

AGAINST THE CLOSURE OF THE WORLD: WHAT IS AT STAKE IN THE NEW "GREAT TRANSFORMATION"

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— *Translated from French by Christine LaMarre*

At a time when so many voices cry out against the unbearable openness of globalization, against the dissolution of national boundaries and other totalities, it may seem paradoxical to raise a voice that calls for a struggle against closures. Yet, perhaps paradoxically, we see globalization in terms of its authoritarian rigidity, and it is against the globalization's closures that we feel we must fight.

Insofar as we cannot accept America's nationalist and imperialist mobilization, the outcry against the war seem to us less dangerous than pro-war declarations. Yet it is also less suited to the times: it fails to plan or think on the basis of the actual course of things. It conceals its emptiness under a more or less sophisticated and reassuring rhetoric, which responds point by point to the much less sophisticated war rhetoric. What we fear is that the military operation will already be over before the outcry against the war begins in earnest.

We think it a mistake to repeat the thesis of discontinuity in vogue since September 11. We must think about continuity, about that which prepared the authoritarian turn to war, namely, difficulties in governance and in the invention of new regulations. We must go back to the inflexibility that characterized the European repression during the years 1975–85, as well as Tiananmen.

When it came to deregulating old style capitalism and its double (i.e. real socialism), global capitalism went from success to success. Now, however, one

gets the feeling that the machine has rather quickly seized up. The neo-liberal utopia of capitalism began to eat its hat as early as 1982 with the Reagan plan to bail out the S&Ls (American Savings Banks) and the two largest debtor nations in the world (Mexico and Brazil). And after 1989, the absorption of the Second World became a financial nightmare. Out of this growing uncertainty of the liberal dream came the G8 ceremony — summit meetings of the seven most powerful countries in the world, plus Russia. When, at the end of the Gulf War, Bush Senior spoke of the new world order to be put in place, the demise of liberalism was all too clear. Bush had to call for the installation of order precisely because the globalization of democratic aspirations (and of other behaviors) had begun to run counter to the globalization of markets. The constitution of great imperial ensembles like the European Union with its one currency is one attempt to create less turbulent, more orderly zones. In this respect, September 11 is the culmination of events, proving by absurdity that the center of the world economy is fragile. Of course, there were prior demonstrations of its fragility — the greatest financial collapse in human history (the Asian economic crisis of 1997) and the collapse of triumphant “hedge funds” (LTCM). The American government partly averted these crises with commitments that ran counter to its liberal ideology insofar as the United States began to intervene more massively and directly into monetary and financial circulation — much as it had done with the construction of information highways.

But of what does this “seizure” consist of? Our thesis is that, fundamentally, this seizure marks the failure of the first phase of market colonialism within post-Fordism, as realized primarily in the Internet and produced in the new “great transformation.” Added to classical contradictions (that is, classical in the Marxist sense: growing economic inequalities between North and South), this failure had led to war and to an authoritarian turn in global politics. War is but the surface manifestation of a crisis in governmentality that expresses a fundamental tendency of globalization. Let us outline some of the essential characteristics of this great transformation in order to elucidate this crisis.

A New Model of Knowledge Production

From the time of Adam Smith, it is common to see knowledge production as somehow different from industrial production. Knowledge production is supposed

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to involve a cooperative model, rather than a division of labor. Thus art, artistic creation and science have long been considered differently from industrial production — as separate from it. With the internal globalization of capital and its external “worldization” (*mondialisation*), a twofold change occurs. While, one the one hand, the spheres of art, science and knowledge are more and more sway over the market or on the operations that undermine the market (we speak of a quasi-market); on the other hand, the industrial production becomes more and more immaterial and similar to the production of knowledge by means of knowledge. Such changes are not without precedents. In the *Gundrisse*, Karl Marx called analytical attention to the growing ascendancy of the science of industrial capitalism, as embodied in transnational firms. Moreover, Research and Development (R&D) departments go back to the 1920s and 30s, particularly in the pharmaceutical and agricultural industries (such as pesticides). One sees a progressive reduction in the autonomy of science vis-à-vis technological imperatives. Moreover, as the Frankfurt School noted, the presumed independence of the cultural production from production proper is called into question. The full realization of such tendencies required only a further “immaterialization of production” (that is, the rise of service industries), in conjunction with the revolution in New Technologies of Information and Communication (NTIC). Thus the divisive model of industrial production contaminated the cooperative model of knowledge production (research and artistic creation), and vice versa. The result is a major transformation in the overall system of production, a transformation so far-reaching that we feel compelled to speak of a genuine metamorphosis or mutation of industrial capitalism, that is, capitalism of the industrial age (or Fordism, if one resorts to the terminology of the school of regulation). Let us offer a tentative sketch of some of the features of this new “great transformation.”

1. With the irresistible rise in the role of information, virtualization has come to characterize today's economy. In its contribution to capital formations, the immaterial economy overtook the material economy around 1995. The subsequent domination of service industries was merely a manifestation of a shift of the center of valorization toward cognitive processes. The production of material goods from other material goods diminished in importance, giving way to the production of knowledge through knowledge. Prospects for growth in developing economies and in emerging countries are now strictly tied to this reorganization of production.

2. Data capture, that is, the processing and storing of data in digital form, has come to play a fundamental role in the production of knowledge. It has also begun to play an important role in production proper through the industrial use of small, decentralized computers (from around 1986), which became linked together in ever more powerful networks, such as the Internet (1995) or the Web. This is the NTIC revolution. The very rapid democratization of personal computers (PC), in conjunction with the accessibility of means of transmission of information, has had a profound impact. In terms of their cost, output and this linkage in the worldwide network, the revolution in PCs is still underway. In the coming decade, the utilization of biological, rather than electrical, media will increase computer memory capacity and lower costs. The use of new electrical conductors will allow information borrowing from already existing networks, and thus to lower cost further. Innovations in biotechnology and life sciences (such as mapping the genome) stimulate NTIC, and vice versa. This does not so much recall the Industrial Revolution as it does the Renaissance and the Copernican Revolution. In these respects, it is possible to speak of a new paradigm or socio-technical model.
3. Innovation has assumed a fundamental and endogenous role in economic growth. This innovation builds primarily on interactive cognitive processes of social cooperation. This happens because previously tacit knowledge, once digitalized, becomes readily available to companies, the market and public sector. Technical progress is no longer exogenous to industrial production and social interaction. NTIC are thus characteristic of a "socio-technical system." During the development of industrial capital, forms of knowledge and sciences had remained distinct from industrial capital even as industrial capital incorporated them. Now, however, they become its hegemonic site, the *leading part* of the system. This is what is meant by the term *knowledge-based economy*.

4. Adam Smith provided the model based on the division of labor, which became indispensable in modeling pin manufacture, and which Taylorism perfected. This model is now invalid at three levels. First, at the level of specialization of activities, growth in productivity is no longer determined by the reduction of complex tasks into simpler ones, or by separation of intellectual conception from manual execution in order to diminish the delays incurred when providing specialized training for workers. Second, the size of the market

- loses its pertinence in a world geared toward production in small units and an "economy of variety" (as R. Boyer calls it) that is subject to sudden changes in demand. Third, with respect to the coordination of complex processes, the Smithian and Taylorist division of labor is no match for innovation. Gains in productivity no longer result in economies of scale designed to compensate for diminishing returns. These three factors no longer constitute the ironclad law of economics.
5. In post-Smithian forms of the division of labor, which some recent studies refer to as a new *cognitive division of labor*, economies of training come to play the leading role in differentiating markets and determining intercapitalist competition. Autonomy and intelligence (defined as the faculty of providing a satisfactory response to an environmental modification, to an unexpected and unscheduled change in context) become major sources of value, because the uncertainty of demand gives rise to market complexity. In the political economy of second stage (that is, industrial) capitalism, the factory and industrial production dominated the system, and such matters as circulation, consumption, redistribution and reproduction remained subjugated to them. As the commodity form (represented in Smith or Richard by the monetary exchange of manufactured goods) shifts toward the productive consumption of labor itself, it comes to subordinate the valorization of capital as money. Today, value is no longer produced in the factory via the Smithian division of labor. Rather, it derives from a cognitive division of labor in which the autonomy of agents and the formation of collectivities ceases to contradict productivity, for it accords with the new modifiable and modified processes ever at play in production to allow for continual adjustment to environmental changes.
 6. This enlarged notion of the production of value had already appeared within Fordism in the forms of financial functions that became necessary in dealing with uncertainty and risk. Where such financial functions saw risk largely as linear and stochastic processes (as in the so-called technology of finance), sudden shifts in production sequences have an impact on the peaks and valleys of the moment of production itself, due to the use of digital data and the high-speed processing available through NTIC. Consumption now becomes coproduction within this "production in flux," for consumption produces that which has already been sold. The market then precedes

production, and production must integrate itself into the market ever more tightly. Consumption comes to provide the information necessary for the regulation of material production, which is supposed to respond in "real time," instantaneously. What political economy was formerly considered *output* becomes *input*, and *input* plays a crucial role in reducing the risk of not selling all the goods. The multiplication of *feedback loops* makes for a general condition of reversibility (flexible production) and for combinations of production and consumption that are at once indivisible and unstable. With respect to knowledge production, this model is especially pertinent because it can account for production-consumption sequences that were unheard of within the order of material production inseparable from rigid temporal sequences.

7. As the concept of directly productive labor loses its hold, reliance on individual performance within the company becomes less pertinent, as does factory performance (productivity indices, for instance). What is more, under conditions of globalization, performance that spreads over a productive territory (and sometimes over the entire economy of a country) loses its hold, while an individual's creativity or cognitive inventiveness takes the form of a multiplicity of affects and information. In sum, creation and invention function under a permanent regime of *overdetermination*, insofar as they become the site for the condensation of multiple factors. It is imperative to resist causal explanation of production that rely on an Aristotelian model (with final, formal, efficient and material causes), for there is no longer any difference between economic, artistic and political activities. A political activist finds or invents actions to take in a given situation, a painter determines which strokes to apply to her canvas, and a human worker imagines a new product. Is this not a sort of synesthetic effect like that announced in Rimbaud's poem *Voyelles*? Such a poem produces neither a sexual symbolism (for Jungian analysis to decipher) nor a children's book of ABCs. One might speak of a "materialism of encounter" like that imagined by Althusser, like the Chinese characters gleaned randomly from packets of tea for Pound's *Cantos*. Some mathematicians admit that the idea for a new theorem comes more easily to them in the cafeteria than in their offices with a blank sheet of paper in front of them. Insofar as the homogeneity of input is no longer a given, it becomes more and more difficult to determine which elements are the efficient ones

vis-à-vis economy performance on micro- and macro-economic scales. The question is not the traditional one of the irreducibility of complex labor to simple labor. Rather it is one of the irreducible plurality of input as a whole, as well as of the dissolution of the traditional division between labor and capital. This is surely what encouraged R. Nelson and P. Romer to generate the ternary distinction between *hardware* (material-machine), *software* (programs) and *wetware* (brain activity), instead of the binary distinction of capital and labor. To their tripartite distinction, we would insist on a fourth dimension that is now essential everywhere, that of the productivity of networks. Basically, it makes no sense to introduce an absolute separation between the two major kinds of input, especially in the case of advanced capitalism. Even at the stage where capital subsumes labor, it is not possible to treat the activity of living labor as simple labor, as simple muscular energy expended to transform materials. If this view is not satisfactory, it is because abstract labor in Marx's theory is not a biological invariant. Still, one might object that, even if labor is complex, living labor, as a labor process, can nonetheless be reduced to the operation of sophisticated machinery or to objectified knowledge. In response, we must insist on the two-fold nature of living labor. On the one hand, it is an expense of energy that will be partly consumed and partly crystallized within the new mechanisms of a subsequent cycle. On the other hand, living labor persists as a means of production throughout the cycle. It cannot be entirely objectified or reified. It remains as an intermediary form of consumption. As it is used as energy, it becomes a way of producing labor from labor. It then emerges in the form of competence, as a form of knowledge that resists its complete reduction or objectification into nothing more than human capital.

8. If one wished to identify the single trait that best characterized third-stage capitalism, one would have to address the relentless growth in importance of a fourth component that emerges in models of social and productive cooperation. One would have to stress the vital role played by the *network* or *netware* as a *tertium quid* between the market and hierarchy. Computing makes network society possible, through digitalization, programming, the spread of PCs, and emergence of the internet. Network society overturns the conditions for the production, exchange, and innovation of knowledge. It thus transforms the possibilities for firms to capture value. Network society

(re)materializes what Marx called *general intellect*, strengthening its *democratic* nature. In the network, every point becomes a center of the whole by dint of its virtual productivity. The network resists hierarchical divisions, making cause/effect, material/means/product, and consumption/production interchangeable. It is this paradoxical situation that best characterizes the network.

9. Four inputs are absolutely necessary for the production of knowledge-goods, namely, *hardware*, *software*, *wetware* and *netware*. These imply a central labor for labor as a living activity that is not entirely consumed or reduced to dead labor via mechanization. They also rely on implicit or contextual knowledge. Such contextual knowledge expresses the level of development of productive forces within a society. Yet it is not reducible to mechanization, to objective or scientific knowledge, or to standardization as human capital.
10. The information commodity continues to replace material goods. Consequently, the paradigm used to describe labor power under industrial capitalism proves less and less appropriate in describing the capitalism's mobilization of human activity. Nor is it suitable in describing the human cooperation indispensable to capitalism; for the old paradigm drew on theories of energy and entropy, treating labor power as a quantum of energy alternately consumed or reconstituted. The information commodity, however, refers to language and sign production. The *living* activity of the brain and the *interconnection of brains* have become the major source for development, and so the idea of separating labor power from the laborer and his or her affective capacity becomes a rather inoperative fiction. Similarly, it is no longer possible to separate educational training from the productive consumption that is now part and parcel of labor activity.
11. From a macroeconomic point of view, a crisis in the instruments of national accounting characterizes the age of cognitive capitalism, which calls into question the supposedly immutable laws that economic doctrine had erected. As invisibility and interactivity become more and more common, economic analysis cannot reject externalities operating on the margins of the capitalist system. Externalities, both positive and negative constitute the general conditions for positive growth, for investment, for the distribution of revenues. A paradoxical situation acerbates the "market norm" — transfer prices are not commensurable with market prices, and transaction costs are infinite.

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The complexity and multiplicity of interactions incurred for a single operation have economic implications, generating ripples of positive and negative effects. Such ripple effects defy systematic measurement, for measures of the market rely on calculations of an increasingly incoherent labor time, on marginal utility, or scarcity, or on the proven needs of an individual in isolation. Evaluating externalities becomes indispensable in understanding the real economy. Yet, at the same time, it raises greater and greater difficulties within the framework of market allocation of goods and services, because the cost of the cognitive transaction becomes infinite. The globalization of economic calculus has two motifs. First, operations are exceedingly complex. Second, it is prohibitively expensive to determine a price through market mechanisms. As a result of such changes, growing or constant returns provide a more plausible hypothesis than decreasing returns, if one is to account for innovations within companies, for the adoption of new technologies, and for economies outside the network.

12. With respect to its use, depreciation, appreciation, and its non-exclusive character, the specificity of the new information commodity raises two types of problem for both the neoclassical and critical models of the political economy. The first type of problem, already discussed in relation to the American "new economy," is that of pertinence of global laws to the theory of costs in the case of knowledge-goods. These are close in nature to public goods, and rarity is no longer the fundamental factor. The *net economy* allows one to store information about consumers with *cookies*, for instance. And it costs little or nothing to reproduce such knowledge-goods and information-goods. Such features call into question the principle of unitary prices as well as the ability of the market to re-equilibrate. In the classical economy, only monopolistic companies could consistently monopolize through price discrimination. This is no longer true.

13. The second type of problem involves the nature and the specification of assets that enter into market exchange. The increasingly public nature of knowledge-goods calls into question the possibility of producing them via the market system. Moreover, NTIC removes obstacles to the reproduction of immaterial goods and allows for almost infinite storage of them, which makes the establishment of proprietary rights for such goods very difficult. Knowledge-goods cost a great deal to produce, yet these costs are not

recuperable (sunken costs), because the digitalization of knowledge contents makes them reproducible at little to no cost. The only cost is that of support and transport, which makes it ever more difficult to enforce proprietary rights. This raises the problem of *new closures*. There are the cases concerning copyrights on music being downloaded on the Internet, for example. Another example is the problem of patenting software. The commodification of biotechnologies provides a third example.

The Crisis in Governmentality in the World Economy

Simply put, the new "great transformation" makes it increasingly difficult to realize and appropriate the surplus produced by capital. Because it was founded on the objective, calculable cost, the prior criterion of dividing surplus from net no longer proves functional in the production of knowledge by means of knowledge, affect by affect. Nor does the modern system of proprietary rights work within the network arising from the interconnection of brains, as *general intellect*. The immediate outcome is a severe crisis in the governmentality proper to second-stage capitalism.

If we go back only a few years to the NASDAQ fall, the crisis is readily evident in the disillusion with start-ups, and in the failure to bring the world of intellectual cooperation under the umbrella of market relations. This failure is tied to the emergent space of the Internet and new technologies, which enabled a space free of market relations, or at least a space of loosened market constraints.

The first wave of commodification and closures in the fourteenth and fifteenth centuries unfurled its attack against the human and collective dimension of traditional community (the communal lands of the English villages or the Russian Mir, beloved of the later Marx). It attacked with progress, with technical instruments, and with a formidable growth in productivity. Reuniting and centralizing the three components of propriety (*usus*, *fructus*, *abusus*) fashioned private property on the model of Roman law for the ownership of things. It became the basic unit and primary support for theories of natural right and contractual relations. This movement coincided with, or went in the same direction as, the production of goods and value. There was considerable synergy and coherence between them.

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Things no longer work in the same way today. The unity and centralization of property rights crumble with the emergence of NTIC and the displacement of sources of value toward the sphere of production of living by means of living, knowledge by means of knowledge. Ownership of immaterial goods deposes the hegemony of ownership of material goods. Because immaterial goods can no longer be defined by the possession of capital or of goods, access and relationships now command the production of new knowledge and living. As a consequence, classical property, characterized by the hegemony of the right of *abusus* (total alienability) over *usus* and *fructus*, becomes an obstacle. Marx would have spoken of the unbearable heaviness of the organic composition of capital, whence the current obsession with *weightless economy* (*Dan Qha*) and with lightness (*lean production*). There is thus a crisis in ownership, in defining it. Ownership is no longer ownership of a good, a thing, of its definitive sale. Rather, it entails control over a relation and especially over the system that permits one to capture, reproduce and relate life experiences. In short, it entails control over networks and especially the network of network, the Internet. In his book, *The Age of Access*, J. Rifkin nicely described this transformation in ownership, and the ever more strategic importance of the use of information and access to use it. The customer for a given good subscribes to a relation. This relation does not promise enjoyment of predefined goods but proposes an interactive co-production of short-lived products, not only services but also life experiences, affects, flows of virtual images, and memory-processing devices. In sum, *usus* and *fructus* become far more important than *abusus* or alienability.

This is only half the story, however. To make *usus* and *fructus* (*usufruit*) appropriate (that is, to define and enforce property rights), goods and relations must themselves be divisible and exclusive, and certain intrinsic characteristics safeguard this status, such as the difficulty in producing them (manufacturing secrets) or the authority to reproduce them (patents and copyrights). It is here that contradictions appear with the new economies. As capitalism relies more producing knowledge from knowledge, living labor retains its status as living labor, relations of exchange and interaction become more difficult to encode and recode within the market process and within enforceable property rights. There are two major reasons for this.

First, when knowledge or its application is digitalized, knowledge is not reduced to simple labor but to information that can be copied at little to no cost.

Consequently, the network cannot be closed like some old boys' club. The network is open and expansive by design (its form) and by contents (digital information). It is no longer legitimate to close or limit access on the basis of knowledge or risk (the principle of precaution). In his articles in the *Reinische Zeitung*, Marx showed that, although theft of wood was as difficult to repress as poaching, a ban could be enforced. It is harder to repress the theft of knowledge and likewise material processes that are now produced from software or software programs. In other words, in order to make a profit within this new configuration of production, that is, in order to appropriate the fruits of the production of knowledge from knowledge, capital must resort to forms of naked violence whose efficiency is ever more in doubt. Insofar as the productivity of the network depends on it being open and expansive, it becomes more productive when less controllable by the system of property rights and law enforcement.

Second, the wage form went hand in hand with proletarianism. The more the production of material goods mobilized an accumulation of capital to the deprivation of the proletariat, the easier it was to impose a wage labor contract as the dominant form of productive relation. The proletariat abandoned all right over the product that he did not himself make. Only the reunion of capital and the labor force was productive. In the *Gundrisse*, Marx is very clear about this, as P. Straffa and C. Napoleoni demonstrate. Marx consistently denounced the Prudhommian stance that the wage earner might claim his "labour right" over the product. The wage contract made this labor right the exclusive property of the employer. In the new "great transformation," however, a deproletarianization occurs. Whether funded by a public research foundation or by Bill Gates at Redmount, a programmer who develops new software knows that he has created something; he feels himself to be as much an author as any artistic creator. Significantly, American lobbying groups recently led an offensive against European legislation that rejects the industrial patenting of software. They protested that software producers paid with public sector funds had falsely claimed ownership of their software by disseminating it free of charge, as an *open source* or GPL (General Public License), a *copyleft*. They argued that, on the contrary, the public bodies that funded software research own the results exclusively, just as in the private sector. The classical analysis of radical Marxism simply saw an attempt to divide wage earners. In reality, however, this movement begins the disintegration of the coherence of the wage earner as a condition for the exclusion of the

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proletariat from ownership of the product within the capitalist division of labor.

Given that this is the way things are with the new great transformation, we should add that the regime of war occurs essentially as *backlash* (reaction) with respect to the intrinsic contradiction that eats away at the transformation. Of course, especially after September 11, the regime of war might well be called a strange sort of peace in which two states are no longer discernable, whether war occurs or not. In any case, this is the contradiction: to pull out of recession, should one push further toward openness (disclosure) or toward new closures? In its backlash, the United States counts on an authoritarian stance toward other countries. In a stance that is in effect complicit with the "terrorists," who are at heart their double, the United States strive to introduce or to invent binary distinctions amid the multitudes. Inevitably, war tends to hierarchize countries and to discourage immigration. It is also an attempt to outrun the contradiction itself. Its partisans justify American "unilateralism" (apparently symptomatic of a return to the old imperialism) as a lone rational act in the midst of uncertainty, much as quantum physics tries to sustain its rationality, even if only in Prigogine's vulgarized version (see Alain Joxe, *L'empire du chaos*). In relation to the current great change, unilateral policy is more advanced and more faithful to reality than nostalgic republicanism or defensive sovereignty. In fact, George Bush's national security advisor, Condoleezza Rice, clearly stated, "The international community does not exist." Evidently, she refers to the system of sovereign nation-States. If all long-term forecasts are in vain, if the effect of a policy is all the more uncertain when carried out long term, then in fact short-term unilateral policy proves rational for a State. What I want now is more *certain* than the acts of *others* tomorrow. Needless to say, however, only the fragility of the process can justify this rationality. If we trust physics, the two characters are reciprocal and inseparable. Can policy that counts on fragility do anything other than to flee in advance? It opts for flight because it adheres only to the superficial aspect of the fundamental transformation, and it does so in advance because the recognition of its own fragility anticipates the coming failure.