

FREE SOFTWARE AND MARKET RELATIONS

In the text "Germs of non-commercial relationships in the midst of the most modern capitalism", I attempted to show that the specificities of software, in particular the capacity of being reproducible at an insignificant cost, thus also the more and more important and determinant place which it is called to take in practically all the processes of production, are constitutive of material conditions that open new perspectives for the possibility of a society of abundance, and thus of a postcapitalist society. I also tried to show in evidence the "nonmarket" character of the principles and relations which rule free software, thus also the crucial role that this reality could play in the elaboration and diffusion of the revolutionary project.

In his contribution of June 29, 2002, JC [another participant on the listserv] raises a series of interesting objections to these ideas. The object of this text is to respond to them.

JC tackles two principal questions. The first, he summarizes as follows: "I want to attempt to establish that 'free software' does not avoid, in its economic reality and in the ideology of its founders, market relations"; the second: "I wonder about the idea that, in the midst of capitalism, by way of new technological developments, 'the germs of nonmarket relations' could be born."

To respond, I will attempt to follow JC in his questioning.

To tackle the specific question of free software, JC begins by making some remarks of a more general order.

In posing a riddle--"From whom are these lines?"--in order to prepare his surprise, JC cites a researcher and manager of the French government (Bernard Lang), who makes statements analogous to those I made. "Informatics programs," wrote Lang, "immaterial in essence, tend to reverse the traditions of commerce. Conception and development aside, their production and distribution costs can be marginal, quasi-zero.... Free software announces a major change in civilization: the advent of a society of abundance." JC does not follow this explicitly to its conclusion. But what could he conclude? That such a statement is false because it's made by a man of the establishment? For Lang, "the major change in civilization" of which he speaks is evidently not the surpassing of capitalism, but an amelioration of the same (we revisit further below the defenders of free software as a means of renovating capitalism). That does not prevent one making a statement of evidence, of a reality that "tends to reverse the traditions of commerce." The intrinsic tendency of software to escape the laws of the market is a reality that the new market-makers (practically industrialists), of illegal copies of informatics products (business software, videogames, music discs, or films, etc.) confirm and exploit daily...or the agents of the state charged with suppressing this sort of attack on the market laws.

That which is surprising is not that establishment types could confirm the antimarket nature of certain characteristics of software. This nature is evident as soon as you think a little about it (we shall come back to this, also). That which does not cease to surprise me is the resistance of numerous Marxists to this fact. It goes back to Marx, though, to have well established the mechanisms of market exchange and the possibility of its surpassing by the appearance of conditions of abundance.

Making a second general remark, JC takes up on his account an argument often employed by Marxists to deny the fundamentally new character of contemporary technological evolution.

"I share," writes JC, "the remark made by RGF at the June 15 conference, which signaled that this

capacity of reproduction, not only quasi-gratuiticity, but gratuiticity period, already existed in the domain of the results of scientific research. And thus free software, however much it corresponds to this ideal (sometimes for harm, as, for example, with the military) of free reproduction and gratuiticity of the results of scientific research, bring nothing very new onto the terrain."

The "free and gratuitistic reproduction of the results of scientific research" is not a so generalized reality; in part, that which one calls "the hacker ethic" of the creators of the first free software forged itself in combat in the universities against the pressure of the administration to commercialize the products of their research. And one knows, at such a point, patents constitute a true barrier against the universality of scientific knowledge. But it is true that the essence of this knowledge, under the form of texts, theorems, rules, equations, etc., finds itself in the public domain, and that anyone can draw from it at will. In this sense, effectively, there is something in common between the qualities of free software and that of scientific knowledge.

But science is not useful, does not have a direct use value, but for a very narrow part of society. Generally, it does not enter except indirectly into the process of production or consumption. Software can, on the contrary, take the form of means of production or consumption, directly useful on the assembly line, or for the manager of an office, for example. It can also constitute a means of direct consumption, like with films or games. That to which software permits everyone to have access, by rendering them freely and gratuitistically reproducible, is not only equations or laws, but direct instruments of production and goods of common consumption. The number of goods, or the part of goods, capable of being an object of this gratuitistic reproduction is limited only by the scale and measure in which the capacity to digitalize the process of production and goods of consumption develops itself. That which is "new" is not little. That is the possibility of the gratuiticity, not only in the area of the university and the laboratory, but in the heart of social production, there where, daily, economic and social relations create themselves.

Constantly, in the perspective of establishing that software and informatics in general "do not bring anything very new," JC echoes the questions of Henri S on "whether the fundamental industrial revolution was not that of today, that of informatics, but that of yesterday, electricity." Independent of the question of the definition of the term "industrial revolution," one can always say that without electricity there would have been neither electronics nor informatics, and there can be no doubt that the generalization of the use of electricity transformed also the process of production as much as modes of social life. That is not to denigrate what was perceived by Kropotkin and Lenin (socialism is the soviets plus electricity) as an element which would contribute qualitatively new methods to the creation of the conditions of a society of abundance. But that does not remove any of the importance of the novelty contained in the new technologies. Electricity remains a good submitted to scarcity. It cannot be "freely reproducible." Once produced and consumed, a kilowatt-hour is no more. On the contrary, the means of production which take the form of software could, themselves, be "consumed" and reproduced indefinitely without any significant cost. The contribution of the electronic revolution is not situated solely on the terrain of the exceptional growth of the productivity of labor. It also places itself on a qualitative level, at the base of the economic edifice itself, that of market exchange, of the law of value, rendered futile when confronted by goods that intrinsically tend to escape from shortage. In this sense, the contribution of the new information and communications technologies cannot be reduced to that of electricity.

But, JC's principal critique is, justly, about the reality of this questioning of exchange. In taking the most "advanced" case, that of free software, he attempts to show that it "does not escape from market relations." For that, he develops his arguments firstly at the level of their "economic reality," and secondly, at the level of "the ideology of the founders." I tackle these two levels in the same order.

THE ECONOMIC REALITY OF FREE SOFTWARE

Free Software and Market Society

On the economic level, the arguments proposed by JC essentially concern the relations of free software with the capitalist environment. He shows how, around free software like Linux, a series of commercial companies gravitate, who live from the sale of services facilitating the installation and the use of the software, those that lead to "what one could call sometimes a pretty high invoice for a Linux installation." JC illustrates again the influence of the market environment on free software in citing examples of its use by state institutions: for national French education, for research into the reduction of "costs of formation of the workforce"; by the French and American armies, which "are wary, for security reasons, of software over which they don't have complete control." He also invokes the existence of a "group lobbying in favor of Linux and free software," very active among circles of the French political class. He states that certain of the creators of free software are paid for this task by commercial enterprises, and thus that those who "benevolently" made it, often with "lost hours," get a salary. And *last but not least*, JC puts in relief the support provided free software by certain enterprises: "But," he writes, "free software is supported by a series of enterprises involved in the information market, that have an interest in the destruction of Microsoft's monopoly over software, and in the first ranks of them: IBM."

In concluding, JC says: "Free software is not a 'freely' reproducible good; if there is a contradiction in the kingdom of market laws, it is the very classical one between the position of the monopoly acquired by Microsoft and the other enterprises in the same sector; it is not a revolt of the productive forces against the relations of production which they have engendered, but the revolt of information enterprises against a monopoly situation that is contrary to the general interests of capital."

However, all these facts show, not that free software does not possess a nonmarket character, but that it is immersed in a market world. Any of the aspects of economic reality cited by JC do not concern the nonpaying, gratuitistic nature of free software itself. They show how merchants are able to make a profit in selling products connected with free software. But, it is improper for JC to deduce that "free software is not gratuitistic software." The paying character of that which can be connected to Linux does not remove any of the perfectly gratuitistic character of Linux itself. JC states also that recourse to free software is interesting economically to commercial enterprises or state administrations because it is synonymous with the reduction of costs. But that does nothing but show the reality of its gratuiticity (or quasi-gratuiticity), denied by JC, because it is just because they are gratuitistic that they entail a diminishment of costs. As for to the argument citing the use of free software by armies, it only gives evidence of the effectiveness of certain of its technological advantages, without dealing with the gratuitistic nature of the software. Finally, the idea that the development of free software would be essentially the product of "the revolt of information enterprises against a monopoly situation [Microsoft] that is contrary to the general interests of capital," is also excessively reductionist, and ignores the importance that some free software are taking. It is true that if IBM and other computer manufacturers participate in the development of free software, and prescribe Linux as the OS for certain of their machines, that is, in large part, to emancipate themselves from their dependence vis a vis Microsoft. But, the same fact, that the top global information enterprise should be forced to have recourse to free software translates into the superiority of this type of product and the inevitability of its development.

The still small world of free software evidently does not escape the commodity environment in which it lives. Why would the merchants who dominate the society deprive themselves of the technical and economic advantages of this new type of product? What would forbid it from becoming like a weapon in the permanent war among them, on the military level or that of the struggle for control of the market?

The question that poses itself is that of knowing whether this market environment extinguishes the nonmarket character of free software and condemns it to being nothing more than a tool of reinforcement

of the dominant system, of "regularization of market relations," like JC says.

History furnishes examples of the coexistence of two types of economic relations, in particular during the course of the period in which a new mode of production is developing in the midst of the old society, as in the case for capitalism in the midst of feudalism, or of feudalism in the midst of ancient slavery. In these two cases, like I have implied in the text criticized by JC, "there is a phenomenon which sees the ruling class of the old system being forced to have recourse to products of a mode of production which is antagonistic to its own."

In the ancient Roman slave empire, the *colonat*, a first form of feudalism in which the slave is emancipated and transformed into a free *colonus* but subordinated to new economic obligations, progressively develops itself up to the point of becoming the most important mode of production in the late Roman Empire of the 3rd century. The slave state drew its profits, not always easily, from the growth of productivity that the new economic relations brought, by levying ever-heavier taxes on their production and even in transforming some of their own slaves into *coloni*.

In the coexistence between feudalism and capitalism, recourse by the old dominant class, the feudal masters, to the means furnished by the new relations, capitalism, which had developed themselves in the cities and by commerce, is even more spectacular. The feudal crusades, which led to the extension of the European fiefdoms all the way up to the Orient, of the 11th to the 13th century (creation of the Kingdom of Jerusalem, of the principality of Antioch, etc.), would not have been possible but for recourse to the forms of capitalist production, which, in cities like Venice, produced the boats which transported the feudal armies and Oriental booty. It was in using the capitalist financial wealth developing particularly in the cities of Genoa and Venice that the European masters found the means of financing their imperialist enterprises in the Holy Lands. In France, since the 12th century, the monarchy extended its power at the expense of the large regional feudal masters by leaning on the cities, in which the bourgeoisie and capitalist relations would develop, and to whom the king granted specific privileges. The feudal masters of all Europe could, during centuries, continue to draw their profit from the capitalist commerce which was developing, not only in procuring goods otherwise unattainable, but also in withdrawing innumerable taxes of passage for the commerce that crossed their fiefdoms.

What can one deduce in relation to the debate that concerns us? Firstly, that the fact that the old dominant class draws profit from the products of new social relations does not remove their novelty, their antagonistic character. Secondly, that the economic and political power of the old dominant class inevitably constitutes a restriction of the development of the new relations: There had to be the bourgeois political revolutions to clear the feudal taxes of passage for the development of commerce, for example. But, thirdly, that, because of the fact that the new relations contain a new productive capacity, the old dominant class is forced to have recourse to them, even if it is nothing more than as a partial means, marginal at first. In so doing, that class stimulates their development. (The feudal crusades, for the Italian cities that contributed to them, were a source of the first capitalist prosperity.)

Even today the use of free software by commercial enterprises or by state administrations does not destroy its nonmarket nature. The states multiply new legislation and repressive bodies to stop the attacks on copyright and other foundations of property and capitalist profit, put in harm's way by the logic of free software. But the same states, like all capitalist enterprises, are at some point obliged to have recourse to it. And this can do nothing but stimulate its development.

Free Software and the Law of Value, or the Revolutionary Possibilities of Free Software

JC's arguments have led us to the terrain of the relations of free software with the market milieu. But the

central question, on the economic plane, is to comprehend by what "internal" logic free software is by nature nonmarket, noncapitalist, and contains revolutionary possibilities. JC, unfortunately, does not tarry at this point, except to reject it as an illusion, and send the problem back to the reality of market competition: "My initial argument," he writes, "portrays mostly as an illusion that in free software there could be seen new 'revolutionary' possibilities, beginning with their reality in the play of market competition."

It suffices to remember what the market relations are, and their specificity in capitalism, to understand how free software is their negation.

Market relations rest on exchange. Exchange is to acquire or to cede something by means of a counterparty. The barter is in the most elementary form of it. A good or a service is directly furnished in exchange for another. The market relationship establishes that this exchange must follow the rule of equality, the good furnished must possess a market value, exchange value, equivalent to that of the good received. The law of value measures this value by means of the labor time socially necessary to produce the good exchanged. The use of a particular commodity as a universal equivalent, money (livestock in certain ancient societies, in which the term "pecuniary," of or regarding *pecus*, which in Latin means cattle; eventually metallic pieces, notes, bank money, etc.), thus authorizes a flexibility unlimited by exchange, and offers the possibility of accumulating value, dead labor. Capitalism constitutes the most fully achieved form of exchange and of market relations, thus it extends its domination to all domains of social life, in the first place to labor power, which it transforms into a commodity by means of wage-relationships.

But the logic of free software situates itself outside of exchange itself. When someone "takes" free software off the Internet, even if its production required millions of hours of labor, there is nothing given in exchange. One takes without furnishing any counterpart. The software furnished is not exactly "given," in the classic sense of the term, since the provider still has it after the taker has helped himself. (In this sense, the term of "economy of the gift" that certain people use apropos free software is incorrect.) There is indeed the transmission of a good, but with neither loss of possession nor counterparty. The foundation of capitalism, exchange, is absent. In this sense already, free software has an intrinsically anticapitalist, potentially revolutionary nature.

But it does not suffice to be "anticapitalist" to be revolutionary historically, as shown by the nostalgic anticapitalist thought of a less dehumanized past. If free software possesses a revolutionary nature, that is also because its method rests on the concrete will to liberate the powers contained in the new techniques of information and communication. This method is the result of the simple acknowledgement on the part of several universities that certain aspects of market relations gravely impeded their utilization. If this happens with electronic techniques and not with other techniques of production, that is not only because the scientific ethic contains nonmarket aspects but also because, and above all, in this domain it is very easy, and costs nothing, to ignore the market laws. In this sense, the method of free software situates itself inside the movement of history (in the measure in which the development of society's productive forces constitutes the only dimension that, "in the last instance," permits one to detect a direction in it), in the direction of the surpassing of capitalism.

The Ideology of the Founders of Free Software

The creators and defenders of free software—are they aware of this reality? For JC, the question doesn't come up: «The texts of the founders of the FSF [Free Software Foundation],» he writes, «confirm that they place themselves entirely in the context of market capitalism.» And, to defend this thesis, JC gives some citations:

Stallman [founding member of the FSF] exposes the ideological and social references of free software: «The free software movement was founded in 1984, but its inspiration comes from the ideas of 1776: liberty, community and voluntary cooperation. That is what leads to free enterprise, to the liberty of expression and to free software. Like in the case of 'free enterprise' and 'freedom of expression,' the term 'free' in the term 'free software' makes reference to liberty, not to price...» Against Microsoft, Stallman writes: «But the absence of defense is not the American way. On the grounds of courage and freedom, we defend our liberty with the GNU GPL [the GNU General Public License],» and goes on to conclude that: «Property rights were conceived in order to advance the well-being of mankind.» [1]

JC thus presents one of the more well-known creators and defenders of free software as an advocate of prices and private property. The reality of the hacker's conceptions is much more complex and contradictory. To be convinced, it just requires putting some of the citations JC gives into context. Thus, at the end of the phrase, «the term 'free' in the term 'free software' makes reference to liberty, not to price,» Stallman wrote: «More specifically, it signifies that you have the liberty to study, to modify, and to redistribute the software that you use.» But, having the right to redistribute software is to have the right to transmit it gratuitistically, without price, ignoring property rights and copyright; studying and modifying software expresses that it's not to be secret, protected, like all «proprietary» software. Some lines further, the same Stallman wrote: «We cannot establish a community of liberty in the world of proprietary software, in which each program has its master. We will constitute a new world in cyberspace...» And the tidbit JC cited on property rights are in the following context: «My opinions on copyright would take an hour to explain, but a general principle applies: One cannot justify the negation of important public liberties. Like Abraham Lincoln put it, 'each time there is a conflict between the rights of man and the rights of property, the rights of man must prevail.' Property rights were conceived in order to advance the well-being of mankind and not as an excuse to scorn them.» Stallman effectively defends property rights, but on the condition that they do not hurt «the rights of man»... which is not very simple: If the right not to starve, for example, is a right of man, the right of property over the means of production must be abolished. In another more well-known text by Stallman, *The GNU Manifesto*, he writes: «Extraction of money from the users of a program by restraining their use of the program is destructive, because, for the sake of cash, it reduces the amount of wealth humanity can draw from the program. When choice is deliberately restrained, the harmful consequences are a deliberate destruction.» [2]

The defense of the use and generalization of free software leads logically to the defense of nonmarket, thus noncapitalist principles, such principles as gratuiticity, nonproperty. But this does not imply that one would obligatorily deny the validity of market principles in all domains. The founders of free software do not pretend to destroy the capitalist world. They want to create, in the world of communications and information, a «cyberspace...a community of liberty,» to use Stallman's words, on the side, outside, «the world of proprietary software, in which each program has its master.»

From this inevitably flow contradictions, like when Stallman demands simultaneously capitalist free enterprise and a community of liberty with neither masters nor market exchange. That expresses a contradictory reality which already exists and develops itself within society because of the coexistence and interpenetration of the world of free software with modern capitalism. The Internet is a striking illustration. The principal software on which it depends for functioning is free software. Without it, the «network of networks» could not function. However, the Internet has not ceased to become an indispensable instrument for capitalist, commercial, financial, administrative, police, etc., transactions, and that on a planetary level.

The question of the relation to capitalism is at the heart of the divisions that split the world of the defenders of free software. [3] For some of them, like the partisans of the Open Source Initiative, founded in 1998 by Eric Raymond, free software could be one of the instruments for ameliorating and reinforcing capitalism. Stefan Merten, of Oekonux, says that he would have called it «'Free Software for Business'—

or something like that.» [4] Bernard Lang, one of the authors of the book *Free Software*, cited many times by JC, is part of this tendency. He goes up to the point of defending recourse to free software as a means of reinforcing and defending European capital confronted with American competition. The frame of spirit of the partisans of Stallman's FSF is quite different. Even if one found a number of differences according to their degree of opposition to the market world, there are general approaches more interested in developing a «space of liberty» than in cooperating with market enterprises. It is true that opposition to Microsoft, which has become a diabolical symbol of the will to monopoly, attacked even by the justice of the American state, plays a very important role and sustain the illusion of the defense of a market world without trusts. But there are also tendencies that go much further. Marx said that Protestantism could not make a radical critique of Catholicism without making a self-critique. It is the same with the critique of Microsoft: It cannot be radical without a critique of capitalism itself.

In a book prefaced by Linus Torvalds, the creator of the famous program Linux, the Finnish philosopher Pekka Himanen attempts to define an ethic of the hacker community, of which the most elementary definition is of a «passion for programming». The book is titled *The Hacker Ethic and the Spirit of the Information Era* [in English it is published as *The Hacker Ethic and the Spirit of the New Economy - Translator*] [5], in reference to Max Weber's book, *The Protestant Ethic and the Spirit of Capitalism*, written at the beginning of the century, which developed the Marxist thesis according to which Protestantism is a product of and a factor in the development of capitalism. For Pekka Himanen, hackers, even if generally they do not claim to destroy capitalism, are leading to the development of a series of general conceptions which are the opposite of the Protestant ethic and thus that of capitalism. In this manner, he writes: «The radical nature of hackerism consists in proposing an alternative spirit for networked society, a spirit that puts the dominant Protestant ethic in question. In this context, it is the only time when all hackers are crackers [programmers who introduce themselves into big corporate sites and institutions to cause trouble, often improperly called hackers]. They attempt to crack the steel safe. (...) There is an inherent contradiction in the cohabitation of hackerism with a very traditional capitalism. To begin with, the terms capitalist and hacker are of very different senses. In harmony with the hankering of the Protestant ethic after money, the supreme goal of capitalism is the accumulation of capital. The hacker ethic of work, for its part, puts the accent on the activity, centered around a passion and the free management of time.... The hacker work ethic is a melange of passion and liberty. It is this aspect of the hacker ethic that has had the most influence.» Or again: «We have explained that hackers oppose themselves to hierarchical management for ethical reasons, because that could lead to a culture in which people are humiliated, but also because they think that a nonhierarchical model is more effective.»

The author outlines in this manner, across a number of examples, the tableau of a conception of development leading by its own logic—altruistic and eager for effectiveness—to the direct detriment of the dominant, Protestant, capitalist ideology. Himanen recognizes at the end of his essay that not all hackers recognize themselves in his portrait. But he is certain that many would.

As we have already said, this thinking inevitably contains contradictions, product of the relations with the market world in which it germinates. And few are the hackers who push the logic of this thinking to its final subversive conclusions. But it is false to say, like JC claims, that this logic places itself "entirely in the context of market capital." The critique of market exchange and of money, the rejection of hierarchy and borders, the critique of contemporary work and the revindication of passion and freedom as primary motivations, of cooperation and of sharing as the foundations of new relations, all this is found, to a degree more or less elaborated and coherent, in the "hacker ethic." Now these are elements that form part of the foundation of the communist project.

The idea of such a statement shocks many "Marxists," wrongly. The fact that communist principles (even if incomplete) can be rediscovered from a scientific approach confronted with the possibilities of new technologies, without any explicit reference to Marxism and to communist theories of the past, constitutes a spectacular verification of the Marxist idea according to which communist ideas are not the product of

the benevolent brains of certain thinkers, but the fruit of the development of capitalist society itself.

Instead of them enclosing themselves in scornful ignorance of this reality, consistent Marxists should get excited and encourage the tendencies that lead hackerism to a radical critique of capital. Rosa Luxemburg said "the objective logic of the historical process precedes the subjective logic of the protagonists." It is urgent that coherent Marxists take note of the real historical process which unfolds under their eyes, and that they assume their responsibility of accelerating the subjective logic of the protagonists.

Before concluding this part on "the ideology of the founders of free software," I want to say a word on a remark by JC, who wrote: "These proclamations [of Raoul] are very close to those of certain free-software activists. Like the members of Oekonux." (6)

I have not had the occasion to read all the documents on this site, unfortunately because most of them are in German. I do not know up to what point Stefan Merten, the most well-known of the members of Oekonux, could be considered on the same level as most of the "free-software activists," as JC says, in the measure in which he situates himself in an explicitly Marxist optic. But, as far as I know, it is certain that I share certain important points of view with them, like the context of Marxist theory and the idea that free software constitutes a germ of a new society: "In Oekonux there is the idea that free software could be exactly that: an embryonic form of a new society materialized in the midst of the old." [7]

But that leads into the second part of JC's critique and questions.

(to follow)

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PART TWO

Germes of Nonmarket Relations

In the last part of his text, "by way of conclusion", JC poses "a general question": "I wonder about the idea that, in the midst of capitalism, by way of new technological developments, 'the germes of nonmarket relations' could be born." And he responds in the negative. His argument is the following:

This idea that the economic (thus social) form of the future society could develop itself in the interior of capitalist society is given by Raoul with reference to Marx: «new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society.» I understand this phrase in the following sense: The experience of forms of self-organization of the proletariat (workers' councils) is the anticipation of the forms of organization of the future society; and it is in the class struggle that the material conditions of «superior relations of production» will constitute themselves, blossoming «within the framework of the old society.» As for that, we have learned through experience that these forms cannot be permanent in the midst of capitalist society; they are, if they do not win, only transitory and fleeting.

Now, that which Raoul affirms seems to me to resemble the following: the creation, not of forms of self-organization spawned by the class struggle, but of nonmarket economic (thus social) forms in the midst of capitalism, which, furthermore, tend to eternalize themselves. I think that what characterizes the proletariat in comparison to the insurgent classes of precapitalist periods, is

precisely its extreme weakness, the fact that it cannot support itself in the midst of capitalist society (contrary to the bourgeoisie under feudalism) by its own economic forces.

If I respond negatively to this possibility of «germs of nonmarket relations in the midst of advanced capitalism,» via the particular example of free software, I would tend to give a negative response, in general, to all analogous possibilities of finding nonmarket (even as germs) relations in capitalism.

What Marx and History Say

We begin by examining JC's interpretation of the famous citation in Marx's preface to his *Contribution to the Critique of Political Economy* [www.marxists.org/archive/marx/works/1859/critique-pol-economy/preface.htm], before attempting to see what history itself says about the passage from one social system to another.

JC thinks, when Marx speaks of "material conditions" that begin to "mature within the old society" to permit the existence of "superior relations of production," that it has to do with the more advanced social practice of the proletariat in struggle in the midst of capitalism: the workers' councils. We remark, first of all, that when Marx wrote these lines, neither workers' councils—appearing for the first time in 1905 in Russia—nor even the first form of that type of organization, such as that which surged forth during the Paris Commune in 1871, existed. Of what "forms of self-organization spawned by the class struggle" had Marx spoken? Note that Marx did not seek to define a law concerning the passage from capitalism to communism. He treated the succession of different modes of production, "Asiatic, ancient, feudal, and bourgeois-modern," of which he said, "reduced to their broad outlines," they "appear as progressive epochs of the economic formation of society." What, for JC, are the "material conditions" in the case of the other historical transitions?

When Marx, in the same text, treated the "disruptions" which characterized these transitions, he wrote: "In studying such transformations it is always necessary to distinguish between the material transformation of the economic conditions of production, which can be determined with the precision of natural science, and the legal, political, religious, artistic or philosophic—in short, ideological forms in which men become conscious of this conflict and fight it out."

Without wanting to lose ourselves in exegetical exercises, one could, if need be, say that JC's interpretation of the "material conditions" as the practice of the struggle in "workers' councils," could be linked to the need to "become conscious of this conflict" that must "be fought out". But, besides the fact that this would mean a reduction of the "ideological" dimension of reality, this interpretation ignores its economic dimension, "the material transformation of the conditions of production." For Marx, as he explained it, some lines before, in the same text, "the anatomy of civil society is to be sought in political economy."

JC's interpretation of Marx's thinking on this question is, at the least, very narrow. It is clear that when Marx spoke of the necessity that the "material conditions" begin to mature in the midst of the old society, it had to do essentially with the development of the material conditions of production, in particular, the productive forces.

If one observes the history of two transitions in mode of production that one knows the best: from ancient slavery to feudalism, and from feudalism to capitalism, it appears clearly that the material conditions had unfolded in the midst of the old society. What is more, this development permitted that the new relations of production appeared, although in an embryonic form, by taking their place in the midst and at the side of the old dominant relations of production.

The development of the *colonat*, had under the Roman empire, in the 2d century, an important acceleration, but it had to do with an already-ancient phenomenon. In the 3d century, this mode of production, which established the economic basis of feudal relations between exploiters and exploited, had become a normal form of production on the great properties. The growth of capitalism in the midst of feudalism also took place during centuries. Since the 11th century, through the development of commerce, in particular in the north of Western Europe and in the Mediterranean, capitalism had become an economic reality in Flanders and in certain Italian cities. It took, however, above all, a mercantile form, but not uniquely: By the 12th century, "the arsenals of Venice constructed ships at a pace unknown till then." It was, nevertheless, not until the 16th and 17th century, in England and France, that the bourgeois, new masters of the economy, had the power to sever the feudal kings' heads, allowing them to expand their affairs more freely. When the bourgeoisie definitively conquered political power, it had for a long time already had the power to economically dominate society. The political revolution came at the end of the process of implantation of the economic base of a new system in the midst of the old society.

In the case of past transitions, Marx's theory is easily verified and comprehensible: Before the new society affirms its definitive domination, it has already effectively affirmed that of its material base, economic in the first place; this has blossomed in the midst of the old society.

But it's much more complex when it has to do with envisioning the transition from capitalism to communism. For the past, at least in the cases we have seen, the coexistence of the two modes of production is facilitated by the fact that they both have to do with systems based on the exploitation of one part of society by another. In the late Roman empire, the slavemasters and the masters of the *coloni* were often the same people. In feudalism, the relations between the seigniors (nobles, ecclesiastics) and the bourgeoisie were often bloody. The wars of religion—which, behind the confrontation between the new Protestant "ethic" and Catholicism, set tendencies favorable to the new capitalist-market values in opposition to old feudal structures—were a murderous and dramatic instance. In spite of that, the coexistence between the new system and the old was facilitated by the fact that it concerned modes of exploitation, with the dominant classes always ready to get along on the backs of the exploited. In numerous cases, the aristocratic powers of the old regime would easily metamorphosize themselves into rich capitalists, not even losing any of their old [feudal] privileges. The political revolutions that marked the accession of the bourgeoisie to state power did not always and everywhere have to take the radical forms they did in England and France.

But, in the case of the accession to communism, it has to do with passing from a system of exploitation to a new society without classes or exploitation. For Marxists, the class that bears the new society, the proletariat, is the class that produces most of economic wealth, but it produces them according to relations of production that subordinate it. This class cannot engender new social relations of production in accord with its essential interests, the elimination of all exploitation, without destroying the political framework that reduces it to impotence. Contrary to revolutionary classes of the past, its political revolution does not come at the end of a process of economic implantation, but must, on the contrary, constitute the initial act permitting the transformation of the material conditions of production. When Marx spoke of the material conditions that have to mature under capitalism to permit the proletariat to introduce communist relations, it's not about the germs of these relations but fundamentally about a sufficient degree of development and deployment of the productive forces under capitalist relations of production.

That is, or has generally been, up to the present, the Marxist view of the question. On that level, it's also what JC reproduces in his text, at least when he writes: "I think that what characterizes the proletariat in comparison to the insurgent classes of precapitalist periods, is precisely its extreme weakness, the fact that it cannot support itself in the midst of capitalist society (contrary to the bourgeoisie under feudalism) by its own economic forces." I myself have always defended this position in the past. However, the new technological reality and the appearance of the world of free software, which was driven by it, weaken, in

my opinion, this point of view. It is certain that the idea that germs of new relations of production of a nonmarket type, containing communist elements, could arise and "eternalize themselves," to use JC's term, in the midst of capitalism, contradicts a part, an aspect, of Marxist theory.

"Germs"?

But, before going further, it is indispensable to explain what one means by "relations of production" and by "germs" of relations of production. Because one could object that the relations that link the creators of free software to one another and then them to the users—who participate or not in its creation—cannot be considered true social relations of production, that is to say, relations that could be generalized to the whole of productive social activity, as was the case for feudalism or capitalism in the past. The material capacity of being freely reproduced is possible only for goods that are digitalizable, transformable into a line of numbers and characters. We have seen already how that is the case for a number of means of production, like software to run machines, or consumption goods, like films, games or music. But, for the moment, we don't know how to digitize alimentary goods, nor raw materials, for example. How can such relations, which touch only a very narrow part of society and materially concern only a very specific category of goods in means of production and consumption, be considered *social* relations, or even *germs* of social relations? The creators of free software cannot nourish themselves with software, nor turn them into products for sale, because by definition it is free. How to socialize relations that don't nourish their people?

If one looks at past history, though, in particular the birth of capitalist relations during feudalism, or if one attempts to project history into the future, and, more specifically, the place that digitalizable goods could be called to take in the process of social production, two conclusions impose themselves, which permit a glimpse of how relations introduced by free software could become socially dominant relations of production.

Venetian merchants, who had made their fortunes in the midst of feudalism by selling arms or luxury goods from Asia to European feudal seigniors, did not constitute the heart of social production. Even if they brought to the narrowness of feudal life—centered around the fief and its village church—an opening to world commerce (the courtesans of the European courts could wear robes made of Oriental products), the relations among the merchants and between them and the rest of the feudal world remained marginal, and would appear to be purely subsidiary. The production of essential, indispensable goods for the subsistence of men (agricultural goods and artisanal ones, principally), was performed under feudal relations. This marginal, secondary aspect of capitalist relations in the midst of feudal society was so self-evident that even in the 18th century, the first bourgeois economists, the French Physiocrats, could, without laughing, pretend that merchants and manufacturers should not pay taxes because they do not create any true "net product": They do nothing but transport it or modify its form.

What do we want to deduce? That from their birth, in the midst of the old society, the superior relations of production, were not obligatorily born with a complete form, capable of managing the totality of social production, nor even its most vital part. The fact that, today, free software and, more generally, digitalizable goods concern no more than a part, again, marginal, of social production and consumption, does not constitute any argument showing the impossibility that the economic relations that they induce will not one day become the dominant social relations.

That which has permitted capitalist relations to become dominant after centuries of existence is not only the ideological, military, and political victory of the bearers of the new capitalist values against the old feudal regime, even if they have played a determining role, but the material, concrete fact—which demonstrates daily and by methods more and more evident—that the new relations were the only ones that could permit the use of new productive forces engendered by the opening of commerce and the development of production techniques. "In the last instance," it is the economic imperative, the

irreversible historical tendency to the development of labor productivity, that finishes by imposing its own law.

That which today permits one to envision the possibility that relations of production founded on the principles of free software (production with a view toward satisfying the needs of the community, sharing, cooperation, the elimination of market exchange) could become socially dominant is the fact that these relations are the most able to employ the new techniques of information and communication, *and* that the recourse to these techniques, their place in the social process of production, can only grow, ineluctably.

The world of free software does not constitute a microcosm of truly complete new social relations. Certain of its products begin to take a significant place in the social process of production: the informatics infrastructure of the Internet, recourse by the most important producers of computers and state institutions to Linux, etc. However, the producers of free software are not nourished by their own product. The "gratuitistic" logic is not generalized yet to the goods that assure the material subsistence of the producers. Those who work for free or are paid by an enterprise to create free software remain dependent on the revenues provided by the market world. In this sense, just like the capitalist relations in their time, the relations induced by the logic of free software can be nothing but the "*germs*" of social relations.

Insufficiency and Validity of Marxism

Marx and Engels could not have foreseen such a reality. Even under the form of "germs", they would have dismissed all possibility of the appearance of new economic relations in the midst of capitalism without a revolutionary transformation. At most, to temper this statement, one could cite Marx's considerations in the International Workingmen's Association, *à propos* the cooperatives that expressed the spirit of a great majority of the workers' movement regrouped within the First International. In a resolution adopted by the first congress in Geneva in 1866, edited by Marx, it is written: "(a) We recognize the cooperative movement as a transformative force of the present society, founded on the antagonism of classes. Its great merit is to show practically that the current system of subordination of labor to capital, despotic and pauperizing, could be supplanted by the republican system of the free and equal association of the producers." However, the same resolution, against all illusions, questioned that: "(b) But the cooperative system, limited to the form of minuscule results of the individual efforts of wage slaves, is impotent to transform capitalist society on its own. To convert social production into a large and harmonious system of cooperative labor, general changes are indispensable." [8] One knows that Marx did not entertain any illusions about the future of cooperatives as a passage to new social relations, as this resolution itself shows, or his *Inaugural Address of the International Workingmen's Association*, in which he states that "this cooperation will never be able to stop the monopolies that grow in geometrical progression." History gives good reason. Just like it condemns theories of the possibility of "socialism in one country," the mainstay of Stalinist lies.

The reality of free software situates itself on another terrain, or in another dimension. It is not a geographically circumscribed reality. It cannot be reduced to a change in the relations in the midst of or within a given community, since its principal characteristic, the gratuiticity of its products, concerns the entirety of society. Contrary to cooperatives, which must sell their products on the market, and thus sooner or later submit to the imperatives of the market, free software is freely accessible to all. The original character of the relations free software induces are caused fundamentally by the unusual nature of the informatic and informational goods that permit the creation of means of production and consumption freely reproducible on a planetary level. It's about a new reality that neither Marx nor Engels, nor any of the Marxists of most of the 20th century, either recognized or foresaw.

What's so surprising about the fact that the Marx's and Engels's vision, defined in an epoch in which mail circulated in large part by means of horses, must be modified, adapted to the age of planetary e-mail?

Marx and Engels, who followed, with passion, the very least development of the sciences and techniques of their time in order to research all that could possibly contribute to facilitating the introduction of communist society, certainly could not have acted otherwise, and would, correctly, have been enthusiastic about the development of the Internet and free software.

Contrary to the vision of an invariant Marxism that has already foreseen everything and contains no possible shortcoming, whatever the development of capitalism, Marx and Engels always stayed true to their critique of dogmatic religious thought: They knew that the role of theory is not to deny or to ignore facts that contradict it, but to enrich itself with these new elements, knowing to question itself, to better develop its explanatory and revolutionary power.

If Marxism has not specifically foreseen the possibility of the appearance of "germs" of nonmarket relations in the midst of capitalism, and thus finds itself contradicted in a particular aspect, the phenomenon of free software constitutes by that same token a screaming verification of the more general and fundamental aspects of Marxist theory.

As one has seen in the first part of this text, the principles that preside over the logic of free software contain important elements of communist theory. And as it has already been implied, the fact that these principles would be able to be rediscovered in the appearance of a new technology represents a confirmation of the Marxist idea that sees in communist principles, not an ideal invented by any big thinkers, but the product of the evolution of society itself. On a more general plane, at the level of the dynamic of history, the fact that the development of production technologies under capitalism has managed to engender an economic sector that intrinsically tends to escape the law of value and that develops itself in the very heart of the process of social production, gives a new material substance to the idea according to which capitalism could not be surpassed by anything but a social organization abolishing market exchange.

New Questions

Denying the existence of germs of new social relations in the midst of capitalism in the name of Marxism would be to betray the spirit of the same by upholding the letter. I, for one, believe that the Marxist theoretical framework constitutes the best tool to respond to the crucial questions that this new reality poses, and that research in this domain constitutes a priority, if not the priority, for the revolutionaries of our time.

The questions are numerous and important. They can be grouped into two, interdependent, dimensions: those of the relations between free software and the capitalist economy, in which it emerged, on the one hand; and those of its relation to the class struggle, on the other.

On the economic level: Up to what point could current cooperation between free software and the market economy go, without negative consequences at the level of the profitability and the realization of capital making themselves felt? Up to what point will go the antagonism between the growing desire of government to protect copyright for commercial software and the also-growing tendency toward "piratage" of digital goods? How long will it take before the share of the digitalizable means necessary for the production of alimentary goods or raw materials is sufficiently important for the production cost of those goods to be almost completely eliminated by simple recourse to free software? On the level of class struggle, how long will it take for the reality of free software and its principles to be known by all the exploited? Would the defense of these principles end up being a direct object of confrontation with the state? What modifications in the daily class struggle would the knowledge of or participation in a practical model of a new type of social relations entail? The practical example of free software would have a power of conviction incomparably more important and effective than that, in their time, of the

utopians of the 19th century, from Owens's New Harmony and Fourier's phalansteries to the spirit of the cooperatives. [9] How, in these conditions, can "the period of transition" to communism be envisioned?

It took centuries for the germs of capitalist relations, in the 11th and 12th centuries, to become the socially dominant mode of production. The history of our time has not unfolded with the same speed, and the historical situations are very different. Barring the self-destruction of humanity (unfortunately, possible) by some sort of skidding out of control of capitalist barbarity, the generalization of the principles of free software to the whole of productive social processes (elimination of market exchange, production as a function of the good of the community, cooperation, and sharing) could take much less time. That depends on the speed and the intensity of an objective material historical process, but also on the consciousness that people have of the existent conflict and the necessity of "fighting it out."

For those, like JC, who want to be able to participate in the dynamic of this grasping for consciousness, the recognition of the new historical situation created by the development of "new technology" is an indispensable step. It is inevitable if we want to respond to the important and multiple questions that modern circumstances thrust upon us. [10]

Raoul Victor
October 2002

Notes

1. "The GNU GPL and the American Way," 2001.
2. One can find this text of the *GNU Manifesto* at www.gnu.org/gnu/manifesto.html.
3. This reality explains in part the different forms of nonproprietary software that distinguish themselves by the degree of their gratuiticity, or liberty accorded to the user. In the strict sense, the term "free software" designates in reality only one specific type "protected" by the GNU GPL. One can find more details in the book JC cites, *Logiciels libres* (Free Software) (Edispher), by JP Smets-Solanes and Benoît Frachon.
4. «Free Software and the GPL Society,» interview with Stefan Merten, by Joanne Richardson, November 2001. http://subsol.c3.hu/subsol_2/contributors0/mertentext.html.
5. L'éthique hacker et l'esprit de l'ère de l'information; Exils Editeurs, 2001.
6. www.oekonux.org.
7. Interview with Stefan Merten, April 24, 2001.
8. Karl Marx, *Oeuvres*, volume I, p. 1469 (Editions La Pleiade, 1963).
9. In the course of our conference on June 15, in discussion on the theme of technological revolution, Mazagan responded to me: "I think that Raoul, in the current situation of class struggle, seeks a *deus ex machina* that could bring us comfort". I often wonder about that myself. But this question only concerns an argument about the subjectivity that would form a thought. It has nothing to say about the objective content of the thought. Does an analysis have to be contrary to the subjectivity of whomever defends it in order to be correct? Would, then, the idea of a communist society be false because it "brings comfort" to those who live under capitalism? It is true that, for those who claimed to see the premises of a world communist revolution in the extraordinary development of proletarian class struggle in the course of the period from the end of the 1960s to the beginning of the 1980s, the profound and general recoil of this combativity over the course of the following two decades has constituted an often devastating deception. But instead of lamenting over our situation, which would need of "comfort," it is much more useful to attempt to respond to the question of knowing why, in this struggle which, in certain cases, mobilized a near-totality of the

proletariat of certain countries (France 1968, Poland 1980), often attaining a degree of confrontation with the state of a violence unknown for decades, the combatants never joined a movement giving itself, explicitly, the goal of the construction of a postcapitalist, communist society. Historical realities never have a single cause. But among the reasons that explain this "self-limitation" of the class movement must certainly be the difficulty of collectively perceiving what a postcapitalist society could be. The "revolutionary project," as it was discussed at the instigation of the more radical elements, was nebulous, opaque, and sometimes terrifying. The Soviet model, with all its variants, from the Chinese "Cultural Revolution" to the guerrilla centers of Latin America, by way of the sinister Albania, pronounced as a model by some Maoists, haunted all minds and paralysed many. Even if these struggles marked a historical rupture vis-à-vis the enormous influence of the Stalinist currents on the wage workers in a number of countries, this distance was only the beginning. Inevitably, all discussion of the revolutionary project began with debates on the qualities, or not, of "communist" countries or those "on the way to communism," etc. And when one attempted to go beyond them, the impression that one was spouting pious and abstract dreams weighed on one as a source of doubt.

It would be a mistake to underestimate the lack, the crying insufficiency of the revolutionary project to explain the weakness of past proletarian struggles. The new technologies and the logic of free software that they have engendered constitute determinant new elements on which to found this project much more concretely.

10. The question of knowing whether the material conditions of communism existed or not before the current technological revolution is an important question for the analysis of historical dynamics of the past. But whatever one's response to this question, it is a priority to confirm that contemporary technological transformations carry material conditions that facilitate, in a qualitatively new manner, the construction of a communist society.