

# A Plea for an Ecological Reconstruction of Marxism

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For the first time in history, humanity has to conceive our emancipation under a global ecological constraint, unsurpassable by an increase in labor productivity.

Global warming exemplifies this constraint. In order to stabilize the climate system, the final energy consumption should fall by 50% in the European Union, and 75% in the US, by 2050 (UN, World Economic and Social Outlook 2011). Such objectives cannot be achieved without a reduction in material production and transportation, at least in the so-called "developed" countries. It's not enough to limit growth.

At the most, the energy system based on fossil fuels must be replaced by another one, renewable, completely new and different. A huge mutation must be carried out within two generations. It requires investments and thus additional energy consumption. In other words, the transition itself, at least in the beginning, will be an additional source of emissions and these must absolutely be compensated. Therefore, a plan is necessary, based on energy efficiency, not cost-efficiency.

It goes without saying that this constraint cannot be met within the framework of capitalism. It would be absurd to hope capitalism could follow a plan, reduce the production and ban the profit as the criteria for investment. The only solution is to get rid of capitalism.

Nevertheless, the ecological constraint means a radical change in the objective conditions for the transition to socialism. The question arises: is Marx's thought relevant to cope with it? Some say "no". John B. Foster says "yes", ecology is at the heart of Marxism (JB Foster, "Marx's Ecology"). My thesis is a bit different:

● firstly, Marx's conception of human-nature relationship is a pertinent framework for the discussion on the so-called "ecological crisis"

- secondly, his critique of capitalism provides necessary tools for the understanding of this crisis
- but “Marx’s ecology” is only a potentiality. Its implementation requires a critical reappropriation, a reconstruction. Two pitfalls must be avoided: apology and anachronism.

I have no time to discuss Marx’s materialist conception of nature, of human nature, of the historical relationship between humankind and nature and its evolution. I pass immediately to the second point: his critique of capitalism as a tool to understand the so-called “ecological crisis”.

## Marx’s anticipations

Anticipations of the way the human-nature relationship would evolve under capitalism are numerous and remarkable in Marx’s work. They are not intuitions but rigorous conclusions arising from his analysis of the dynamics of accumulation.

First of all, it should be noted that, for Marx, labor exploitation and plunder of nature are two inseparable aspects of accumulation. For four reasons:

- Firstly, the human labor force itself is a natural resource. “The natural force of people” and “the natural force of the earth” are “the only two sources of wealth”, looted by capitalism;
- Secondly, the use of labor force as a commodity requires as a precondition the producer’s natural force to be separated from other natural resources, that is to say the capitalist appropriation of land. Capitalist industrialization and urbanization would have been impossible without this “violent rift” between humans and their “inorganic body”;
- Thirdly: the monopoly of land by landowners allows them to capture a share of the surplus value as a rent, at the expense of other sectors and the rest of society. Taken as a consumer, society pays products of the soil above their price of production, which means a waste of social labor;
- Fourthly: the combined exploitation of labor and nature has consequences both for agriculture and industry. In the countryside, it promotes a more intensive and specialized agriculture. In the city, it helps to offset the fall in the rate of profit by a relative decrease in the value of the labor force, due to cheaper subsistence products.

The capacity of this analysis to capture the present increasing integration of industry, agriculture and finance and its consequences is obvious in Marx’s conclusion at the end of the section on rent, in *Capital*:

*“Large-scale industry and large-scale mechanised agriculture work together. If distinguished originally by the fact that the first lays waste and destroys principally labor-power, hence the natural power of human beings, whereas the latest more directly exhausts the natural vitality of the soil, they join hands in the further course of development in that the industrial system in the countryside also enervates the laborers, and industry and commerce on their share supply agriculture with the means for exhausting the soil” (Capital, Volume 3, Chapter XLVII)*

## Productivism?

Marx is no “productivist”: he opposes the production of use-values to that of exchange values. In *Capital*, he makes clear that the first is bounded by the fact that human needs are finite, while the

second “has no end” because “the beginning and the end are one and the same thing, money”(…). “Therefore, the movement of capital has no limits” (*Capital*, Vol 1, Chapter 4). More exactly, no other limit than capital itself, which implies exploitation of the producers and appropriation of nature. The formula by which Marx posits that capital depletes the only two sources of wealth - the soil and the worker - is a direct result of this analysis.

The long-term implications of the dynamics of unlimited value accumulation are explored with amazing prescience in a little known passage from the *Grundrisse*:

*"It will be necessary to explore Nature in all directions in order to discover new objects properties and new uses, to exchange, across the universe, the products of all latitudes and all countries, and to submit the fruits of nature to artificial treatments in order to give them new use values. One will therefore maximally develop the Science of nature"* (*Grundrisse*, Chapter on capital, my translation).

Genetic engineering, appropriation of genomes and industrial biomimicry fit perfectly within this anticipation.

Some consider Marx's faith in the possibilities of development of productive forces as equivalent to the absurd neoliberal notion of absolute substitutability of capital to resources. The following quotation shows the opposite is true:

*"Suppose labour-saving machinery, chemical aids, etc., are more extensively used in agriculture, and that therefore constant capital increases technically, not merely in value, but also in mass, then in agriculture (as in mining) it is not only a matter of the social, but also of the natural productivity. It is possible for the increase of social productivity in agriculture to barely compensate, or not even compensate, for the decrease in natural power — this compensation will nevertheless be effective only for a short time."* (*Capital*, Vol 3, Chapter XLV)

Why does Marx write that an increasing social productivity will fail or just not even compensate for the loss of natural productivity? Because he knows, thanks to Liebig, that the increase in agricultural productivity is not a linear but a decreasing function of the capital invested in the soil.

Why does he write that compensation will be temporary anyway? Because he is aware of the fact that investments in capital can only postpone the consequences of the rupture in the nutrients cycle, driven by urbanization.

## **Agriculture and industry: uneven and combined development**

Understanding the uneven and combined development of agriculture and capitalist industry allows Marx to identify a series of specific contradictions. I'll mention five, briefly.

### **1. Increasing fluctuations of agricultural prices.**

*"It is in the nature of things that vegetable and animal substances whose growth and production are subject to certain organic laws cannot be suddenly augmented in the same degree as machines and other fixed capital, or coal, etc., whose reproduction can be rapidly accomplished. It is therefore inevitable that the increase of the portion of constant capital consisting of fixed capital, machinery, etc., should considerably outstrip the portion consisting of organic raw materials, so that demand for the latter grows more rapidly than their supply, causing their price to rise"* (*Capital*, Vol 3, Chapter VI).

Marx deduces a tendency to alternating inflation and depreciation in the price of agricultural commodities, resulting in the strengthening of the main regions of production and increased investment in these areas, so that the competition on the world market becomes even more unfavorable for other areas. This explains the formation in the course of capitalist development of large zones of monoculture destroying food sovereignty, ruining small farmers and transforming vast areas into green deserts.

- **2.** Therefore, there is a trend to an imbalance of investment in the production of food and agricultural commodities. I won't develop this point: the massive production of biofuels from food crops is an example and everybody knows biofuels tend in turn to sharpen the tendency to price convulsions described by Marx.
- **3.** In food production, there is a trend to a disproportionate investment in meat production ("unessential", according to Marx: tell it to vegetarians!), at the expense of grain production. The reason is *"the price is determined in such a way that the price of the product of the land — which is used for cattle-raising, but which could just as easily have been transformed into cornfields — must rise high enough to produce the same rent as on arable land of the same quality, so that the rent of cornfields becomes a determining element in the price of cattle, and for this reason the price of cattle is artificially raised by the rent"* (Capital, Vol 3, Chapter XLV). The increase and industrialization of meat production is a consequence of this situation of excess profits.
- **4.** There is also the same trend of overinvestment in fisheries, quarries and natural forests: *"The rent plays an even more important role in extractive industries, where one element of constant capital, raw material, is wholly lacking and where by far the lowest composition of capital prevails (...) The capital here consists almost exclusively of a variable component expended in labour, and thus sets more surplus-labour in motion than another capital of the same size. The value of the timber, then, contains a greater surplus of unpaid labour, or of surplus-value, than that of a product of a (agricultural) capital of a higher organic composition »* (Capital, Vol 3, Chapter XLV)

The criminal appropriation and destruction of tropical forests cannot be explained simply by the logic of profit, but by the existence of a surplus profit, growing when the demand grows.

- **5.** In times of crisis, there is a tendency for capital to seek a safe place to make profit to rush to the land and other resources which generate rent, for the evident reason that the rent is a part of the surplus value gained without taking any risk.

This is exactly what we are seeing today with the rush on real estate, the massive purchases of land in the South as a financial investment, the appropriation of forests generating carbon credit, etc.

## **The fundamental irrationality of capitalist agriculture**

Of all this, Marx draws repeatedly the same lesson:

*"The moral of history is that the capitalist system works against a rational agriculture, or that a rational agriculture is incompatible with the capitalist system, and needs either the hand of the small farmer living by his own labour or the control of associated producers."* (Capital, Vol 3, Chapter XXXVII)

Marx insists on the fact that his analysis of agriculture can be transposed *mutatis mutandis* to other domains of rent-earning capitalist activity: water, minerals, natural resources in general, and the space as fundamental element of any human activity. Actually, it can be seen as a theory of a

combined exploitation of the earth and the producer. It leads Marx to a conclusion in two parts:

- Human development is bounded by two limits: *"The fertility of nature is a limit, a starting point, a base. (...) The development of social productive force is the other limit"* (Capital, Vol 3).
- *"The only possible freedom is that social man, the associated producers, rationally regulate their exchange of matter with nature and make these exchanges spending the minimum force and in conditions most respectful and most consistent with their human nature."* (Capital, Vol 3, chap XLVIII, my translation)

As we know, this second conclusion was inspired by the work of Liebig on the rupture in the nutrients cycle due to capitalist urbanization. The genius of Marx has been to generalize the problem to the exchange of matter in general. On basis of that concept, he develops two programmatic perspectives:

1°) - The need to switch to a mode of production based on the use value to satisfy real human needs, which involves the removal of capitalist ownership of the land and other resources, the return to "common goods":

*« From the standpoint of a higher economic form of society, private ownership of the globe by single individuals will appear quite as absurd as private ownership of one man by another. Even all simultaneously existing societies taken together are not the owners of the globe. They are only its possessors, its usufructuaries, and, like boni patres familias, they must hand it down to succeeding generations in an improved condition"* (Capital, Vol 3, chap XLVI).

2°) - The abolition of the distinction between town and country. He goes even further: to the extent that global trade worsens the irrationality of the exchange of matter with nature, it is no exaggeration to say that the relocation of the economy and food sovereignty, although not explicit in Capital, are claims fully consistent with Marx's critique of capitalism.

### **An ecology of Marx?**

In such conditions, why not speak of an "ecology of Marx?" Because "Marx's ecology" is a reconstruction. A brilliant reconstruction by John B. Foster, but, as an implicit reconstruction, it ignores the tensions, unresolved issues, or flaws in the thinking of Marx. For Marx, because he didn't know the global ecological crisis, did not always - and could not - draw "ecologically correct" conclusions from his genius anticipations. I could give many illustrations of this assertion. Suffice it to mention a few.

The remarkable quotation from the *Grundrisse*, for example, about the logic of accumulation, continues with following considerations, which largely empty its present ecological significance:

*"The production based on capital creates conditions for the development of all the properties of the social man, with a maximum individual needs and therefore rich qualities most diverse, in short a creature as universal as possible, because the higher the level of human culture, the more it is able to enjoy"* (Grundrisse, chapter on capital, my translation).

The tension between the radical critique of capital and a certain fascination for its "civilizing mission" is here obvious.

The attitude towards the peasantry is another example of tension. In the passage we have quoted,

Marx asserts that rational management of agriculture can only be practiced by small peasants or the associated producers. But this statement is partially contradicted elsewhere in the book:

*“One of the major results of the capitalist mode of production is that it has made agriculture a conscious application of science in agronomy (...) while it was a series of processes purely empirical and mechanically transmitted from one generation to another by the less advanced fraction of society” (Capital, Vol 3, chapitre XXXVII).*

Elsewhere in *Capital*, Marx is very ironical against Lavergne, an author who “believes in legends” such as soil enrichment by plants drawing from the atmosphere elements necessary to fertility. Of course, this phenomenon had not been scientifically established before the death of Marx, but the fact had been discovered “empirically” as early as the fifteenth century (in Flanders): the first agrarian revolution of modern times - the abandonment of fallow, allowing a significant increase in productivity and alleviating the pressure on the forests, has been the implementation of the “less advanced fraction of society”. The weak point of Marx here is that he tends to deny the peasant’s knowledge.

At the end of the section on the rent, in *Capital*, Marx does not choose between the small peasant and the capitalist farmer. To deplore this indecision would be anachronism: the historical conditions necessary to overcome the contradiction - an agriculture benefiting both the knowledge of science and the association of the producers - were not met. Nevertheless these pages show a kind of “contempt for the peasantry.” While he praised the skill of artisans, and denounced its theft by capital, Marx did not do justice to the creativity of rural communities that, throughout history, have created remarkable agricultural systems and varieties of plants adapted to very different environments.

In addition to these tensions, there is, I think, a major ecological flaw: Marx does not see the qualitative importance of the transition from a flux energy - renewable (wood) - to a stock energy - nonrenewable on a human scale of time (coal). Given the fundamental role of fossil fuels under capitalism, this is a serious error in the modeling of this mode of production. Above all, it destabilizes from inside Marx’s thesis on the rational regulation of matter exchanges, because rational regulation is inconsistent with the long-term burning of fossil fuels stocks that cannot be regenerated. In addition, the confusion between flux energy and stock energy can give rise to the idea that energy sources are neutral, which may in turn lead to the idea that energy technologies are neutral, too, a conclusion that would be contradictory to historical materialism.

### **Greening Marx’s conclusions, discussing new problems**

These tensions, unresolved issues and flaws do not erase the fact that Marx’s critical categories are essential to the understanding of the so-called “ecological crisis” (actually, an expression of the global systemic crisis of capitalism). But they invite us to revisit the work of Marx, to “green” his conclusions and to elaborate on a few new problems, in the light of the present global “ecological crisis”.

One can start from Marx’s vision of the “rational management of matter exchange”, which is an adequate framework for discussing the crisis, and ask some questions: what exactly does it mean to stance that the exchanges should be regulated “spending the minimum force and in conditions most respectful of human nature”? What is the specific role of women among the “associated producer”? And what rationality should guide the regulation?

Today, the issue of “the minimum force” raises the question of labor productivity in agriculture,



forestry etc. It is a crucial problem, because avoiding catastrophic climate change is impossible without resorting to local, organic agriculture. In the regions dominated by agribusiness, this requires an increased share of social work to be assigned to agriculture and environmental management. Consequently, a decline in agriculture productivity is needed in these regions. This introduces an important theoretical question, briefly touched by Ernest Mandel when he noted that “from a certain level, the development of productive forces can bring us away from socialism instead of closer” (Mandel, “Ten theses on the transitional societies”).

But what is that level? Here, the issue of agricultural labor productivity can be related to that of the “conditions most respectful of human nature.” The farming of poultry and livestock is utterly productive, indeed. Is it respectful of human nature? In my view, it is a form of abuse, of animal torture. Industrial meat production is an extreme manifestation of the objectification of life, characteristic of the capitalist system, which in another form, denounced by Marx, is the objectification of human labor, and therefore of humans, on behalf of the same instrumental reason.

This brings me to a third question: what is the rationality Marx is speaking about? I have mentioned his tendency to overestimate the rationality of science against the empirical knowledge of peasants. It is obviously not to idealize this traditional knowledge but to open a critical reflexion on the instrumental rationality as an expression of the “scientifically” organized objectification and appropriation of life.

Within this framework, the specific oppression of women and the identity between the social appropriation of the force of nature and the social (patriarchal) appropriation of the natural reproductive force of women should be taken into account. The concept of a rational regulation of the matter exchange should be amended on this basis. It should also integrate the fact that women in the global South, today, produce 80% of the food. Their specific role is crucial.

### **Energy, the Commune and the commons**

Eventually, another important issue to be discussed is the relationship between planning and decentralization. This issue also can be approached pragmatically. Of course, the nationalization of energy is the fundamental condition for a successful energy transition. As James Hansen said, the energy lobbies are committing a crime against humanity and the environment, because they block the transition for reasons of profit. But their expropriation would only be a first step. The extreme centralization and uniformity of the present energy system is a technical consequence of the use of fossil and nuclear fuels. A system based on renewables will have to be very different: it will network local systems using a diversity of sources. That system should be owned and managed by a federation of local communities, not by a central state.

In his famous essay written after the defeat of the Parisian insurgents Marx said the Commune was “the political form at last discovered of the emancipation of labor.” This brings me to my conclusion: within the framework of the ecological reconstruction of Marxism, this formula should be supplemented as follows: “the political form at last discovered of the emancipation of labor and ecological sustainability”.

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