahead with the Russian social-democratic-bourgeois programme, but that their revolt was the vanguard of the international revolution.

The Russian proletariat, organised in ultra-modern factories (they were the latest on the scene) not yet corrupted by the suicidal practice of reformism, and therefore capable of expressing that particular 'spontaneity' (determined by its material condition) no longer blind against the effects of social malaise but active and rational against its causes, had welded itself to the revolutionary programme and had been able to drag 120 million peasants into its struggle. While the representatives of Russian culture, from constitutionalist monarchists to revolutionary socialists, raked through the remnants of the culture of the past, the illiterate proletarians broke down the barriers that separated them from the future. And they 'made' an anti-school.

The revolutionary instinct is inversely proportional to the culture each man can absorb in today's society. It was crazy to imagine that the Stalinist reconstitution of the school, with environments, programmes and even buildings



more monstrous than the bourgeois ones in the rest of the world, would lead the Russian 'people' towards socialism:

*'In vain, then, is the tale that Stalin set himself on the path of scholastic culture and with it brought the Russian people to the height of socialism. In this way the Russian people were only brought up to the level of bourgeois imbecility, bristling with technology and academic colleges, with the hypocritical preteries of the modern àugurists of so-called advancing science, in a world that vilely recoils' (cf. Bordiga, Lenin's Text on Extremism...).*

The bourgeoisie had achieved a grandiose revolution. It had broken the old immobility and introduced a mighty social acceleration. It had done so for the benefit of one class, but also, objectively, for the future of humanity as a whole. Having achieved the historic result, the process was not repeatable by the same class. Therefore Stalinism was not allowed to repeat the original greatness, it could only 'build' schools, not socialism. Physically, with building sites and masons, not with a revolutionary programme. To build new shells suitable for the old culture.

## **The fate of the school**

The democratic critique of the concept of the 'dictatorship of the proletariat' - whether socialist, anarchist or groupist - is based on the ideological legend that communists, instead of working for a future society free of class constraints, finally becoming humane, would contradict their own programme and keep power for themselves, as a new class expression. The fact is that the opposing ideology cannot get out of the present and conceive of a classless world, despite the fact that mankind has lived for millions of years without knowing them at all. When one makes this ideology one's own without even class interests to explain one's capitulation to it, it means that one is really in a bad shape. One is not only double chained to the old society, one is even more backward than the bourgeoisie itself because one rejects even its most important discovery: species evolve through drastic metamorphoses. Mutations. Revolutions, in short.

On the eve of its revolution, the bourgeoisie claimed the elementary freedoms of teaching and learning as the unfolding programme of capitalist society. That programme was not yet accomplished in the first half of the 19th century and was therefore also taken up by Marx in the Manifesto. Today, the historical becoming has realised not only these demands on schooling, which were common to bourgeoisie and proletariat, but also solid anticipations of future society in all fields, such as the immense social productive force that would allow, if unleashed, to bid farewell to the world of necessity, to make machines work instead of men, to utilise the energy of the sun, to harmonise the relationship between man and nature, etc. As a result, the tasks of the proletarian dictatorship are becoming more and more 'technical' and less and

less 'political' (the inverted commas are indispensable: logically for us there is no opposition between the two terms), as Lenin himself predicted in the confrontation between Russia and Germany in his time.

We have no reasons of principle - we are not anarchist utopians - that would lead us to reject the exercise of control by the proletarian state in the transitional phase, even by coercive and totalitarian means of the kind used by the bourgeoisie, if they were necessary to prevent counter-revolutionary attempts by the bourgeoisie. But, as mentioned at the beginning, the capitalist system is so historically mature that the problem of controlling production and social reproduction no longer arises as negation, limitation, coercion, but as liberation. To such an extent that the old libertarian polemic against the communists on the state has lost its meaning, just as the crude conception of the new society advancing by decrees and impositions has lost its meaning.

Once defeated politically and militarily (even by the revolt of its own men and armed structures, as in all revolutions), the bourgeoisie will have little chance of turning history around. Today, the networks of education are consolidated organs of bourgeois society and, with the networks of information, communication and transport, form its collective brain, its nervous system. The revolutionary movement will inherit industry and infrastructure, but not the educational or information apparatuses. Teachers, professors, students, journalists, artists and so on will align themselves with the various poles into which society will be divided and in so doing disintegrate the apparatuses of which they are now a part, making way for the new ones to come.

When dealing with the problem of education and training, one has to go far beyond the realm of schooling in the narrow sense. In a certain sense, one is obliged to. One cannot talk about education by simply referring to teaching and the need for the new proletarian state to control education. Schooling has long been a useful reality for state control through the perpetuation, indeed, the fossilisation of the dominant ideology, and cannot be recycled as a new superstructure. On the other hand, one could argue, there must be some sort of structure suitable for the knowledge of the species. There certainly will be, as we shall see, but it will be neither a specific apparatus nor a self-managed education, as some libertarians would like. There will be no virtual school, gravitating around a collection of tomorrow's immense knowledge as happened with the Encyclopaedia of the bourgeois Enlightenment. The new generations will not have to draw knowledge from a free source, à la Rousseau, who wanted the individual to be confronted with his senses, instincts, conscience, individually, so as to form himself without prejudice and without constraint, like primordial man. There is no going back at all. Rousseau's pedagogy had already been buried by his fellow encyclopaedists (especially Diderot) and today knowledge is more than ever a social fact, of interdependence between men; it has its own laws, structures, dynamics, and produces enormous effects on the nature around us.

The units of the Red Army during the civil war sang - significantly and without contradiction - the Marseillaise, brought to this by the fact that they were the instrument of two revolutions in one: the bourgeois and the proletarian; the units of the new revolution, if they ever need to sing, will certainly not go fishing for songs from the enemy's revolution.

## **Rough, but still anticipations**

In the first phase, the bourgeoisie acts within feudal society by introducing real changes, and with its manufactures, workers and markets effectively breaks its closure. It is both product and factor of change. Subsequently, having now become a winning class, it goes through a reformist-democratic stage and realises its class programme. In its history it therefore acts in a very particular way: first it realises free production and the market; then, when these achievements clash with the limits of the closed feudal society, it claims democratic and institutional freedoms against the established power; finally, it moves from claiming to realising, consolidating, internationalising with the world market. Each of its realisations immediately becomes the basis for a new claim by the most advanced part of the bourgeoisie itself, because this class, in its ascendant phase,

*'cannot exist without continually revolutionising the instruments of production, hence the relations of production, hence the totality of social relations' (Marx, Manifesto).*

When the struggle against the remnants of the old feudal society is still raging and the modern bourgeois state is formed, the claims of the bourgeoisie and the proletariat have many points in common. In the period of consolidation of bourgeois power, a brief season opens in which the fractions of the bourgeoisie polarise around two fundamental attitudes: on the one hand the pure and simple preservation of power, and on the other the continuation of the march through the improvement of the system. At this stage, which corresponds to the origins of the class proletarian movement, the latter's demands only have points in common with the advanced part of the bourgeoisie, as in the case of the Manifesto:

*'Public and free education of all children. Abolition of factory work for boys in its present form. Unification of education with material production [...]. Attitude of the communists towards the various opposition parties: [...] the communists are everywhere working on the connection and understanding between the democratic parties in all countries.'*

But shortly afterwards, almost everywhere the proletarian movement began its historic battle against the reformists. Proletarian demands for reform, previously justified by the immaturity of the movement, soon become 'reformism' and those who support them are no longer part of the working class

'right' but of the bourgeois 'left' infiltrated into the ranks of the proletariat. The demand for social reform - which is often imposed with hard struggles - gradually loses importance as the class struggle develops. Soon swallowed up by the advance of universal suffrage and parliamentarianism, it loses all connection with the real needs of the proletariat in general, and even more so with those of the socialists first, and the communists eventually. From then on it is a follower of the reforming bourgeoisie whoever claims to replace the dictatorial stage after the conquest of power with a simple policy of re-forming society. This also applies to the school, albeit in the run-in period of the new society, during the implementation of the immediate programme.

The peak of bourgeois reformist activism occurred at the height of capitalism's social power. In this last phase, in which bourgeois society has taken on all the aspects of fascism, capital expresses forms of central control over the economy in which production and distribution are partly planned by the state, and education leaves the schools and enters into the general education of capitalist man. Not only marches and rallies, indicative of primitive sociality, but also councils, congresses, conferences, courses of all kinds, in short, the birth of 'schools' outside the propertied one, aggregations of individuals that produce information and education, especially through the now traditional channels of communication. This is UNESCO's 'lifelong education' programme, which can be summarised as follows: (a) kindergartens and nursery schools for practical rudiments and the first forms of socialisation outside the family; (b) parental education to educate by means of special institutional channels and mass media programmes; (c) school reformed according to modern pedagogical and didactic theories with the introduction of computerised technologies; (d) school upgrading of adults; (e) improvement of indirect education through the mass media; (f) massive use of psychology and programmed education techniques.

We have no hesitation in declaring that we consider the UNESCO programme to be a sub-fascist reform proposal, and that those who come closest to such a plan are the reformist and bungling leftists, with our own Berlinguer and De Mauro (those of the terrible pre-Moratti reform). We have always said that fascism with respect to democracy is not a return to the past, on the contrary, it expresses at the same time a leap forward and a continuity, dialectically realising the old reformist and, shock those who wish, popular-democratic instances. This truth, so often reaffirmed - and demonstrated - by our current, is recognised by the same bourgeoisie who, by joining fascism, demonstrated that the movement was not simply a mishmash of unrepresentable figures but a modern world social movement in self-defence of capitalism. A profoundly fascist hierarch like Bottai, who was in charge of the school, the so-called cultural heritage and the manifestations of art, was keen to remind the idolators of parliamentary cretinism and his own comrades that fascism, far from being a regime of the past, had instead gone beyond bourgeois society by implementing the 'true' democracy. Had it not achieved the

elimination of class conflicts by bringing all men to the same legal level? By no longer setting masters and workers against each other but uniting them towards the same goal in the corporate state? By launching the social insurance system that was in the socialist programme and that the workers' parties had never managed to implement?

All of this, of course, is bourgeois nonsense on a par with all the other nonsense spouted in a parliamentary democratic regime, but it comes historically after democracy. So much so that the tension within the Fascist Party also centred on the forms of the superstructure, as Bottai laboured both on the front of the 'cultural' press, trying to avoid homologation to the Fascist 'style', and on the properly educational front. Underlying the new educational programme, which was to start from the bottom and involve the universities last, there was to be

*'the desire to replace a bourgeois school, in principle and policy, with a popular school, which is truly everyone's and which truly responds to everyone's needs. The school must be supremely educational: hence the total grafting of work into study and study into work' (School Charter).*

This does not speak of reform but of substitution, and furthermore the last sentence mirrors as paradoxically as exactly Marx's programme. The idealistic and Crociani programme of the Gentile reform, not yet fascist, was thrown to the nettles in favour of Dewey's 'activist' programme. Man was not to be enslaved by the machine but served by it and it was the state that provided the educational means 'to lead the worker's thinking beyond his instrument of labour'. The war blocked the realisation of the fascist programme for the school, indeed, after 1945 there was a regression to Gentile (and to Croce, to Gramsci... and to '68, which discovered thirty years late that notionism that Bottai wanted to eliminate with the School Charter). While the school strengthened as an apparatus, insensitive to any real change, new theories blossomed by reaction in the 20th century, with Dewey as its progenitor, indissolubly uniting knowledge and practical work, deschooling and self-education, in official or heretical attempts by individuals who fought to break the immobility of the school of their time, such as Decroly, Cleparède, Steiner, Makarenko, Montessori, Piaget, Suchodolski, Illich, Ausubel, Bruner, and many others.

## **Dismissing the state and thus the school**

Of course, to find a truly non-scholastic (in the current sense of the term) conception of the formation of man, one has to go back to primitive communism, to the utopias or community islands realised by the Church during its millennial history, before the social organism itself invented the modern school. But when we read that the fascist Bottai, as part of a reform of the bourgeois state, plans to realise a concrete graft between the evolutionary method based on the dynamic organism-environment relations of a Dewey and the elimination of

Marx's dichotomy between study and work (we do not know how familiar he was with the latter, but he certainly consulted with the Deweyian Volpicelli), we absolutely cannot help but make the comparison with the Berlinguer De Mauro's asylum - bureaucratic, and meritocratic corporate - bureaucratic projects, assisted by the CGIL Scuola's parasitocratic tail, in comparison with which poor Moratti's capacity for devastation is the stuff of infants.

We have recalled that anarchism rejects the dictatorship of the proletariat through the state and the party, on the grounds that, instead of extinguishing themselves, the state and the party will perpetuate themselves and thus their own dictatorship; to think that it could happen otherwise would be utopian. We are accustomed to paradoxes and therefore do not find it strange that utopians call us utopians, but a minimum of knowledge of historical processes should lead anyone to at least grasp the phenomenon of the transience of social forms. It is indeed evident even to common practical sense that they are not eternal. If, as we have seen, the realisation of certain transitional elements is already operating in the most developed societies, then the function of the state will come closer and closer to that of bankruptcy receiver of the old society, to liquidate it.

In order that the state, for the period when it will be needed, does not have 'constructive' tasks, but only tasks of governing the transition to the newly developed society, it will be necessary that, already in the transition phase, the industrial and social planning bodies at all levels are constituted within the organic structure of society and not in a separate entity. The dictatorship of the proletariat will therefore use military force and terror wherever the material conditions of defence of political power make powerful coercion necessary, but once it has finished its work, the state will be dismissed and never return. The same also applies to the party, unless we imagine its future function not as an organ of struggle against other parties, but as one of the forms in which the new social brain can manifest itself (PCInt. Thesis Naples, 1965). A fortiori, all this applies to the school.

Insofar as there is an ever-increasing need for the state in bourgeois society (in spite of the trumpeted liberalism), it is precisely this increased presence of the state in the activities of social life that will lead to a situation in which, having already fulfilled its centralist, planning, economic regulating, etc. role, it will tend to disappear as such, leaving the organisational functions to new social structures. The example we gave in issue no. 5 of the journal with regard to agriculture, which has now become a national service for food (just as the Fire Brigade, the Forestry Service or Istat are for their respective fields), also applies to education, entertainment and culture. As an expression of the ideology of the ruling class, they are services homologated to the state. To the extent that the state takes them over, the proletarian dictatorship will have one less destructive task and one more ready-made base from which to develop the new society.

## Impossible reform

What exactly is the 'school', this particular institution that everyone today would like to reform (and cannot) and that the Russian revolution failed to eliminate? This monster that absorbs an immense amount of social energy by immobilising billions of individuals for years and years in particular ghettos without making them participate in social production and reproduction? This factory of homologation that exclusively produces both exaltation and fake self-criticism? Nothing in the world has produced as much self-referential, meta-scholastic material as the school, from St Augustine to the present day.

The generalised school is an exclusively bourgeois institution, and a fairly recent one at that, since, as we now know it, it is not yet two hundred years old. In Italy, the first law establishing free state primary schooling was enacted by Murat in Naples in 1810, but it did not have time to be implemented because of the Restoration. The public school proper was introduced by Piedmont in 1859: extended to all subsequent annexations, it lasted until the Gentile reform of 1923. In other countries, its history is not too different.

Capitalism itself introduced popular and free schooling. It later made it compulsory on a par with military service. On much the same grounds as today's volunteer army, it is making it essentially voluntary and 'professional'. Just as the soldier no longer stays in the barracks, having invaded the militarised society, where war and peace are the same thing, so the school has left the classrooms and spread across the 'territory' permeating industry, the services, the trade union: this is the society of 'training courses'. One wonders why a young person, after twenty years of schooling, is still untrained. We will not follow the various scholastic theories on schooling, neither the orthodox nor the heretical ones. We need only an earthy phenomenology, drawn from what industry observes, which would need people capable of producing, and from what a few courageous scientists, not necessarily dedicated to social issues, who have had to fight against schooling, point out.

The first consideration is on compulsoriness. In the 1960s there was a current - the best known exponent was Ivan Illich - that proposed a 'deschooling of society'. That is, it proposed to do away with the hypocrisy of the school for all, to make it completely private and make it pay taxes on profits, to leave it in the hands of the scions of the bourgeoisie and to think of alternative structures for widespread self-education of other members of society, to be registered on an educational credit card. This current, which now seemed to have been forgotten, is resurfacing in the wake of educational activity outside school, which appears (but only appears) as a belated realisation of its theoretical assumptions. We are still in the reform camp: alongside the normal school for the bourgeoisie, popular islands of self-education should arise. The hypothesis could be mistaken for that of the Russian extracurricular education nuclei, but it

is anything but. You cannot order a society to be what it is not: if it does not develop a revolution, society is forced to reproduce itself in whatever form. This reformist ambition is easily unmasked by resorting to the logical paradox identified by Bateson, Watzlawick and others as a generator of schizophrenia: ordering a child to 'be spontaneous!', 'go and play!', 'you must love me!', can in the long run lead to serious problems for the psyche. It is like ordering the market: 'be free!' and enacting a totalitarian law against capitalism's natural tendency towards monopoly. After all, even the Stalinist system was based on a logical paradox of enormous devastating power, since the Soviet man, from cradle to grave, was subjected to the order: 'be a communist! ', while his daily life was a constant gobbling up of anti-communist junk such as Stakhanovist emulation, holy family, holy work, patriotism, the party-church with its liturgy, concentration camps, etc., all the way to the trials and shooting of the Bolshevik old guard. These are all examples of those social situations where obligation contrasts with the nature of action. The Russian revolution had brought a sincere wave of enthusiasm for the problem of education as the basis for the formation of the new man. The worker and the mugik who learned to read and write were truly entering a world of new relations and were throwing themselves on Lenin's poor libraries eager for material to enlarge this world. But there had been a revolutionary break with the past. Without it, the mechanism does not work. Today there are libraries everywhere with millions of volumes to borrow whenever you want, but none become a centre of self-education, nor would they become one even if there were one more government decree.

## **Knowledge-goods and educational investment**

The second consideration is about the school's capacity for self-generation. It must be very powerful if the bayonets of the revolutionary Red Army, the same ones that nailed five armies of Russian White Guards and four of foreign nations (two Entente, one German and one Polish), were unable to produce a proletarian dictatorial antidote. It was not distraction, it was real impossibility against a force that proved objectively superior even if it presented itself as a secondary problem. Lunaciarsky had to endure Lenin's rebukes, but Lenin never gave the order to do away with the school and its reform.

The school is very much like the Church, or the Stalinist party. Although it is an emanation of the state, it represents an autonomous, indeed, self-referential community. It claims to be universal, because knowledge belongs to everyone, above generations, but it is a class instrument in this society. It is supposed to be in charge of work-oriented education, but, as we have already said, it actually takes twenty years to produce mediocre subjects that the world of production does not know what to do with and has to re-instruct (the exceptions are almost always produced by the interaction of the 'student' with the extra-curricular world that can determine self-education). It has its myths, its liturgies, its founding fathers and its external referents. It is divided into



currents, each with its own fine assumptions about its function and structure, including heretical ones. It is not simply an instrument to educate the young, it is a reservoir of ideology.

It also serves to reproduce the imbroglia of democracy and equality. The great physicist Feynman, in one of his diaries, tells of a university conference on 'The Ethics of Equality in Education', where a certain Jesuit kept repeating obsessively that the central problem in this regard was the 'fragmentation of knowledge'. And he mocks this, because education must produce separation, inequality and universality at the same time. Just as the (universal) stem cells of the embryo produce differentiated organ cells with different functions, so fragmentation of knowledge is inevitable in an organic society, since no one could think of assimilating all human knowledge on their own. The solution, as usual, lies not so much in the individual, but in social organisms that know how or can represent the synthesis of the indispensable fragmentation and inequalities.

It should appear obvious to any reasonable observer that schools do not produce anything that they claim to produce, from knowledge to the ability to cope with social life. Like all churches or bourgeois parties, the school, in addition to generating its myths, uses them in a closed circuit: in order to be part of the structure, it is necessary to absorb them and then have others absorb them, so that the individual caught in the vicious circle becomes completely incapable of relating to external reality (and never has an adjective been richer in meaning). Like the society of which it is an expression, it does not produce elements that are organic to a whole, so the whole will never be able to make organic what is not, by incorporating it, transforming it, utilising it. Like any closed circuit of society, it equips itself, internally, with procedures to invalidate individual reactions and behaviour to expose the fraud of democracy and equality. If everything does not go smoothly, the entire education system, from the individual to the groups and currents, will theorise that it has not done enough to achieve the result and will contribute to strengthening the liturgy, the ideology, itself as a whole. It will want to be more like the 'productive' society. It will, for instance, want to turn schools into businesses and those who teach in them into dull market worshippers. It will want meritocracy among teachers and among pupils, attributing debts or credits to quantified notionism. And then it is obvious that the corporate-school will have nothing in its structures but manager-principals, teachers-functionaries-of-capital and a mass of millions of student-consumers with their goody-two-shoes purse of securities-money.

The saleable service is teaching: this is the commodity that comes out of the school; learning is no longer there, it is an individual problem to be solved after buying. We might as well take note, it doesn't take schooling to make everyone make do with learning. No reform then, only elimination. In the immediate programme of the revolution there can be nothing else. An apparatus

that is based on the mummification of knowledge in a fiction of teaching and learning (placed one in front of the other as separate worlds, impersonated by teachers and pupils who identify with the role, losing all relationship with the world of life and production), cannot be saved. We are at the school-television, where the broadcaster decides what to broadcast and the viewer absorbs it by zapping between programmes that are all the same.

A study by the sociologist Ivar Berg (The Great Training Robbery) on the social efficiency of schooling in the United States has shown that there is no relationship between the subjects on which a student has prepared himself and the results he gets when he finds a job related to those same subjects. The only observable and quantifiable relationship is that between the amount of money that is spent to 'educate' a person and the income he or she will have in post-school life. Schooling is thus a service that society as a whole pays for so that a part of its members make use of a special form of capital investment in which the profit is proportional to the capital invested regardless of the competence acquired. This system produces students to whom the principle of economic return is instilled in the brain. This effect is achieved in full with the proliferation of corporate, regional, provincial, municipal and private courses, often for a fee, often pure and simple scams. Here, the investment-profit ratio is immediately visible, while the extension of the school octopus outside the appropriate buildings is much less visible. Beyond the legally stipulated years, the formal obligation has disappeared for the years up to 32, the age up to which the young person can be employed with training contracts, but the substantive obligation remains, since first the young person cannot find paid employment and must continue to live with the family.

## **Tomorrow**

### **Training and the physiology of learning**

The communist programme does not allow for the survival of the division of labour, nor does it allow for the continuous migration of men to the means of production. It is the latter that must be adapted to man, not vice versa. So even the learning system, indeed the integrated knowledge system, will tomorrow have to follow this general reversal of praxis and adapt to man, in both the biological and social sense. Today, the height of school reformism consists in adapting new teaching and learning methodologies to the existing school.

We have seen that the school, public or not, is state. The public school lives largely by selling its wares independently, but as far as ideological independence is concerned, it is zero, since school curricula, even when not drawn up in state offices, are still the product of the society that expresses it. The modern popular school is in any case state-born. In Italy, as we have already mentioned, the law instituting free and compulsory public elementary

schooling dates back to 1859, even though until the advent of fascism (the Gentile reform is from 1923) the obligation was largely ignored. Marx in one of the Addresses of the First International pointed out that the free public primary schools in the United States was a reality to be taken as an example by the German proletariat for its programme. Today throughout the world the state is the primary manager of the school and there is no example that can be copied. It is the state that prepares school curricula, that determines what should be taught to a couple of billion children, youth and young people, that codifies programmes homologated to the dominant ideology. Including those that seem less suspect, such as the 'scientific' ones.

Given that the kind of knowledge transmitted by schools is one form of the general superstructure of any mode of production, it is clear that transformations in the structure of knowledge have always taken time, never less than a generation. But the instruments for imposing change can be activated immediately: what is known today about learning and about the relations between the brain and the world outside the body through the senses is certainly sufficient for a radical change of course in the field of human education; therefore the communists, once they have attained power and have to deal with the immediate programme of revolution, will no longer need to 'discover', on the basis of the new situation, what will be useful for taking revolutionary measures. Current knowledge already points the way, because with it it is possible to draw a teaching-learning scheme based on the same material determinations that have formed us as we are.

For the human species of the society liberated from Capital, a physiology of learning (the study of the structure of social organs as a function of species knowledge) cannot be too different from the social-biological physiology that accompanied the so-called hominisation, from the first Australopithecus, an occasional maker of chipped stones, to the man capable of planning his own existence. The same process that gave rise to the homo species over millions of years will be compressed into an infinitely shorter time and will form the child, the boy, the man, the old man in a 'school' that, like work, will coincide with life.

Descartes expressed one of the most famous aphorisms in the history of knowledge: I think, therefore I am. Separating the body from the mind. If we take this literally, as we still do today, it depicts the exact reverse of reality, both with regard to hominy and social development, and with regard to the structure of the human brain and thus of learning: man is, therefore he thinks. Understanding how the brain 'works' helps to understand what the problem of a theory of knowledge and the formation of man really consists of. The brain organ can be studied according to Cartesian reductionism as regards its constituent parts and their functions, but never, in any case, separately from the body and the society of which it is a part. This is an established fact.

Studying the structure of the human brain, the first thing that jumps to the eye is the dialectic of quantity turning into quality: the cerebral cortex alone consists of a hundred billion cells and 14 billion neurons, capable of activating a million billion connections through a neuronal network with 900,000 kilometres of pathways. Every physical or emotional sensation activates a part of this mass of connected matter and relates to an 'internal' reality of genetic inheritance and stored information. Everything that flows into the brain is compared with the neural network that already 'resides' there, and the whole forms a new context capable of producing further information. The whole body participates in this context, so much so that it automatically predisposes itself to certain scenarios even in the face of a few signals from the outside, scenarios that can be foreseen and thus allow for elaborations on future behaviour in advance, even of a non-immediate type (vast projects and not just instinctive reactions to contingent facts). Our intelligence is made up of relationships.

From a physiological point of view, extended learning, i.e. what makes us human, is nothing more than interaction between billions of cells, between these and information from outside, and above all between information from genetic background and acquired information. The brain is capable of producing neural stem cells, i.e. cells that are not yet specialised but can become so as a result of received information or 'experience'. In a nutshell, the brain is able to self-modify itself through practice and also to repair itself - within certain limits - in the event of a traumatic or clinical accident. The structure of the brain thus reproduces the 'external' reality by which it is determined: it is subdivided into specialised parts but, at the same time, achieves its goals by functioning as a whole. In the frontal lobes, all 'social' functions are processed, i.e. the link between sensations and emotions, the screening of mistakes and results, cognitive activities in relation to action (will), the spatial-temporal consciousness of one's own body in the immediate and individual history.

In the first years of a child's life, specialised neurons capable of triggering emulation and imitation come into action; so to extinguish, with the violence of one-way schooling, the physiological need for social interactivity is to negatively manipulate the great learning capacity of the formative age. Dopamine, serotonin and other molecules with unpronounceable names, are not some kind of 'essences' of activity and well-being, as we read in newspaper reports, but fundamental elements that are part of the biological complexity of learning factors and continuous renewal of acquired information.

The works of bourgeois scientists who study human society as a biological super-organism are multiplying, and we have often referred to them. Amidst flashes of the future and genuine New Age nonsense, one glimpses humanity's effort to understand its own nature as a species. The school does not correspond to any of the organic forms detectable in those studies. Nor can we here address the enormous ambiguities and contradictions into which many of those who have

dealt with the problem of the school, or rather, of pedagogy, learning and the social formation of man, starting with the child, have fallen. A problem that only interests us insofar as some scholars not too entangled in the dominant ideology have produced anticipations regarding the future of society. The essential question then is not: how to transform the school in the next revolutionary phase of transition? But it is: what praxis will the new society adopt in place of that represented by the old bourgeois school that is to be destroyed?

As usual, the question, if posed correctly, leads of itself to the answer: no programme, no decree of the proletarian revolution, which represents the entry into the epoch of the overthrow of praxis and organic species relations, can be in contradiction with the physiological, genetic and psychological mechanisms of learning with respect to both relations between men and the environment. As we shall see, it is learning, not teaching, that is at the heart of human formation. For we will shift our attention from the metaphysics of Rousseau and his ideal student (free to be a child and to encounter reality without the pollution of teachers, so that he can self-form his character) to the physics of real interactions within the matter of which we are made and within society, made up of countless individuals and environmental elements.

## **Work, language, learning**

Let us reiterate: the immediate programme of the proletarian revolution defined by the communist party as the representative of the species can only be harmonious with the formation of man produced by millions of years of evolution. Now, in the learning process of the species, well identified by Engels and confirmed by modern studies, primordial man developed his intelligence, his ability to express himself and communicate, through work. It is work that produced man and not vice versa (cf. *Dialectics of Nature*). Current knowledge on the function of the areas of the brain, on the genetic predispositions typical of our species, and on the action of labour in the formation of man and language in both an evolutionary and educational sense, not only validate Engels' insights but further develop the argument. The bourgeoisie itself capitulated before the incontrovertible fact that man became what he is by passing through various stages in which he developed language as an instrument of labour and production while developing labour itself.

The historical sequence goes from practical action to language to the capacity for rational memorisation and abstraction that we normally call 'thought'. Primitive man began very early to produce stone working tools, some two million years ago (wooden ones probably earlier, but obviously not preserved). Such tools evolved in different areas, but each culture invariably arrived at the production of a 'double-sided', almond-shaped chipped flint (amygdala), also improperly called a 'hand axe'. Improperly, because no one so far knows what this object, so different from other contemporary tools in

ascertained use, such as burins, scrapers and knives made of flint or obsidian, might have been used for.

All the functions that can be attributed to the amygdala can be performed by simpler and, in most cases, more practical objects. Moreover, the micro-wear marks found on its surfaces indicate that it was hardly used as a tool. And yet it was the result of work that required a series of intricate operations on a material that one had to know, indeed 'understand'. The chipping of stone is not like sculpture, whereby material is gradually removed until the desired, more or less perfect shape is achieved: the splinter is produced by the shock wave caused inside the material by a single blow of the striker; each blow corresponds to a single splinter and the extraction of several splinters leaves a more or less massive core. Splinters and cores are then refined by removing smaller splinters and from these are obtained various tools and amygdales, respectively.

The energy balance for the construction of the latter object - the only scientifically sensible parameter available to us - is entirely unfavourable, since it requires, even in the crudest specimens, far more energy than is saved by its use. The conclusion reached by many palaeoanthropologists is that the amygdala was not a tool. Linking its shape, the work it contained and its unlikely use as an axe or otherwise, they think it was a symbolic means of production, more related to language formation than to hunting or anything else.

The application of complex techniques, handed down among humans for such a long time, involved the refinement of hand sensitivity, the transmission of stimuli through the nervous system and the development of specific areas of the brain. From two million years ago, *Homo erectus* was thus the first species to use tools made with its own hands in a systematic and continuous manner, differentiating itself from other primates to the point of developing, through work and communication, a peculiar feature of the brain found imprinted in fossil skulls: the Broca and Wernicke areas, studied in present-day man and responsible for articulate language.

We thus have not only the scientific demonstration of Engels' hypothesis, but also, and above all, of the fact that learning is made possible by the inseparable union of characteristics determined "a priori" with respect to the conscious individual: 1) the genetic heritage of the species; 2) the accumulation of prior knowledge with respect to the individual's birth and "deposited" in society; 3) the existence of a language capable of transmitting information, including that which comes from the past and that which goes towards the future; 4) the specifically human capacity for abstraction and design.

The individual, coming into the world, cannot do other than become part of the reality that pre-exists him and, through language (communication), interact with it. Learning is therefore something different from simply 'going to

school'. Within capitalist society, the bourgeois themselves know that children who are not trained for work and physical activity learn much more slowly and with greater difficulty. By privileging the teaching of compartmentalised subjects according to a shameless social division of labour, by separating the individual from productive practice and thus from interaction with other individuals in the most socialised process that exists, by limiting the purposeful use of the hand, the senses and the nervous communications that bring the outside into contact with the brain, and vice versa, by training the mass individual as a mere passive receiver, there is no doubt that the bourgeoisie produces men with some deficits in cognitive development. In the United States, the country in the vanguard in everything, the school is especially so in this deficit, so much so that it frightens those in charge of education themselves.

## **Education, language, politics**

The question of man's education, for a humane society, must be at the heart of its programme to harmonise the species with nature. After all, for us 'politics' is this. And 'doing politics' means dealing with the specific characteristic of man, i.e. the communication inherent in the capacity for design and relations - i.e. still two-way communication - between species and the rest of the biosphere. It is the reversal of praxis, the truly human way of relating to nature, a way foreign to animals and almost unknown even to man himself up to and including capitalism (only a small part of human activity is the result of conscious design).

What kind of school is it today that does not allow children to organise but only to suffer? He who cannot organise and lives his life passively is not a man, he is a beast. Man is genetically equipped for the use of all forms of communication, since the modern, technological ones are merely the expansion of the biological ones. But the whole of communication or, universally, language, if it is a means of production, is not in the manner of a telephone, software or a machine tool, it is much more than these paraphernalia: the transmission of information between the members of society is also training as they put into practice the knowledge they first genetically acquired and then acquired. There is never a separation between the subject and the object of his knowledge: among the social atoms, every observer is an actor in any process; he participates in it as a child, when he passes from the first instinctive acts to recognition and interaction with the 'external' world, and as an adult, when he interacts with this world in a complex and social way, with work, etc.

So man's formation is the manifestation and development of his language: that which he has within him, imprinted in his genetic code, and that which he develops by receiving and transmitting information-production. To make man a mere receptor is to saw him in half, i.e. to kill him. The capacity for language is common to the entire human species, in the sense that it is more or less the same for all its members, but it is activated for each one in a different way,

depending on the conditions that the individual finds in the environment in which he grows up, i.e. in the complex system of which he becomes a part and which, being a world of relations, in turn becomes part of the individual himself. This is why we say that the individual, as imagined by idealists, does not exist. His history is not made up of a series of facts that happen outside him, as in a film: it consists of the continuous introduction of tools prepared by those who preceded him, which interact with the genetic ones, which are in part common to those in his environment and in part different, acquired in a different history but always able to make him communicate through a shared language.

The Marxist conception of the individual and the species has nothing to do with particular collectivist ideals. The organic conception of becoming, social relations and organisation is the fruit of a biological reality, and Marx never said he invented theories, but discovered laws and relations. Being subject to the laws of nature and relations is a condition common to all unborn children when they are conceived, and continues to be so after birth, when they relate to the existing social network, its history and its becoming. It is capitalist man who finds himself completely collectivised, homologated, precisely because he has separated himself from the organic nature and has become a passive consumer of goods, television and schooling. Communist man, on the other hand, will enjoy his diversity and make others enjoy it, since he will only be able to boast 'individuality' in relation to his work connected to others; a society made up of 'equal' work would be absurd.

This aspect of man's nature cannot be reconciled with 'school', an institution that is profoundly antithetical to it. The individual cannot change either his own genetic baggage that gives him the necessary information, instinct, intuition to face the world, or the rest of the information accumulated in history, that which at his birth he finds already handed down by others. But at the same time, apart from his 'innate' baggage, he is born as part of an evolving species, so he has the task, with other men, of using existing knowledge to increase it, refine it and above all, when favourable historical circumstances arise, revolutionise it. For this to be possible, precisely the opposite of an enormous apparatus of homologation and preservation is required. The established order, the academy, the fossilisation of teaching are the opposite of what is needed for the dynamic of man's formation.

## **The formation of man as complete ontogeny**

Ontogenesis, i.e. the process of development of living organisms. This process, from the point of view of invariance or, if you like, the principle of non-contradiction between biological man and social man (social man is nothing but evolution 'external' to biological man, says Leroi-Gourhan), includes the capacity for learning, whether innate or acquired. One must complement the other and, as the child demonstrates, there is no pre-constituted 'truth' that



holds, learning is an indissoluble union of theory and praxis. So why should the school separate them? Why should there be a special institute, the repository of truth and entrusted with spreading it in order to form the individual, his personality, his discipline to the established (social and epistemological) order?

Galileo already taught us that knowledge is to be treated as a limit. We can know, but little by little, by successive approximations, gradually incorporating past achievements into new ones. It is absurd to elevate immense structures such as schools and imagine them as dispensers of 'finished' knowledge to be inscribed in school curricula and transmitted to students through a complicated system of orders and directives. No learning, in the broad sense of the term, can arise from a structure that makes those who are part of it and those who use it passive. Learning is exquisitely active praxis as the child always demonstrates, praxis that becomes interactive when one frames the action in a context that not only contains the required or necessary information, but also the means to obtain it. The context is Lenin's library with the revolution all around it, it is Borges' library elevated to a huge hypertext as the Internet is becoming with its billions of pages and electronic neurons, but in the hands of another society.

School cannot be 'education' because it deludes the individual into thinking that he can 'choose' his path among many, whereas all of them are instead prefixed, they are dead ends. The student in front of the school is like the consumer in front of the soda vending machine: he inserts the coin and can only get in return what is in the container, take it or leave it; he cannot afford to dismantle the buttons, change the wiring, insert sandwiches instead of drinks, etc. Many speak of a 'constructive' school. But that is not the problem: man 'constructs' himself, starting with the first embryonic cells, and then only continues. The reversal of praxis, the active and not passive attitude towards the process of man's formation, consists first of all in understanding that the accumulated and ongoing information (language, communication) are one with the development of the embryo, they are its environment, amniotic fluid, placenta, umbilical cord and so on. Man is formed - if you will, he is 'constructed' - in the context of the development of species characteristics, while the true 'anthropological nature of man, which is industry' (Marx) and which some still call 'culture', is realised.

He not only tends to know reality, but wants to know it in order to modify it, and massively so, at least since he has proclaimed himself (with little modesty) sapiens sapiens, having passed through the stages of homo habilis and homo simply sapiens. Its handling of the world around it now no longer takes place through the preponderant intervention of instinct, i.e. genetically fixed cognitive structures, but through a vast equipment, from language to technology. Of course, every developing organism 'self-constructs' itself on the basis of biological structures, but, as far as man is concerned, ontogenesis

continues beyond the purely biological and instinctual process. Our species needed - and gave itself - linguistic structures (gestural, procedural, figurative) capable of setting in motion new networks of cells to the point of literally 'building' 'with our hands', in the sense we have seen, new neural areas dedicated to specific tasks.

Schooling has undoubtedly been a powerful means, throughout human history, for the realisation of specific neural areas of the social brain, from the ancient oral transmissions to the library of Alexandria (which was a place of learning and not simply a repository of books or a workshop for making duplicates to order), from the Encyclopédie (which was a weapon and not a book) to the Internet. One cannot see how it can remain frozen in its current function, nor can one see how it can be reformed as that particular type of self-construction, that 'real movement towards...' we call communism, explodes. It is no coincidence that Lenin attached enormous importance to elementary education, not only because of the heavy burden of illiteracy, but because of the task of educating the man-child:

*'Here the elementary teacher must be placed at a height at which he has never been found - and cannot be found - in bourgeois society. This is a truth that requires no proof' (Diary pages, 1923).*

Having surpassed the concept of 'schooling', having established that the formation of man is learning in relation to other men and to a programme accumulated over the entire history of mankind, we specify that by 'learning' we mean the process that, from the earliest stages, leads the individual to be part of the social whole. A process that cannot be delegated to the individual himself, but neither can it be delegated to the 'master' as an emissary of the 'external' society, since this society, with its communication by nervous means - whether material such as trains, or electronic such as the Internet - is not 'external' at all, but is the logical continuity of man's animal evolution. The tools and people that will replace school and 'teachers', starting from the very early years of the child, will have the function of self-catalysers of the process, in the sense that Kauffman uses, for example, in the book on the origin of life reviewed elsewhere in the journal. There are transitional processes between inert matter and biological life in which the active search for new knowledge and the interactive selective steering between useful and superfluous or harmful paths act simultaneously.

Kauffman says:

*'We biologists have yet to understand how to reason about systems governed simultaneously by two sources of order, self-organisation and selection' (At Home in the Universe).*

A new educational environment could represent this union. The instruments that the new society will adopt for this purpose (once the social forces have been freed from capitalism) will thus have the property of reproducing man's formation according to nature and also of accelerating, expanding and even revolutionising his natural capacity for learning. This capacity - enormous in the child - is today annihilated in the adolescent and worse than ever in the adult. In a different society it will persist throughout the individual's life, putting him in harmony with his environment.

Paraphrasing a well-known passage from Property and Capital (PCInt.), we say that the problem of communist praxis is not in knowing the future, which would be little; nor in wanting the future, which would be too much; the real problem is in knowing how to merge with the real dynamic of the future of the species, to merge the biological evolution that took millions of years to 'form' the present homo with the natural continuity of this evolution, which has now left the body and brain of the individual in the flesh. It is within this dynamic that communist activity avoids lapsing into vulgar activism. This also applies to the school.

## **An ancient future**

What will school be replaced by in the future society? As usual, in order not to fall into utopian schemes, let us start from the past to investigate the future, i.e. let us go and see how urban societies that retained traits of primitive communism and handed down legible traces to us solved the problem of knowledge transmission and thus 'self-education'. It is not a question of copying from the ancients - history never goes backwards - but it is useful to know that for tens of thousands of years mankind did not need a school in the sense of an educational institution.

It is quite conceivable that the transmission of knowledge was, in a society without the nuclear family, private property and the state, not an institution in its own right, separate from society itself. And the confirmation of the individual's education process as an integral part of the social metabolic process is remarkable. In excavations of sites of the earliest social forms, archaeologists have found no evidence of a 'school', in the sense of a place where a teacher imparts collective instruction to pupils; instead, they have found an abundance of 'pupil' exercises and repositories of vocabularies, treatises, catalogues, and writings that recorded teaching subjects. When exercises and 'books' have been found in large numbers in the same place, archaeologists have ventured the name 'school', but in the entire history of archaeology there is only one example of a room possibly used for collective instruction (in the Old Babylonian stratum of Mari). Even in this case, however, the brick structures that suggest 'desks' are difficult to use as they are too narrow even for children.

The oldest wisdom texts are lists of prescriptions that conveyed a method of life rather than notions. Their content was passed on orally until writing appeared and became widespread, and shows that more care was taken to familiarise the individual with the method of learning than to teach him 'subjects'. The individual was certainly in contact with a 'transmitter' of knowledge, but no one knows through what environment the relationship developed. From the writings that have come down to us, the father-master emerges first, then the scribe and the scribe-priest. But the translations are so controversial that considerable differences appear in the various authors.

An extensive form of education must have existed, because there is stylistic unity, in text and character form, in works found far apart from each other. Lexical and grammatical lists of obvious educational origin have been recovered in Mesopotamian strata from 2,600 BC. One of the largest archives of antiquity was discovered at Ebla, with texts clearly produced for the transmission of knowledge, in multiple copies, with records of international symposia and exchanges of 'teachers' between states. This suggests that not only at Ebla, but throughout Syria, Mesopotamia, and Egypt, in the 3rd millennium BC, a social activity for education flourished, with related collection, transcription, elaboration, and translation into different languages of knowledge for its dissemination. Some centres, located at the nodes of the caravan network (such as Ebla), became poles of attraction for knowledge that, processed and ordered, was then reverberated through the network to other nodes, such as, much later, Edfu, File (where lists of other libraries have been found) and, of course, Alexandria. A form of collective institution for education appears in Mesopotamian and Egyptian texts from the 2nd millennium BC, but again nothing is known about the 'school' as such, as the authors only speak of themselves and the teacher.

## **There is no child who alone can know**

Of the Egyptian 'schools' we have the schoolchildren's exercises (fragments of limestone, papyri, clay tablets, etc.), often of considerable stylistic value but almost always found in dwellings, never in 'school' contexts as we understand them today: learning almost certainly took place outdoors and the children took the material home. For the most part, however, the available artefacts have been forever separated from their context by 19th-century grave robbers and merchants, so we only know what they say for themselves.

Of the 'master' we know, from the earliest Mesopotamian and Egyptian 'scholastic miscellany', that he had the power to impose discipline with the stick. The lack of a scholastic institution able to inculcate, by its very existence as a system, despotic authority, and the freedom enjoyed by the pupils, meant that discipline was impersonated by the master. Although it was harsh, it did not prevent the pupils from singing praises about the dispenser of knowledge, how

he was able to sweep over all the knowledge of the time, his lifestyle and his human, not purely 'scholastic' characteristics. Since, despite the stick, discipline left something to be desired, as the tablets on 'student' debauchery show, it is plausible that the teacher was not, in fact, the teacher of a scholastic structure but a 'forger of men' and that the 'pupils' were not subjected to forced teaching but were free 'apprentices'. The texts show how there was continuity of direction and discipline between the father and the teacher.

Little or nothing is known about the early dynasties, whereas for the period between the 4th and 10th dynasties it appears that there was a 'house of the king's sons'; the expression did not, however, mean that it was attended only by the sons of the pharaohs, as people close to the royal family were also designated by the same expression. News of a school proper appears a thousand years later, from the Middle Kingdom onwards. But again, the key to understanding Egyptian teaching is to avoid the bourgeois interpretation of the term 'school'. We find for instance this ancient 'teaching': 'There is no child who alone attains knowledge' (Ptahhotep, 5th dynasty); and we would think that this is right, that we need a structured knowledge based on the classics, which only school can give, with teachers and so on.

But there was no such school; especially in the case of transmission from father to son, especially in the ancient kingdom, the aim was harmonious knowledge and not the accumulation of notions. Sapiential texts transmit a method; they stand to schoolbooks as teaching how to fish stands to giving a fish: the hungry solves the problem forever instead of time by time. Pharaoh Merikare writes that he achieved greatness thanks to the teachings of his father, who spoke to him thus:

*'Imitate your fathers who were esteemed before you. Look, their words are preserved in books. Open and read and imitate him who knows. Thus he who is ready to learn becomes educated' (The Religion of Ancient Egypt).*

The ancient Egyptian knew very well what we now barely begin to study: it is not so much the teacher who teaches as the child who learns. The difference is enormous. Education, even with the rod, was merely the context for learning to take place organically. Knowledge was indulged, while its bodily container was subjected to initiation. The child learned, but the tutor did not teach subjects, he taught learning through life lessons:

*'In the temple (i.e. the place where learning took place, ed.) the man dominated by the passions is like the wild tree that grows in the open air: he ends up in the shipyards or on fire; the self-disciplined man is like the tree that grows in the garden: it blossoms, it ripens sweet fruit, pleasant is its shade' (ibid.).*

For the ancient Egyptian, individual pride in achieving one's goal was not a sin against divinity, it was worse: a loss of a sense of measure, a disruption of the harmonic order of things, from which only one learns how to arrive at the goal. The power of the method for success, i.e. to reach the goal, does not lie in the wild way (in arrivism, we would say today):

*'If you have to deal with people of disordered minds and actions, leave them at the mercy of their whims, the netjer will know how to answer them' (ibid.).*

The netjer, often translated as 'god', is more accurately the divine entity that at a specific time and place oversees the attunement between a particular man and the order of things when he takes an action to achieve a result. We don't know if an Egyptologist would agree with us in considering this a programme, but it doesn't sound too bad as a concept of an ancient reversal of praxis.

In post-neolithic Egypt (i.e. after the 10th dynasty, from 2,130 B.C. according to some scholars), organised learning became generalised, even though it was denied to the peasants, not so much because of a class issue, but because it was not necessary for them since they enjoyed a good organisation of arable land, had in-depth knowledge about the measurement of time, methods to make the best use of the soil covered annually by silt, and the life cycle of animals and plants. On the other hand, 'employees' (whom many call slaves, although these did not yet exist) were allowed to participate in education, and this would explain the 'scholastic' tablets and papyri found in dwellings, which were not 'homework' but were produced in the course of the interaction between educator and pupil.

Egyptian society of later centuries, from the Middle Kingdom onwards, is better known. It had a school for scribes (the house of writing), where practical arts (writing, mathematics, geometry) were learned, and a more exclusive school, the so-called 'house of life', closely connected to the temple for broader, probably esoteric knowledge (it was also a 'bookshop', which raises a question: were books not therefore produced by scribes?). It is difficult today to understand the actual meaning of both 'house of writing' and 'house of life'; and especially of 'temple' which, old question, was certainly not a church.

It is important to describe the transmission of knowledge in pre-classical antiquity - even if based on criteria that are difficult to decipher today - because it is indispensable for us to understand what will happen in future society. Ancient man did not assimilate through the communication of discrete elements, 'school subjects'. Or rather, he only rationalised in this way the basis for broader knowledge. All the peoples who have left us great works had such empirical knowledge of the transformation of matter, compared to the means of the time,

as to appear astonishing today. This mastery of the physical world was acquired in the sphere of action and through patterns inherited over millennia. There was nothing individual about it, it was as if it were part of the social genetic programme.

Therefore, writing and teaching only addressed the individual as a social medium, and indeed nothing was conveyed to him in a manner separate from life and nothing he could convey differently. The entire existence of an ancient Egyptian was dominated by symbols and one did not need to be able to read to understand the structures of buildings, the meaning of statues, bas-reliefs, netjers and their dwellings (temples).

The teacher, father or scribe or priest, was only a conduit of knowledge, which was not something taught from outside, from some institution into which one entered ignorant and came out wise. Today, the silly habit of separating art and science prevails, but in antiquity (and indeed in the Middle Ages and Renaissance) what we call art was normal production, coinciding with the productive and reproductive life of society. The school was all about man, and every detail, from that of nature to that of art, contributed to 'teaching' something. The pedagogical environment of ancient man was comparable to the hieroglyphic: it is a depiction of a qualitative reality and, at the same time, a sign of quantitative information, like a character. The hieroglyphic functioned in the same way as a modern-day rebus, where the image contributes to constructing the alphabetical sentence; all civilisations that have come to alphabetical writing have gone through such a unifying process.

This observation on the qualitative-quantitative unity of information should be linked to what was said earlier about human and social ontogeny. Above all, it will serve us well later on, when we address the process of lifelong learning in the new society, which we will refer to the same principle. Just as there can be no contradiction between child man and child society, neither can there be between adult man and the future developed society.

## **From the forming community to the institutional school**

Even in the Jewish context, the school was understood more figuratively than as an institution. A computer test of the text of the Bible (the so-called 'Jerusalem' version) reveals that the term 'school' is very rare, like 'learning' and the like, which only appear in 'didactic' and 'prophetic' books as well as, of course, in the late Greco-Roman context of the Gospels, Acts and the Pauline Epistles. The term 'teaching' with its derivatives is much more frequent, but almost only refers to the word of God. The meticulous analytical index of the version of Jehovah's Witnesses only mentions the term 'school' twice, both in the recent context of the Gospels and Acts, nothing in the Old Testament.

The Hebrew school, which developed alongside the Temple structures, would be affected by the experience of the communist sects until the destruction of Jerusalem, and some traits of the same would pass into early Christianity. The transition, that is, the impact of the ancient tribal society with the Roman slave society, was of exceptional violence. When Rome razed Jerusalem to the ground, exterminating its inhabitants, some Jewish communities still retained ancient features, the memory of numerous communities, whose social structures were suited to communal life: their being a 'school' included the collective building works with their occupants, dwellings, kitchens, ritual baths, workshops and library-writing rooms, as is for example evidenced by the archaeological site of the Qumran community (2nd century BC). The Essenes lived in communities of the same type, and the Zealots have left us the archaeological testimony of Masada, where the buildings, obtained by remodelling a Herodian palace, echo the community modules of Qumran (and where the entire community of 960 men, women and children decided to self-terminate rather than fall into the hands of Roman soldiers). Christ himself, the mystical heir of the Essenes and Zealots, would base his communication-language on the three levels of original learning common to all pre-class societies: the persuasive or propaedeutic invitation, the public or exoteric dissemination, and the esoteric in-depth study reserved for the formed community. Said in terms of the progression of learning in the child: the introduction to the world around him, the verification of relations with it, the deepening of knowledge about reality in order to change it. On this method Paul would base his action aimed at the internationalisation of the Christian movement, from a small local sect to an international party that sanctioned the end of the transition (Josephus Flavius, the Jewish narrator of the end of Jerusalem, significantly became Roman by taking the patronymic of the Flavii).

Long before the expansion of the empire made scorched earth of every 'primitive' society on its territory, the term 'school' meant in both Greek (*scholé*) and Latin (*schola*) 'non-activity', equivalent: *otium*, as opposed to *negotium*, the practical activity that denied free time, the time that could therefore be devoted to study. In the Classical Greek context, schools proper were formed from the 6th-5th century B.C. with the Sophists, governed by private masters who demanded remuneration from their pupils. Sparta should be studied in a special way compared to the rest of Greece, since the whole society endured for centuries as a purely communist-military school. In Rome, there were public schools as in Greece, which, from Vespasian onwards, were joined by some that were financed directly by the state. They gradually became public institutions throughout the Greco-Roman world. They seem to have been of doubtful effectiveness, according to contemporary chronicles, which already lamented a 'crisis of the school', detached from society and tending to a life of its own. Official education, however, remained the prerogative of a small circle of Roman citizens, while ancient self-learning in growth and work was the norm, for the wealthy accompanied by a tutor, often a slave and a Greek.



We thus have, in the most ancient societies, an organised social learning system that lasts for millennia as a non-pyramidal, non-class structure. This situation continued even in the classical and later Christian world, in which religion and education were reunited, as in pre-classical society, but assimilating the lessons that had emerged in the meantime from Greco-Roman secularisation. The new religion, 400 years after its appearance, will adopt the scholastic form of collective teaching from master to pupils, even if at the beginning many, like Augustine, will still deal with the magister in the old way, favouring the concept of the 'inner teacher'. With Eusebius, Ambrose and Augustine, the first communities of religious devoted to study and struggle were founded, while Benedict introduced manual labour for the first time, alongside study, as a viaticum for the monks' souls. The Church, which with its affirmation needed schooling, is a good example of the complete ontogeny of an organism: on the basis of previous beliefs it proceeds to the self-formation of its own body and knowledge; with the priests of the first forms of monasticism it proceeds to the ordering and remembering of its own programme; with the productive abbeys it proceeds to unite work with knowledge, discovering that surplus value is generated from wage labour. From paganism to mysticism, from armed combat to populism, through repeated forms of communist heresy, everything is experienced by this society within society, which has been an instrument of pure preservation for centuries. The school stands alongside the Church as a secular instrument, but in self-preservation as in the preservation of the existing is a very close relative to it.

## **A communist example of the formation of man**

There were societies, not so much ancient in terms of time as in terms of development, that retained marked communist characteristics, much more visible than in the societies we have quickly considered. In Mexico, for example, Aztec children began to join adults in light work at a very early age, usually with the extended family. The first simple precepts came from the parents, who enforced meticulous rules of social life, such as rationing food, not out of necessity but out of self-discipline. Subsequently, education, compulsory for all, passed from the family to society. There were two structures for the education of the young Aztec who left home: the *calmecac*, a body connected to the temple in which boys were entrusted to priests, and the *telpochcalli*, 'home of the young', run by masters chosen from among experienced warriors.

The fact that there were two institutions, designed for different social functions (the *calmecac* prepared young men for the priesthood or high state functions, while the *telpochcalli* was for all others), indicates that we are dealing with a typical case of transition, as in the Egypt of the ancient kingdom; the difference is that we know much more about the Aztecs from direct chronicles of the time. A major concern of Aztec society was the education of the young, and in place of the primitive initiation rites that were the same for all, diversified

collective forms of education had already taken hold (girls were, however, invariably educated in the temple). Not schools, but special communities that did not prepare specialists in some 'subject', but complete men capable of performing the specific tasks assigned to them, in addition to those common to all. Since warfare among the Aztecs was one of the most important aspects of social life (however, 'war' had such clear ceremonial aspects that the term is a misnomer), the young men in these 'colleges' were led to lead a collective life of a 'military' type where ownership was even less felt than outside. Every year, the *calmecac* and *telpochcalli* communities would wage war against each other in a simulated war, and even though the society enforced mutual tolerance within it, symbolic antagonism between enemies was cultivated.

However, despite the fact that underlying this apparently rigid division between the two education systems was the need to prepare young people for different social strata, it did not matter where they came from. All citizens, indiscriminately, could reach the highest positions. The education received in the *calmecacs* was strict and rigorous: self-discipline, sacrifice and self-denial were at the heart of the teaching. Less austere was life in the 'youth house': those who entered the *telpochcalli* were also subject to harsh discipline and in addition had to perform all the community chores, such as chopping wood, clearing the community premises, repairing ditches and canals, cultivating the communal lands; but at sunset all the young men went to sing and dance in a place called 'the house of song' until late at night, and those who had lovers lay with them (young women participated in the education system and were officially admitted to the community where they circulated freely).

The education of the younger generation was thus completely socialised. The contrast with the anarchy that existed in this field in the European world throughout antiquity and the Middle Ages, until the strengthening of the state apparatus by the bourgeois revolution, is evident. And in any case, the enormous difference between the school of any age and the social training structure of Aztec man is clear. The Aztecs formed their personalities in a purely communist environment that would mould them for the rest of their lives. And the very life of each person, in wars as well as in daily tasks, was considered part of the community and was offered to it without fail. The concept of individual death did not belong to the pre-Columbian world. Communism was not only inscribed in the social genetic code of the individual, but was also 'taught' to him through social participation.

Of course, the strictly formative environment for young people was not the only one in which the still communistic humanity had the opportunity to temper itself. In all early urban forms, and this is undoubtedly an invariant, there were plenty of opportunities for social life. Works useful to the community, 'political' decisions, conviviality and, more generally, moments of common 'leisure', were often placed under the sign of what we today call 'religion', then nothing more than a bond of the species with nature. Remaining with the Aztecs,

we know that the citizens lived in *calpulli*, a term that the Spanish translated as *barrio*, neighbourhood, but which in reality was the territory of a restricted urban community (or extended family); a certain number of family units subdivided it according to established criteria and administered it autonomously, under the direction of an elected chief and the protection of their own temple. In each city 'district' there were several *telpochcalli*, administered by 'youth masters', independent lay officials. In contrast, *calmecacs* were distributed throughout Mexico under Aztec control, but only where there was a large temple, and were administered by priests who depended on the central government.

These are not peculiarities of the New World but determinations common to many developments of urban civilisations. Among the Latins there was something very similar, namely the *curia*. Corresponding to it in Greece was the *phratra*, a similar institution that has been ascertained from the 9th century BC. The term *phratra* clearly reveals the kinship substratum, more so than the term *curia*, whose more accredited etymology, *co-viria*, seems to allude to the 'council' of a part of the people in arms. The *curia* of the Latins would thus seem to closely resemble the *andreia* of the Cretans and Spartans (i.e. the group of those who took part in communal meals) and the *vereias* of the Oscans. This was the context in which the man of the first urban societies was formed. It is not even imaginable that there was a 'school' as an institution separate from the internal structures so strongly imbued with communism.

## **The child is not an empty vessel**

Tolstói, in search of examples for 'his' school at Jasnaja Poljana, was horrified when he saw the German pedagogical methods of the time, empirically based on the concept that 'the child is an empty sack to be filled', in spite of somewhat higher German theories (e.g. that of Herbart, theoretically inspiring pedagogy in schools at the time), and judged them to be certainly worse than the Russian ones. Wilhelm Reich also lashed out violently against the authoritarian conception of the school stemming from the coercive education of the German family.

That of the child as an empty vessel to be filled is a recent mechanistic conception. Even mediaeval society dug deep into the problem of knowledge and offered useful practical insights for the future, only capitalist society seems to have exempted itself from this task, keeping school practice far removed from the proposals of the bourgeois scholars themselves, apart from experiments by isolated groups. Having created the material basis for the definitive leap from prehistory to history, it no longer attached importance to the need to fix a theory of knowledge in ideology. It was enough for it to investigate the existing structure, the whole formed by brain, psyche, environment, behaviour, and of course to criticise, from the heights of its pseudo-materialism, the subtle self-organising capacity of matter, as Engels glimpsed it and as is abundantly

proven today by palaeoanthropology, ethology and the science of language. Today, the bourgeois academy brands the theory of the formation and genetic fixation of traits shaped by labour with neo-Kantism and innatism, just as one of its eclectic currents reveals profound connections between self-organised, i.e. living, matter, its biological-social past and its becoming. In spite of ideology, science verifies that relational self-learning is to be found at all biological levels, right from the genome that programmes us, since in each of them we find ongoing regulations, i.e. stimuli and feedbacks that 'construct' the body and its intelligence.

What is mind? the great materialists of the 18th century asked themselves; and the answer, not yet disproved is: the capacity of matter to know itself (Diderot). So in the sack-child there is no 'vacuum', neither of matter nor of knowledge. If this were not so, it would really take a creator divinity to arrive at what we see every day. The inability to be materialists through and through prevents most scholars of learning from admitting the self-organisation of matter because they have some substitute for divinity in mind: the Big Bang for physicists, chance for molecular biologists, the teacher for pedagogues, the school for sociologists. There must always be something or someone to represent the motor, the will. It is the same activist current that would like to 'make' parties and revolutions. Which is stunned at the very normal phenomenon of the dissolution of Russia and all its 'communism'. Sixty years of pervasive communist education, stifling communist propaganda, emulative communist work, the communist family, the communist state, etc. etc. have left not the slightest trace of communism in Russian society. There were hundreds of millions of 'empty sacks' to be filled and absolute nothing was collected. If we were to base a theory of knowledge on the ability of teachers and their schools to instil it in their pupils, we would be cool. That's why Lenin couldn't suffer the Bogdanovan Proletkult and didn't allow it to become a school.

The Church could not conceive of the theory of the child as an empty sack. Ever since the Middle Ages it had perceived the contradiction between the innate soul and the rational knowledge that complemented it, but it had tried to make neither the soul nor its divine inspirer suffice as an ideology. The soul was flanked by reason and free will, the child was not born an animal to become a man. However, in order to help the soul and reason, first he saved more books than he burned and restored memory by exhuming the Library, then he formed society around the nuclei of saved knowledge. The type of knowledge of medieval society took up, on a different level, all the teachings of classical antiquity. The backbone of the Church was the shared medium, theology its language. It was not possible to make oneself understood by a scientist without assuming theological language as one's own: Abelard was formally a theologian, but that did not prevent him from being the rationalist father of western logic. Bernard, his adversary, used the same language to extol the intangible community with God without material intermediaries, the simplicity of monastic

origins; but at the same time he was the ultra-energetic leader of a revolutionary movement that bordered on heresy, introduced generalised wage labour, reclaimed half of Europe from swamps and deserts, built 750 abbeys and finally provided his rule to the fighting monastic orders Templar and Teutonic, who certainly did not limit themselves to prayer.

## **Unity, separateness**

Connected relationships, memories of communism and school-society did not cease at all throughout the Middle Ages, there was ferment, other than dark ages and empty sacks. Learning within mediaeval society took place through the structures of the Church: seminaries, but especially abbeys and convents, always communities, large or small, that united life, study and work. Or in the guilds, still communities of learning and work. It is in bourgeois society that we begin to separate theory and practice, life and work, study and holiday. It is important to emphasise the non-scholastic character of education for centuries on end. Real schooling was reserved for priests, and not even for everyone, since acceptance almost always came as a result of the acquisition of benefits or titles by the powerful. All the rest of education took place in a society where it was true that everyone depended on someone else, but not through a passive bond on the part of the subordinate, but through active and lasting forms of initiation, not schooling but simply a way of life, where 'study' was nothing more than the daily practice of the apprentice, the musician, the scientist, etc., and where the subordinate was often the teacher of the 'master'.

With regard to education, from the 13th century onwards, theology was based above all on Thomas Aquinas: one can learn passively from the teacher through the words (signs) that he disseminates, or one can learn actively, putting one's own resources into action to learn without teaching. In this case, one recognises the action of the inner Augustinian master, but with a substantial difference: while Augustine does not admit that signs can really teach anything (every sign can only be explained by another sign, as every vocabulary shows), Thomas affirms that one can learn from a master, even through signs, because the individual's reason is able to interact with them, relate them and derive knowledge from them. One always has instruction when one uses reason correctly. No one else can use our reason, so ultimately the determining factor in education is always the inner teacher.

In medieval theology, the child is therefore understood as a being with innate properties, albeit in a very different way from how we understand the genetic baggage we call instinct. What interests us here, however, is that this conception, up to the Renaissance, represents the basis for the formation of medieval man, who is still an ancient man despite the development of productive forces: no master will be able to give you what you do not have or do not know how to build with the material around you; more than words, life and works (and of course God, etc. etc.) count.

The school proper had meanwhile sprung up with universities in the 11th and 12th centuries in Salerno, Bologna and Paris. Corporations of private teachers and students, bound by contract with a commitment to payment, obtained official status and recognition. The robed professor and the goliardia were born, signs of the separateness of a world that abhorred work and the use of hands. The doctor would no longer touch the sick so as not to get them dirty and would leave the tasks of cutting, extracting teeth etc. to the barber or farrier. With the rise of the bourgeois class, vulgar materialism will take hold and the school will become the place where students will go as empty vessels to be filled. The brain will become a vessel carried around by a body that acts as its transport. The university therefore not only anticipates the school that will impose itself in later years, but above all its pedantry, its immobility, its academicism, its isolation from society.

Never would an antique have forgotten that the mind is well when it is at one with the body. And an immense body of human knowledge that has survived from the past, that of the East, brutally besieged by both consumerist materialism and New Age phagocracy, reminds us that mind and body are interdependent and that when the will is applied to the body, the rest comes as a result. The formation of the future man cannot ignore this fact, which is ultimately work: the communist education programme starts from the role of work in the formation of man and makes it an integral part of the world of learning. The current school does not prepare for work at all, and it would be wrong to simply reverse the path, i.e. to make work the setting for school, as in the structures of the Salesians, the De La Salle brothers or in the heads of educators who have misread Marx. The future society will not regard children as boxes to be filled but as vital cells of its social body, including the brain. Like the ancient society, it will not be able to disregard the mechanisms of learning to generate structures suitable for education. It will therefore be necessary to retrace within society the path of ontogenetic and phylogenetic physiological learning, that is, concerning the evolution of the species and its collective brain.

## **Liberation of social energy**

We said above that it will not be conceivable to separate man in the making from the available experience provided by the forms imbued with communism that he has already given himself in history. But neither is it possible to separate him from the future of the species, already anticipated for a brief season during the then failed October revolution. Knowledge, schooling, communication, entertainment, art, are all aspects of human activity that the revolutionary impetus had disrupted from the roots in a brief season of enthusiasm. And so it will be again, with superior results, since October combined genuine revolutionary, anticipatory explosions with clumsy attempts, crazy naivety and even egregious mistakes, such as that of wanting to reform

the tsarist school instead of wiping it out like the autocratic state. So the road is marked out, if one is able to find the path between all the obstacles. The biggest obstacle we face today, before the revolution takes on the task of making things obvious even to the blind and deaf, is understanding the revolutionary dialectic.

Every revolution has its militants, its programme and its aesthetics. But where do they spring from, if the system that the revolution is tasked with demolishing imposes its own ideology, culture, science, etc.? Old question: no revolutionary breakthrough is possible without the party of the revolution, but its programme, what its militiamen must assimilate, is the fruit of the revolution. Where is the solution to the paradox? After October, Trotsky had to answer questions several times about proletarian culture, proletarian art, proletarian science, proletarian military doctrine. The proletariat did not 'own' all this, it could not build it from the rubble of the old society and the bricks and scaffolding for the new one were not yet in place. The Bolsheviks, including Trotsky, tended to reply that the task was to build with the few new materials on the rubble of the old society, by climbing on it, one was higher and could see a more distant horizon. The time for the development of 'proletarian science' would come later. This also applied to the school. The 'Italian' Communist Left has taught us that the complete answer is: the dialectic inherent in the dynamic towards the new society causes anticipations of the future one to emerge from the old society, then the historical party to emerge, linking them together and forming the appropriate instruments for the catastrophic rupture of the old system as the new one imposes itself. The school, like everything else, is affected and the contradictions within the old system are nothing but symptoms of its deadly disease.

The bourgeoisie exalts the individuality of the genius, of the scientist, of the artist coming out of its academies (if he is a good merchant of himself, especially if he makes money, even the self-taught is fine); the revolution, without the need for geniuses and leaders, brought and will bring science into homes and so-called art into factories, making a mockery of the authority of the critics of the moment.

The bourgeoisie exalted its art by going so far as to exhibit 'artist's crap in a box' and various mockeries, but saw only socialist realism and fascist-Stalinist palaces in Russia, quietly passing over the explosion of art not hung on the wall but incorporated into everyday objects (before Stalin). Ideology censors for propaganda purposes, but the bourgeois wallet opens up and rustles the bribe when it comes to putting a futurist flyer, a Suprematist bowl, a constructivist chair in the collection (or in the safe)!

The bourgeoisie extols mass production, homologising democracy, schooling for the people, free access to Culture - with a capital letter, of course - for the multitudes; it even theorises the deschooled society in favour of

self-learning networks; but in the meantime it raises its scions in exclusive schools and builds school monsters as vast as cities.

The bourgeoisie, thirsty for technology and productivity, exalts science and the search for new knowledge, erects cathedrals of universalised and absolute knowledge, but then it wants profit, applications, realisations, economic return. And it does not pay if it is not sure of obtaining them. Thus the physicist ends up, at the age of thirty and passing, calculating the effects of braking on a stupid car so that a peer of his with senses dulled by disco can lower the individual's probability of killing himself and avoid the insurance company paying out too much money.

As the bourgeois system moves towards total disorder, towards the uncontrollability of systems and subsystems, in short towards its maximum entropy, towards thermal death, the revolution works to pull further ground from under its feet: it empties the school of all content and prepares the ground for its ultimate demolition. One cannot freeze a young person between school and unemployment for thirty years with impunity. One cannot with impunity destroy the millenary circular relationship that must bind child to youth, to adult, to elder, back to child, and so on, without paying the consequences with a fossilisation of society, which is dynamic from the productive point of view but not at all so from the human point of view. It in fact translates the circular relationship of production and reproduction into a linear relationship that goes from the child who induces profit with the nappies he consumes, to the young and adult consumer who induces and produces even more, to the elderly person who is a blessing for the pharmaceutical industry, hospitals and the nursing homes where he is parked.

If capitalism makes the path linear, there can only be death at its end. That is fine with us. The new society will reintroduce the infinite circular movement, the new social brain sprung from the ashes of the old will reconnect with the ancient ways of knowledge through scientific and technological mediation, cleansed of the dross of current ideology. Today, childhood is prolonged in time, officially until the age of thirty-two; it consumes unmentionable toys, designed by madmen who do not care about a child (and in fact children, though overwhelmed, often do not even look at them, older children do not play with them but proudly display them as status symbols), and later playstations, computers, mobile phones...

The formation of capitalist man has nothing natural about it, much less does it trace the self-construction of biological and social man, of which we have spoken. The society of the future will not take over the school but the communication network, the accumulated knowledge and the primitive social brain in order to break with them first of all the inhuman incommunicability. Flaunted achievements such as interactivity, interdiscipline, knowledge of



complexity and networks, theories of the whole are but flashes: they have barely had time to manifest themselves and have immediately been swallowed up by the trance of profit and the scholastic black hole from which not even light emerges. Yet they are potentials that must be unleashed. Instead of the one-way street - whereby the child grows up, the adult produces, and the elderly await death, and all of them only communicate within their own bands, receiving only what the dominant ideology propagates - an educational system will be put in place that will involve everyone, and each will exist as a function of the other.

### **'Lector in fabula'**

The child has an enormous capacity to receive and interact with the environment and instead is forced to absorb what adults transmit to him, one-way. With what knowledge does he interact? With what 'genetic' material can it develop? The one-way structure of communication manifests itself at all levels, but especially in primary school, precisely where the bio-pedagogical principle explained above would be most needed. While this contradictory phenomenon is absolutely insuperable for the bourgeoisie, the new society will deal with it with scientific elegance: by simplifying. By eliminating the school as a fixed structure, as a field unto itself, as a ghetto to be conditioned, it will already liberate exuberant interacting forces. By enormously shortening the time lost in what is nowadays unironically called 'study', replaced by the complex of educational activities not separated from life, the possibility of realising, throughout the individual's existence, the first requirement of the 'human' man, the reversal of praxis, conscious purposeful action, will be expanded, just as enormously.

The impossibility of access to the official school in Russia caused it to freeze for years, while the extracurricular education communes, their poor libraries, their laboratories, their agricultural communes and even their factories exploded and proliferated: imagine what will not happen in the age of high technology, of endless libraries, of computers, of the Internet, of immense storage possibilities. With thousands of young people, no longer illiterate from civilisation, but vanguards of the multitudes who will break ties with the old institutions, then eager to pass on their knowledge, to improve it in the process, to pass on more.

The current interactivity of the teacher with the pupil and vice versa, despite all the fine talk, has the same feedback power as a common thermostat: you don't know, I give you five; you know, I give you seven; flunked, promoted, away another. A monkey looking for bananas represents a more intelligent 'system'. The new training environment will involve teacher-learner integration (but the terminology is not suitable) as a dynamic whole in the act of self-learning, i.e. self-construction. The human organism in its complexity has interactive capacities with its fellow human immensely superior to those of the

thermostat and the monkey. The task of future society, starting with the child, will be to make the best use of this interactivity.

In his *Opera aperta*, Umberto Eco analyses language, transmission and reception potential on the basis of the interactivity that is established, for example, between writer and reader (the open work of art, i.e. as a source of additional information obtained by means of the user's wealth of knowledge). Unravelling the problem also from the point of view of the (mathematical) theory of information, Eco comes to the conclusion that it is the reader who largely 'makes' the text he reads. In fact he can only read it with the information he possesses, he can only elaborate scenarios on the basis of what he knows and can relate to the text. The reader-learner is therefore at least as active as the writer-master, if not more so.

The concept is taken up by the author in a text twenty years later, *Lector in fabula*, where transmission and reception in function of each other are at the centre of the writer-reader co-operative relationship, of the practically unlimited network of relationships that the reader can build with other books, with his life, with accumulated knowledge. Now, the writer is no different from a television broadcaster: he writes a book the way an aerial broadcasts a programme, without knowing in advance who will read it. He cannot empathise with the reader, he can only have a vague opinion of him, if he wants to write for him and not for himself. The reader is in a completely different situation. He has chosen the book, even though he may not find it adhering to expectations. He reads it having it in his hands, physically. Thus he gets to know the author through what he writes. He does not interact with the person, but with the part of it that ends up on paper, and he can use it for all the connections he wants as in a great mental hypertext. It is already better than a relationship with the teacher, if the latter simply teaches a subject and does not learn a way to teach it and make it learn.

But a Marxist asks: what library, what encyclopaedia, what hypertext does the reader have in mind? The answer is that now he has those that the convent offers, that is, those of the dominant ideology, because we all come out of school and are hammered by a world that has also come out of school, by a codified science, music, aesthetics.

Let us imagine breaking this state of affairs one day. Let us imagine eliminating, along with the state, the school. It will be chaos, as in Russia, because the school codifies, orders, normalises. But it will be precisely the end of the established state and school order that will represent the end of conservation and reaction. Order is by its very nature against all evolution, more than ever against all revolution. If biological life were regulated by immutable DNA we would still be single-celled bacteria. Only from chaos can new order arise, in the sense that chaos is always only apparent, it conceals deterministic processes and

thus a hidden order. Communism is the order emerging from chaos, it is not a model, it is a dynamic. An open work, if you want to use the term of the not-so-friendly Eco. A work capable of putting in fabula, in a unitary process, not only the lector, not only the mere discens, but the homo discens, the man who learns not to learn but to be useful to his own species.

## **Instead of the state and the school**

In two articles, from 1895 and 1898, on the company schools proposed by the populists, Lenin ironically treats a certain Iugiakov who, in a meticulous, realist-like programme that hides the usual out-of-date utopianism, proposed the implementation of student centres where study and work would be unified and the product of the work, once sold, would be useful for the self-sustenance of communities. He mocked this by quoting 'Antonio Labriola's excellent book', namely *The Materialistic Conception of History* (1896), in which the Italian socialist wrote:

*'To the forms of Russian utopia against which the masters were fighting fifty years ago, another one has been added, the bureaucratic and fiscal utopia, that is, the utopia of cretins.'*

In 1920, Anton Makarenko, in the wake of the formation of communities for extracurricular education, founded a productive commune for young criminals, an experience that was followed by others later. In the volumes of Lenin's complete works, Makarenko is never mentioned, but the path leading to the experimental commune is the same as that leading to the formation of the aforementioned centres entrusted to Nadezda Krupskaja. So Lenin certainly supported or would have supported Makarenko's work, who described the revolutionary atmosphere as follows:

*'After October wonderful prospects opened up for us pedagogues and we were so intoxicated that we were almost beside ourselves.'*

Why were the educational centres proposed by Iugiakov classified among the utopias of fools while those founded by Makarenko - and so many revolutionary educators - were to be supported and helped, if after all they were all founded on the union of study and work? Anton Makarenko was a non-party Marxist; trained in the revolutions of 1905 and '17, he had applied the experience gained during the construction of railways in the tsarist era, in whose construction sites he taught the workers' children, to the productive common training. The special situation had allowed him to adopt an unofficial programme, in which parents were considered one with the students and the school, removed from the control of the tsarist state:

*'Our workers' community, outspokenly proletarian, held the school firmly in its hands.'*

That is, the school had been turned into a non-school. Makarenko's centres, and others set up on the same basis, were quite different from those proposed by the populist Iugiakov: the former were communes sprung from the revolution, the latter companies sprung from the imagination of an individual; the communes were not 'schools', while the companies were to all intents and purposes. Makarenko's experiments were successful in a first phase, were opposed in a second phase by the official pedagogical school of the USSR (the 'Soviet pedology'), and finally, when this fell into disgrace in 1936, were included in the general Stalinist normalisation as elements of the 'construction of Soviet man', including emulation, stakanovism, and statist collectivism. Some of his works were also a huge success outside Russia.

But what interests us most now is the a-scholastic form taken by the problem of learning during the revolution and immediately afterwards. We do not agree entirely with Makarenko's methods, as they still suffer too much from the Russian backward society, but they take shape with a revolution and cannot but present aspects in line with what we are saying: first the educational community is formed, then comes the study of the educator as experience advances, and finally the theory is set up, from which to start again in order to understand reality. The dialectical process followed by Makarenko is the same as that of the child's learning (and that adopted by Marx, described in *The Method of Political Economy*, 1857). This is why naturally, deterministically, there was not just one victorious Makarenko but legions of them, while the official, bookish pedagogy did nothing but accumulate failures.

The utopia of cretins crushed by Lenin at the end of the 19th century was to be realised and made official from 1928 onwards with the state school of Stalinism, but in the revolutionary period numerous more or less spontaneous communes had sprung up, where study and work coexisted and the product of work entered the circuit of so-called war communism, thus in the direct sphere of need without passing through the market. It was all very primitive, but those experiments represented a clear overcoming of both the 'natural' education of the individual à la Rousseau, and the domesticated cultural framework typical of the bourgeois school, albeit in the apparently modern form of the interdisciplinary, of formative manual labour, of lifelong education à la UNESCO, of social deschooling and of all the various formulas devised by 20th century pedagogy. 'Here we are not in a factory producing parts, here we are producing men,' Makarenko exclaimed with Enlightenment impetus, 'and the deviation of even a single individual is not permissible: if the community has life as a study-work purpose, then success must be 100 per cent.'

With the dictatorial phase of the transition, the bourgeois state and its scholastic appendage having disappeared, production will certainly remain, which will adapt as quickly as possible to the new society, but the problem of

education will be posed in a completely different way. For it will not be able to 'adapt' gradually, since, like the bourgeois state, the school will be destroyed. While the proletarian state will be a machine not unlike the previous one, but inverted (Marx: it will be subservient to society instead of subjugating it), the school will be replaced by the whole of society as the context in which a 'permanent education' of man will take place.

The expression we put in inverted commas is the same as the one used by UNESCO and we have already encountered it, summarising the meaning given to it by the UN cultural body. Now, if we do not adopt this Orwellian Big Brother meaning, the common sense one remains: by 'lifelong education' we can only mean the need to continuously deepen our knowledge of nature and its laws; the growth of social man in the sense we have outlined above; the refinement of techniques and methods; the refinement of programmes that allow him to overturn praxis, to design his own existence with the dominion of the passions, or with their rational direction, alongside the creativity of instinct and intuition. We are at propositions as old as the world, recorded in Egyptian sapiential texts as in the Bible, in Greco-Roman knowledge as in the proposals of the bishop Comenius.

It is a pity that we cannot dwell here on the latter's work (especially on the Great Didactics of 1632). His project to give universal education to all is not, logically speaking, classifiable as pedagogy but as a transition between Renaissance utopia and the reality of the modern world: knowledge must be the synthesis of every specific branch and must be made universal, because every individual must feel that he or she is part of the totality of the world. Education must always be all-inclusive: the educational process will not be linear but cyclical, by age classes, and the transmission of global knowledge will be made compatible with the child's degree of potential assimilation. Comenius had a boundless erudition for his time and began to describe the relationships between the distinct spheres of knowledge, correspondences, cross-references, analogies and overlaps, without being able to finish his project, which can be defined as an anticipation not only of the Enlightenment encyclopaedia but also of that immense hypertext that is the Internet. For him, the teaching of 'everything and completely' did not mean the saturation of the brain with separate, i.e. sterile notions, even if they could have contained all the world's knowledge; each individual had to be provided with principles and method so that he or she could enter into this knowledge on his or her own; each discipline had to be organically connected to the others, so that knowledge would always be unitary. Evidently mankind returns to its fundamental problems: even Marx argued that it would arrive at a single science.

At this point, we are at a bifurcation between luogocommunism (permanent education, social deschooling, proletarian culture, iconicisation of the classics of Marxism, etc.) and the true revolutionary path at the dawn of the

future society. Let us try to avoid the commonplace and follow the thread of the path travelled so far, unite the pedagogy of the beginnings with the glimpses glimpsed by the moderns through the intermediate stages, Augustine, Comenius, the achievements of October. The result is not a school, but a society that learns itself and gives itself the means to do so. Russian extra-curricular education teams, hampered by civil war, extreme poverty, lack of transport and hunger, requisitioned convents, villas, estates, factories, stations, stables. The communities that sprang up in various capacities grew enthusiastically, building their own 'educational' facilities, premises, furniture, roads, factories. The third commune formed by Makarenko invented the portable electric drill and built Leica-type cameras, the height of technology at the time.

In the face of this experience, the future society will have an easier task: if during the Russian revolution resounding results were achieved without having behind it a social productive power comparable to today's, today there are sufficient, indeed, superabundant material means to disrupt the entire world. The new society, from the outset, will find at its disposal not only millions of premises vacated by the typical activities of capitalist dissipation such as those of banks and accounting, commercial, representative, legal, professional offices and so on, but also entire factories that now produce useless goods or are under-utilised, with all their offices, warehouses and equipment. All this will be transformed, when not simply demolished, into the new network of - what shall we call them? - units of productive continuing education (or productive continuing education production), spread throughout society and not entrenched as a separate body of class domination. A network integrated with that of communications, transport and knowledge repositories. Children, youth, adults and old people will not be squeezed into social watertight compartments but will be part, all of them, of the unitary and organic process of education-production, without fractures between study, work and life. Everything is ready, you just have to take it.

## **The party of the organic society**

According to some readers, we would rely too much on modern technology as a remedy for humanity's ills. We would also exalt supposed automatisms in the transitional phase, which would be made possible by the presence in the present society of anticipations of the future society, which in reality would be very weak and almost irrelevant. We would therefore belittle the function of the party and the dictatorship of the proletariat. We simply reply that the question is misplaced. It is not a question of trusting or not trusting technology. The point is that the mode of functioning of biological organisms, of the entire biosphere and of men in particular, and thus of the party of their revolution, is organic or, put another way, 'cybernetic', which in ancient times simply meant 'science of leadership' or government; like the helmsman guides a ship by interacting with the winds and sea conditions, or how the usual

thermostat regulates the environment by interacting with the conditions in it (and we are not even too modern, since the term, like the notion it expresses, is from Ampère, first half of the 19th century). If the thermostat had a few more functions, instead of maintaining a temperature it would produce a climate according to the needs of those in the environment, as in Francis Bacon's Atlantis. The party is a bio-cybernetic organ, a product and factor of information-action at the same time.

Any biological or social system is obviously much more complex than a thermostat, so complex that it sometimes becomes 'intelligent', i.e. able to discern between many options and decide. The party is the catalyst that provides intelligence to the system, i.e. a programme. We have no faith in bourgeois science, quite the contrary. But material facts show us how society has reached a high level of self-organising capacity, completely wasted by the stupid capitalist system that survives on itself. With capitalism out of the way, it is not our 'confidence' that counts, it is the liberated material structure that will finally function, obviously for purposes other than the present. The dictatorship of the proletariat does not come out of this diminished at all but strengthened, and so does the party: representing the overthrow of praxis, they will have enormous material on which to rely and apply 'will', (in Russia the conditions were quite different, so the transition aspects, having failed both the revolutionary assault in the West and the internal perspectives, ended in sheer preservation).

To understand this fact is also to understand the necessity of the death of the school, because it is by no means a 'cybernetic' institution with positive feedback (regulation or government towards the acquisition and accumulation of new possibilities), but with negative, conservative feedback (regulation or government towards conditions of stasis). To say 'revolutionary school' à la Bogdanov or Lunaciarskij is therefore wrong, because every revolution breaks immobility and activates a dynamic of violent acceleration of social facts.

Our current, in a different language, applied these concepts to the revolutionary party, calling it organic. Its nature and function derive from the nature and function of the future society and it is therefore a 'cybernetic' accelerator with positive feedback (all apparatuses of control, i.e. of equilibrium, are negative feedback). If it is the revolutionary party, as it certainly will be, that directs events at the moment of revolutionary rupture, then one cannot have a conception of the party based on criteria that diminish it in the face of the tasks to be performed. From this point of view, if it is wrong to speak of a revolutionary school, it is even more wrong to speak of the independence of the school vis-à-vis the party: education-work-life will imply the party as understood, and vice versa. This, by the way, was the conception of Marx and Lenin. The former expressed it as an indication of the First International (the first internationalist party) for the school, in 1866; the latter by turning his back, during the revolution, on the state school and the Proletkult in favour of the

self-constructing network of lifelong education together with the party network. The failure due to counterrevolution does not invalidate the correctness of the revolutionary assumption.

## **Self-learning of the social brain**

The recalled considerations of Saints Augustine and Thomas on signs, their reading and the function of the real and inner teacher (or Montessori's latent energy, which can be directed, never created), had led them to investigate a problem that is now scientifically solved: the animal only communicates in an 'analogical', i.e. continuous, qualitative manner, whereas man also does so in a 'numerical', i.e. discrete, quantitative manner. The development of the social brain and of accumulated and integrated knowledge leads to unity between analogue and numerical communication; hence also the unity in the turnover process of the species, the birth-child, old-age-death cycle of the individual. An example will serve to clarify the concepts. Anyone who has observed a kitten will have noticed that it learns very well to be a cat without 'going to school' in behaviour. On the basis of its genetic instinct, it will mimic adult behaviour up to and including interactions with other adults in cat society, mark its territory, conduct sexual battles and go hunting or serving itself on our kitchen table. When we see him uselessly scraping the floor in the gesture of digging a hole in the ground for the needs of his intestines and then making the gesture of covering up the result of the effort, he is not moved by the intention of digging a hole but by a genetic automatism. When we provide him with the sandbox, we are merely indulging his automatism and only very improperly do we say that he has 'learnt' to use the box.

All the information the kitten receives is analogical, it does not understand numerical language at all, as no cat 'speaks'. When it purrs, it does not say: 'I am happy', but something much more complex, having to do with situations and relationships, a condition 'as a function of...'. Even the child at first has an analogical relationship with the reality around him, but soon his humanity will understand the numerical language. He does not possess it, he learns it. But he cannot learn it through verbal, numerical teaching, he can only learn it through analogue language, the only one with which, if he were an empty box, he would be endowed. So it would seem correct to conclude that man's humanity is realised on two separate levels: one inherent and one external. But this, for those of us who are advocates of the continuum, i.e. for a 'social field theory' of influence, is evidently nonsense: man's humanity is being part of a species that due to particular conditions has begun to communicate with a numerical language and has stored this faculty on a biological level (Broca's area of the brain) and a social level (community of action and communication with other men).



The connection between analogue and numerical language is, in fact, society. Not the school, which imposes numerical instruction to the detriment of analogue instruction, like the tamer imposes certain gestures on the animal. If we place one child in front of a switched-on radio, in an isolated environment, in the hope that he will learn to speak (i.e. to express himself by means of numerical language) nothing will happen, and similarly nothing will happen if we place twenty of them. But the child will learn very well if it is immersed in an environment where other children, adults and old people interact and mix the analogue language of normal life (gestures, attitudes, tones, expressions) with the numerical language (vocabulary and syntax) of radio. Just as they were mixed in the hieroglyphs, which were the analogue (images) and numerical (alphabetic language) mirror of our social childhood. A recent confirmation (December 2003) of the 'self-generative' hypothesis of language and its learning, as Chomsky predicted, comes from joint experiments by the Milanese San Raffaele University and Hamburg University.

The union of analogue and numerical processes with regard to language and learning is the paradigm on which future society will base its learning system. Today, it would make no sense to vague the umpteenth Utopia, City of the Sun, Atlantis, Library of Alexandria, factory of 'Soviet men' or whatever: the paradigm and thousands of years of empirical experience that goes against the modern bourgeois school would suffice. When Thomas agrees with Augustine that signs alone cannot explain other signs (as in the example of the child in front of the radio) and that therefore nothing can be derived from them except through the inner master, he adds that reason can, however, give order to signs and the inner master helps to arrange them in a system of relations. It is easy then to see in the theological disquisition the dictate of social knowledge that takes the paths appropriate to the age. But Thomas says the same 'cybernetic' things as Bateson or Watzlavick about the theory and practice of human communication and learning.

It took several centuries for Lamarck and Darwin to overturn the medieval themes, barely scratched by a few flashes of Enlightenment: before evolutionary theories, thought was the basis of any explanation of the biological world; afterwards, the biological world became the explanation of thought, which comes last. And why should schools continue to put it first? Without analogical learning, thought would just be the repository of a mass of numerical notions without relationships and therefore without meaning. And it is work that is both the biological basis of thought and the human (not animal) domain of analogical relations. To demonstrate how everything connects, we will resort to another example. Darwin had already stated his theory of evolution when the naturalist Wallace, before it was published, sent him an essay from Indonesia confirming its validity in other ways. He claimed, among other things not shared by Darwin, that the principle of natural selection corresponded to that of Watt's valve, which, we would add, operates on the same homeostatic principle as the usual

thermostat. It takes little to realise that Wallace had for the first time enunciated the generalising principle of cybernetics by extending it to the biosphere and thus to society.

The entire bourgeois system is based on the survival of the fittest, i.e. on anarchy self-regulated by violence, which makes it similar to the jungle where evolution is wild regulation of predators and prey, of the biological mass and the environment that feeds it, and therefore needs to regulate itself in order not to explode. The school is its Watt valve, its thermostat, the brake that makes it homeostatic, i.e. immobile, counter-revolutionary. It is implied that every now and then, locally, some kind of equilibrium breaks down and positive (explosion of phenomena) or negative (reduction to extinction) retroactions are triggered. This is how nature knows itself. But man, as a product of nature, introduces himself into the processes of self-knowledge of matter as the bearer of a formidable tool for overturning praxis: communication articulated through concepts and quantities. Man can decide whether to trigger a process of positive or negative feedback or control both or plan to introduce them where they do not exist. In doing so, we also bring into the realm of materialist theories an aspect that has always been the prerogative of idealism, namely finalism (every project is an activity aimed at an end). The evolutionist overthrow has handed over to determinism the process of the formation of the 'mind' and this, once formed, above all on the level of the social brain, hands over to the overthrow of praxis, to the project, the species plan of the future society.

This corresponds to the historical party, and indeed this is why we see the organic party and education system connected, at the same time as we advance a ruthless critique of the democratic party and school. But this also corresponds to the materialistic, historical and dialectical definition of finalism, which is no longer teleology (the mostly metaphysical purpose inherent in all things), teleonomy (the purpose inherent in evolving living organisms), but which can only be described with a neologism, e.g. teleodynamics, a purpose envisaged and attainable by means of a conscious project that also describes the means to get there. Schooling at best prepares individuals for a trade (and we have seen that it also fails in this task), not for the common being (gemeinwesen) who will be able to harmoniously deal with the world in which he lives.

In *The German Ideology*, Marx attacks Stirner's school, which made claims for the emancipation of the local and the individual through the mundane activities of everyday life. The great goal of humanity, the outlet for the human species, is not this. It is not to bring the child back to the work of the craftsman, but to place him in a context in which he can contribute specifically to global production in relation to other individuals. Fragmenting the continuity inherent in nature - and thus in knowledge - into partial elements, as schools do, will never overcome the individualist conception of teaching and learning.

## Growth and Form

In 1917, a study was printed that went almost unnoticed at the time and later indirectly influenced more than one scientific discipline. It was D'Arcy Thompson's *Growth and Form*. By the author's own admission, it was an essay that, although supported by extensive experimental work, only wanted to base the dissemination of its results on theoretical elements. Although subsequent research in the fields of biology, chemistry, physics and mathematics, which would have been very useful, was not yet available for the purpose, Thompson's work, in general, relates admirably to recent discoveries in these fields.

Many parts are completely outdated, but the central assumption is more than valid: the forms of the living and their evolution depend on laws of nature, material determinations, which can be expressed through mathematics or scientific procedures. Every form in evolution is a transformation that, even at extreme limits, preserves the invariants of the previous form (or the latter transmits them to the transformed one). Leroi-Gourhan extended this concept of 'growth and form' to social man, his external evolution, cities, networks of production and communication.

Today, the generalisation has gone further, combining the complex forms of the living with the societies or systems to which the biological world gives rise. This is a discourse that must be of great interest to us. Marx himself compares the discoveries about biological evolution to the work on the succession of economic and social forms that he and Engels had undertaken. We hear directly from Marx how the 'educational' paradigm flows deterministically from the modern social form. In *Capital*, Book I, in the beautiful and never read enough Ch. XIII on machines, he writes:

*'From the factory system, as can be observed in detail in Robert Owen, has sprung the germ of the education of the future, which will combine for all children above a certain age productive work with teaching and gymnastics, not merely as a method of increasing social production, but as the only method of producing harmoniously developed men in all senses.'*

Let us observe: in the transitional phase - pending the elimination of the distinction between work and life - when working hours will be reduced to less than half of what they are at present, etc., it will be easy to make boys participate in social production and solve the problem of training the body and knowledge. In the quoted passage, which apparently only concerns education, there is also the answer to a general question: from the factory system springs not only the education of the future but also the social form that makes it possible. Before we go any further, it is necessary to reiterate, to reinforce our further observations, a fact that is more than acquired in the work of our current: in this society as it is, there are anticipations (which this society makes

negative, of course) of the future social order. This is how Marx posits the dynamic of becoming in capitalism as well:

*'If the law on factories, as the first concession violently wrested from capital, combines only elementary education with factory work, there is no doubt that the inevitable conquest of political power by the working class will also assign a place in the workers' schools to technical education on the theoretical and practical level, just as there is no doubt that the capitalist form of production, and the economic situation of the worker which corresponds to it, are at the antipodes with those revolutionary ferments and with the direction in which they are going: the suppression of the old division of labour. But the development of the antagonisms of a historical form of production is the only possible historical path to its dissolution and metamorphosis. Ne sutor ultra crepidam! [The shoemaker does not go beyond the shoe], this nec plus ultra of craft wisdom has become madness and a curse since the day the watchmaker Watt invented the steam engine, the barber Arkwright the continuous loom, the goldsmith Fulton the steamboat' (ibid.).*

Capitalist society has exaggerated the division of labour, and the school is the primary factory of that division. But it has also made it obsolete in fact, because it is not that students enter the school and more complete men leave, it always churns out students. Today we could continue the list of 'inventors' coming out of the traditional division of labour by multiplying Marx's examples a thousandfold, especially if we look in the United States where the academy is less entrenched than in Europe. The knowledge needed to forge post-capitalist 'inventors' is widespread, and this applies to workers as well. Individuals overcome craft and manufacturing specialisation by becoming cells of a social brain. Just like the partial worker, less and less an 'inventor' invents alone, more and more he is part of an even worldwide network of permanent extracurricular education.

If something is taken away from the bourgeois individual and transferred to the social brain, we cannot but be satisfied with this, because this will be exploitable material for the new society for the formation of men, or rather for its own self-education. Today, the individual already participates in social knowledge much more than in the past. What makes him a modern hilot is not the lack of knowledge, it is the fact that he does not know what to do with it. The partial worker becomes a global worker (Marx uses the terms collective, combined, compound) either in the immediate process of production by participating in the global cycle (Chapter VI unpublished), or in the course of his life by summing up his being a partial worker in different operations many times over. Again, he will have more knowledge, he will be more closely connected to the social network than the wonderful craftsman who was able to make a perfect carriage all by himself:

*'The collective worker now possesses all productive qualities in equal virtuosity and, at the same time, exercises them in the most economical manner*

*by using all his organs, individualised in particular workers or groups of workers, exclusively for their specific functions. The one-sidedness and even incompleteness of the partial worker become perfection in him as a member of the collective worker. The habit of a unilateral function transforms him into the organ, acting in a naturally secure manner, of that function, while the organic nexus of the overall mechanism forces him to work with the regularity of a machine part' (ibid., emphasis ours).*

## **Leonardo, the global worker and the human man**

Leonardo da Vinci used to say that he was a poor man who knew without having gone through experience. But, he added, he was a very poor painter who painted without knowing about the theory of bodies, landscape and perspective. The social brain of the Renaissance needed to fix knowledge in a few exceptional elements that together defined the epoch; today, the knowledge that the social brain has is infinitely greater, the 'genius' has spread over a greater number of cells. A child of ten years old today possesses on average an amount of knowledge that an adult of a century ago could not even imagine. A worker who has spent a few years in a factory 'knows' on average a great deal more operations and knows the production process better than the worker Taylor was dealing with. The fact is that both the child and the worker do not have the opportunity to use their acquired knowledge except in the individual stages of the study and production cycle; of everything else they do not know what to do with it and forget it. In this sense they are modern hylots. But 'modern' means transformed. The transformation of the production environment cannot but also be a transformation of those who live in it:

*'Large-scale industry, by assigning a decisive part to women, adolescents and children, beyond the sphere of domestic activities, in socially organised processes of production, creates the new economic basis of a superior form of family and of the relationship between the sexes... The composition of the combined workforce by means of individuals of both sexes and of the most diverse ages, if in its capitalist form it is a pestiferous source of corruption and slavery, will have, under suitable conditions, to be converted instead into a source of human development' (ibid.).*

And in an aside, after this passage, Marx notes: 'In history as in nature, rottenness is the laboratory of life'. It sounds like a catch-phrase, evoking a bit of Darwin and a bit of Fabrizio de André, but it is the key to understanding the dialectic of capitalist processes that underlie social transformation or meta-morphosis (going beyond form, in Latin and Greek). Marx, in *The Misery of Philosophy*, identifies two dialectically opposed souls in the modern worker, and this in a first approximation is in our opinion a good answer to the question we are often asked about the dialectic of anticipation and transition to the future society:

*'In modern society, what characterises the division of labour is the generation of specialisations, of types, and, with them, of the idiotism of trade ... [at this point he quotes Lemontey on the universal knowledge of ancient and Renaissance men: 'today everyone plants his own tree and encloses himself in his own garden. I do not know whether by this breaking up the field grows larger, but I know for sure that man shrinks']... What characterises the division of labour in the automated factory is the fact that work there has lost all character of specialisation. But since all special development is lost, the need for universality, the tendency towards an integral development of the individual begins to make itself felt. The automated factory erases specialisations and the idiotism of trade' (Misery of Philosophy, Chapter II.2).*

Can school produce something as important as the foundations for future society? Certainly not. School does not teach, the student does not learn, except what is needed to attend school. The good thing is that you don't need to be a Marxist to register this: in the preface to his physics lectures, Richard Feynman quotes this sentence by Edward Gibbon (1737-1794): 'The power of education is seldom of great effect, except in those happy situations in which it is almost superfluous'. Feynman is actually less possibilistic and states categorically, as we reported at the beginning of our article: 'Teaching is useless, except in those cases where it is superfluous' (quoted by Piergiorgio Odifreddi in Repubblica on 5 Dec. 2003). In what sense teaching is useless, we think we have demonstrated. What are the situations in which it may be superfluous?

Social knowledge now makes it possible to extend the Gibbons-Feynman 'happy situations' of extracurricular social knowledge to such an extent that learning becomes one with society, and not a matter to be locked up in special ghettos, like prisons, asylums, barracks, convents and... companies, when these are understood not as mere places of production but as expressions of factory despotism. In the US, higher education is now a mere appendage of industry and is financed for its profit motive. There is so much outdated superstructure in this society (not just the school), that Lenin's statement is increasingly true: the capitalist shell no longer corresponds to its content.

## **An anti-utopian communist future**

The great utopians, Moor, Campanella, Bacon, Fourier, Saint-Simon, Owen have, from the 16th to the 19th century, described the ideal of social education in very different ways from each other, but all with one trait in common, as if they all felt the need to reiterate the same concept: the formation of the new man is always connected to work and knowledge is always a unity of theory and practice, of accumulated memory and new elaboration. Often in the works of these utopians, common buildings suitable for the formation of citizens are summarily described, property is equally common and the family does not exist, or at any rate children and young people are not affected by it because society takes care of them.

Owen, as well as writing about it, realised extensive productive communities. Today we are able to be more practical and concrete than Owen himself, who was already no joke. Makarenko's first youth commune had left the original settlement and occupied an agricultural estate abandoned by landowners who had joined the White Army. The central structure, stables, and service buildings were of excellent workmanship, but everything had been looted by the peasants. Machines, animals, furniture, furnishings, doors, windows, tiles, even the orchard had been stolen. The first comment of the occupiers was against the barbarity of those who had preferred this savage destruction in order to take a few fragments to their miserable huts rather than occupy the estate, preserve it, expand it and use it. Instead, the 'students' did all this by taking the buildings and the land. They expanded, founded another 'colony' and then a third. They were already an organic community acting as a complex whole with a purposeful plan. They had no property, they were former criminals uprooted from society and family, they had no chance to 'go to school', they were forgotten by the surrounding world that was fighting a civil war, they were fighting a black famine and they had a 'teacher' who had no intention of 'teaching' but wanted to live a pedagogical poem with them. They achieved extraordinary results.

Lenin went once or twice to the conferences of other groups and was impressed. He hardly spoke to the young people about school, teaching and culture, but about civil war, electrification, factories, machines, the future, communism. Refreshed by these achievements of the revolution, he telegraphed Lunaciarskij reprimanding him for transgressing orders, and ordered them to get busy burying the dead society school and wiping out that Proletkult obscurity of Bogdanov and company.

'From below,' he said, 'that is, from the mass of workers whom capitalism kept away from education by violence or by hypocrisy and deception, a mighty impulse towards knowledge and knowledge is rising. We have a right to be proud of it, to indulge in it, and to be at its service. But it would truly be a crime to close our eyes to the fact that we have not yet learnt how to properly organise the state apparatus of education' (The Work of the People's Commissariat for Public Education, 1921).

By 'organising correctly', we have seen, Lenin did not intend to reform the school but to replace it with something else. This was not possible, but we know that one can project into the future the dynamics of the transformation that began with the October, just as Thompson and Leroi-Gourhan projected the biological and social forms in their analysis of the evolutionary process. In the chapter 'The Dwelling of Man' in the series on the immediate programme of tomorrow's society, we described the determinism of functional architecture and of certain urban forms that move away from the utilitarian Le Corbusier-style 'man-inserting' parallelepiped designed by profit. The new structures have

reinforced concrete skeletons filled with compartments made of easily removable partition materials. In the most modern, spaces interpenetrate to the point of blurring the concept of 'inside' and 'outside' with respect to the environment. We note that in many cases the infrastructures would be fully usable for collective purposes, as are, for example, large hotels and residences with kitchens, meeting rooms, multimedia cinema-auditoriums, libraries, computers, Internet, laundries, swimming pools, sports facilities, etc. However, even a trivial group of apartment blocks built without too much speculation would be fully convertible into such a unit with little effort, whereas today the new urbanism advances with the caterpillar, destroying even salvageable buildings (and in the meantime perhaps building ultra-speculative crap elsewhere).

We must, in conclusion, outline an outline scenario, absolutely realistic, to show that today utopia is outdated and we can move on to the facts. We therefore have the suitable theory and the adaptable premises. Like Makarenko's boys, we occupy the latter and begin the transformation. We say we will live on the upper floors and reserve the more accessible ones for social activities. If we are close to a factory, we establish a connection with it to participate in production. Or we set up an on-site production line in the available spaces, as long as it is not a steelworks or otherwise bulky production. As Fourier says, the children will have a lot of fun and the kids will learn how to organise them. Since we are keen, according to the programme, to eliminate the city-country contradiction, we connect with other similar centres in an agrarian environment if we are in the city, or urban if we are in the country. Perhaps with an interchange of 'students', so that we devote ourselves to the complete agro-industrial cycle and learn not only how to organise our work-life, but also how to do it in relation to other groups. Finally, since we are not anarchists, we connect to the entire network of such groups via centralised coordination structures, also to keep an eye on the number and location of educator-catalysts, since there are now no 'masters' or 'professors', but anyone who knows something passes it on to others.

In one of the requisite buildings, we have set up a library that is part of a national network in comparison to which Lenin's wildest dreams pale into insignificance, and which in turn is connected to the international library network (assuming there are still nations in the transition). What is most important is that the elimination of ownership has made it possible to implement on every kind of mnemonic medium (and connect via the Internet) the entire human knowledge of all times in every language. If it is useful, we can even reach with a click - say - a fragile medieval incunabulum, an ancient papyrus, an entire archive of clay tablets in perfect reproduction, with all the original documentation of the archaeologist, glottologist or historian attached. From the media centre you can draw as much interactive teaching material as you want from the library, and of course literature, music, cinema, etc. etc.



We all participate in production and therefore at all levels have something to transmit, organise, store, locally or to the world. There is no distinction between children, old people, adults, women, men, other than that resulting from strengths, needs or physiology (thus the concept of school as the 'child's home' of Montessori memory, and in any case of school as a place dedicated exclusively to teaching, is also outmoded). Information is accessible and is not accumulated in a specific location, anyone can 'appropriate' it to expand, process and re-transmit. In the technical division of labour between cells of the same organism, specific organs are formed, just as from undifferentiated stem cells particular ones are formed. The system transcends democracy and integrates differences, making the best use of the material it itself continuously produces, in the sense of elaborates, etc., or of human beings suited to the deliveries, 'teachers' or 'learners' that they may be.

One could go on but we will stop. Further description would simply become narration and would add little or nothing to what has already been said. Once we have assimilated the method, collected the materials and verified the social conditions, the rest comes of itself: we are able to continue arranging the pieces of the great educational mosaic, to better define 'man's dwelling'. Because that is what this is about, not a new kind of ghetto for teachers and students, but something that the picture sketched so far rules out being called a 'school'.

## **Recommended readings**

Bateson Gregory, *Towards an ecology of mind*, Adelphi, 1993.

Bertoni Jovine Dina, *History of popular education in Italy*, Laterza 1965.

Bettelheim Charles, *Class struggles in the USSR 1917-1923*, Etas Books, 1975.

Bogdanov Alexander, *Science, art and the working class*, Mazzotta, 1978.

Bordiga Amadeo, *Cultural preparation or revolutionary preparation* 1912; *Our Mission* 1913; *A program, the environment* 1913; *The Lenin's text "Extremism, the infantile disease of communism" Condemnation of Future Renegades*, 1960; all available on our site Internet [www.ica-net.it/quinterneta/archives.htm](http://www.ica-net.it/quinterneta/archives.htm)

Bottai Giuseppe, *The School Charter*, Mondadori, 1939.

Brizzi Vittorio, *Paleoworking* (flint processing techniques, use of chipped tools and language training), <http://www.paleoworking.org/>

Damasio Antonio, *Descartes' error, emotion, reason and brain*, Adelphi 1995.

Dewey John, *Democracy and education*, available in version complete in English at: <http://www.wordtheque.com/>

Eco Umberto, *Open work*, Bompiani, 1985 – *Lector in fabula*, Bompiani, 1983.

Engels Friedrich, *Dialectics of Nature*, chap. "The role carried out by the work in the process of humanization of the monkey", Works Complete Editori Riuniti, Vol. 25.

Faure Edgar et al, *Report on Education Strategies*, Armando, Rome 1973 (for information on the concept of "education permanent" of UNESCO).

Fourier Charles, *The theory of the four movements*, Einaudi, 1971.

Frankfort Henri, *The religion of ancient Egypt*, Bollati Boringhieri, 1991.

Fronzaroli Pelio, "The transmission of culture", in *L'alba of civilization*, edited by Sabatino Moscati, vol. III, chapter. I, UTET, 1976.

Fülöp-Miller René, *The face of Bolshevism*, Bompiani, 1930.

Gramsci Antonio, *For the search for the educational principle*, in *Quaderni from prison. Intellectuals and the organization of culture*, Publishers Reunited, 1971.

Guerri Giordano Bruno, *Giuseppe Bottai, fascist*, Mondadori 1996.

Illich Ivan, *Deschooling society*, Mondadori 1983 – Cayley David, *Conversations with Ivan Illich, an architect of modernity*, Eleuthera, 2003.

Kauffman Stuart, *At Home in the Universe, Chaos and Complexity*, Publishers Reunited, 2001.

Krupskaja Nadezda, *The school of the proletariat*, Emme Edizioni, 1976.

Labriola Antonio, *Essays on historical materialism*, Editori Riuniti, 1964.

Lenin, *Complete Works*, Editori Riuniti, 1955-70: *Companies gymnasials and correctional gymnasiums*, vol. 2, page. 63 – *Pearls of populist project mania*, vol. 2, page. 453 – *The Vperiod group*, vol. 16, page. 133 – *On the tasks of the public library of Petrograd*, vol. 26, page. 316 – *Speech to the Congress of Internationalist Teachers*, vol. 27, page. 412 – *On admission to higher education institutions*, vol. 28 pages. 45 – *Speech to First Education Congress*, Vol. 28 pages. 87 – *Speech to Second Congress of Internationalist Teachers*, vol. 28, page. 413 – *Speech at the II Conference of extra-scholastic subsections*, vol. 28, page. 442 – *Draft program of the PCR(B), related point to public education*, vol. 29, page. 116 – *Speech on I Congress of Communist Students*, vol. 29, page.

294 – *First Congress of Out-of-School Education*, Vol. 29 pages. 303 – *Speech pronounced at the 1st Congress of Education Workers*, vol. 29, page. 488 – *Speech at the III Conference of extra-scholastic subsections*, vol. 30, page. 337 – *The tasks of in youth associations*, vol. 31, page. 269 – *On proletarian culture*, vol. 31 page. 300 – *CC directives to the communists of the People's Commissariat for Education publish*, vol. 32, page. 106 – *The activity of the Commissariat of People for Public Education*, Vol. 32, page. 108 – *Pages of diary*, vol. 33, page. 323.

Leroi-Gourhan André, *The gesture and the word* , Einaudi 1977.

Lunacharsky Anatoly, *Proletarian culture and the Commissariat of Public Education*, *Communist Review* n. 4 of 31 May 1921 – *La proletarian revolution and bourgeois culture*, Mazzotta, 1972.

Makarenko Anton, *Pedagogical poem* , Edizioni Rinascita, 1952.

Marx Karl, Engels Friedrich, *Writings on Education*, Il Anteater, 1976.

Marx Karl, *Instructions for Delegates of the Provisional Central Council*, 3-8 weeks 1866, *Complete Works*, Editori Riuniti, vol. XX page 189 – *Criticism to the Gotha program*, Editori Riuniti, 1990.

Milani Lorenzo - Barbiana School, *Letter to a teacher* , Libreria Editrice Fiorentina, 1967.

Montessori Maria, *The formation of man*, Garzanti, 1993.

Communist Party of Italy, *Theses on the problem of school proposed by communist group of the Teachers Union*, *Rassegna Comunista* n. 3 of May 15, 1921.

Piaget Jean, *Genetic epistemology*, Laterza 1973 – *Biology and knowledge, essay on the relationships between organic regulations and processes cognitive*, Einaudi 1983.

Principia Cybernetica (on the social brain),  
<http://pespmc1.vub.ac.be/DEFAULT.html>.

Serge Victor, *The first year of the Russian revolution*, Einaudi, 1967.

Soustelle Jacques, *Daily life of the Aztecs*, The Assayer, 1997.

Suchodolski Bogdan, *Treatise on general pedagogy, education for the future tense*, ed. Armando, Rome 1964.

Thompson D'Arcy Wentworth, *Growth and Form*, Bollati Boringhieri, 1992.

Watzlawick Paul et al, *Pragmatics of Human Communication*, Astrolabe, 1971.