



Caffentzis, G. (2008). From the *Grundrisse* to *Capital* and beyond: Then and now. *Workplace*, 15, 59-74.

From the *Grundrisse* to *Capital* and Beyond: Then and Now

George Caffentzis

In fact, however, they are the material conditions to blow this foundation sky-high.

Karl Marx, *Grundrisse*

This integument is burst asunder.

Karl Marx, *Capital*

This paper is part Marxology, in remembrance of that volcanic eruption of Marx's carbuncle-inducing mental labor that resulted in the Notebooks we now know as the *Grundrisse* or the *Foundations of a Critique of Political Economy* (Rough Draft), and part contemporary conceptual history of the anti-capitalist movement's increasing "techno-skepticism." By "techno-skepticism" I mean a political attitude that questions the centrality of technological change in the struggle against capitalism. I will trace some parallels between Marx's thought from 1857 until 1882 and the succession of some themes in the anti-capitalist movement (with special reference to the US) between the 1960s and the present.

Inevitably, this effort is going to be somewhat subjective, verging on the autobiographical. I do not claim to find either structural or causal reasons for the parallels, though the recognition of the limits to the revolutionary impact of the introduction of the products of mental labor into capitalist production is common to both.

Part I

***Grundrisse*: Contradiction of Capital or Contradiction in the Text?**

The *Grundrisse* can be read teleologically, as a step on the way to *Capital*, or in its own right, as an exciting self-enclosed text, full of fascinating alternative lines of motion. Bruno Gulli contrasts these two approaches, attributing one to Negri, who claims that "the *Grundrisse* is not a rough draft to be used for philological purposes, (qtd. in Gulli 76) but a political text in its own right," and the other to Rosdolsky, who claims that the *Grundrisse* is a bold preparation for *Capital* (although "one should not...exaggerate the similarity of the two works" {76}).

Along with the *Grundrisse*'s excitement, that both Negri and Rosdolsky admire, however, is its obscurity and inconsistency. There are passages in the *Grundrisse* that genuinely pose the question: are we dealing with the dialectical contradictions of capital (typical of any would-be infinite totality) or the plain (finite) logical contradictions of Karl Marx?

One of the most important problems for understanding anti-capitalist revolution is the relationship between the two main revolution-producing “tendencies” or “laws” in the development of capitalism Marx identifies in the *Grundrisse*: (i) the falling rate of profit (745-758) and (ii) the “break down” of the creation and measurement of wealth by labor and labor time respectively (690-712). These tendencies form the double, reiterated climax of the work, but are they consistent?

The first tendency is initially expressed in the *Grundrisse* as follows:

Presupposing [...] the same surplus labour in proportion to necessary labour, then, the rate of profit depends on the relation between the part of capital exchanged for living labour and the part existing in the form of raw material and means of production. Hence, the smaller the portion exchanged for living labour becomes, the smaller becomes the rate of profit. Thus, in the same proportion as capital takes up a larger place as capital in the production process relative to immediate labour, i.e., the more the relative surplus value grows—the value-creating power of capital—the more does the rate of profit fall. (747)

Marx heaps encomiums on it: “[The law of falling rate of profit] is in every respect the most important law of modern political economy, and the most essential for understanding the most difficult relations” (748). Moreover, Marx explicitly emphasizes the revolutionary meaning of the “law” or “tendency” using the language of the “integument” he was later to employ in *Capital*. For the law leads to “the last form of servitude assumed by human activity, that of wage labour on the one side, capital on the other, [being] cast off like a skin” (749).

The second tendency or law is expressed in the “Fragment on Machines” (690-712) in a variety of ways. For example,

- (i) “The measure of wealth is then not any longer, in any way, labour time, but rather disposable time. Labour time as the measure of value posits wealth itself as founded on poverty. [. . .] The most developed machinery thus forces the worker to work longer than the savage does, or than he himself did with the simplest, crudest tools.” (708-709)
- (ii) “As soon as labour in the direct form has ceased to be the great well-spring of wealth, labour time ceases and must cease to be its measure, and hence exchange value [must cease to be the measure] of use value.” (705)
- (iii) “To the degree that labour time—the mere quantity of labour—is posited by capital as the sole determinant element to that degree does direct labor and

quantity disappear as the determinant principle of production—of the creation of use values—and is reduced both quantitatively, to a smaller proportion, and qualitatively, as an, of course, indispensable but subordinate moment, compared to general scientific labor, technological application or natural sciences, on the one side, and to the general productive force arising from social combination in total production on the other side—a combination which appears as a natural fruit of social labour (although it is a historic product). *Capital* thus works towards its own dissolution as the form dominating production.” (700)

These passages (that could easily be multiplied) do not invite a common name in Marx’s texts in the way that “the falling rate of profit” passages do. But they clearly define the same temporal sequence: the increasing application of “general scientific labor” significantly displaces direct labor in the production process and labor-time as source and measure of wealth (and there is some slippage here) either as use value or exchange value. Labor-value concepts become increasingly inapplicable when applied to an expanding industrial capitalism. In other words, the labor theory of value is increasingly falsified by the development of large-scale industry. Thus, I will dub this law “the increasing incommensurability of wealth and labor-time.”

What then is the relationship between these two tendencies? Is the falling rate of profit an index (or alternative expression) of the “incommensurability” tendency, or, does the falling rate of profit contradict and eventually erase the “incommensurability” tendency in Marx’s thought?

The falling rate of profit and the increasing incommensurability tendencies are clearly interconnected. The rise in the ratio (later to be called “the organic composition”) of fixed and circulating capital (later to be called “constant capital”) to necessary labor (later to be called “variable capital”) is crucial in the explication of both. The more large-scale industry (i.e., the introduction of machinery and scientific techniques that displace the worker from the center of the production process) develops, the more the tendencies intensify simultaneously, though in different manners.

The falling rate of profit tendency is intensified in large-scale industry because the mass of surplus value created by the diminished number of workers relative to the machinery and investment in technique involved in production is relatively small. Even in the extreme case when the necessary labor-time goes to zero and the workday is expanded to twenty-four hours (i.e., the maximum of the ratio between surplus and necessary labor is reached)—workers “live on air” and sleeplessly labor ‘round the clock (capital’s paradise)—the increasing fixed and circulating capital will eventually end with a falling profit rate (capital’s inferno) due to the decreasing need for workers in the production process.

Similarly, the incommensurability tendency in large-scale industry is intensified because the necessary labor-time is dramatically reduced so that there could be a relative increase in surplus value by the operation of machinery and scientifically developed technique. This reduction of necessary labor-time that could have led to an increased “disposable”

time instead leads to the imposition of a labor market discipline that forces an extreme intensification and expansion of surplus labor. However, most of the value of the products (even with the addition of necessary and surplus labor time) is increasingly a result of transferred value in the course of production from the fixed and circulating capital. Hence, capital in the era of large-scale industry appears to be the “source” of value.

The introduction of machinery and “materially creative and objectifying science” to production seems to lead to both the incommensurability of labor-time and value as well as to the falling rate of profit. Are these two tendencies merely two sides of the same coin? This apparent coherence of the falling rate of profit and the incommensurability tendencies, however, is problematic. For the falling rate of profit depends upon the functioning of labor-time as the measure of value. After all, the rate of profit is a ratio between values that are determined by labor-time, otherwise they would not have the character and fate that they do.

If the commensurability of value and labor-time were abrogated, then there would be no reason to give the legitimacy and centrality to the falling rate of profit. This can be seen in the twentieth century efforts to “Sraffaize” Marx’s critique of political economy and to apply the Okishio theorem as a rebuttal of the tendency (Kliman 44-45). Both Sraffa’s and Okishio’s supporters reject the labor-time measure of value and opt for a “commodity-equivalent” conception of value (the value of a commodity is simply the amount of an index commodity it exchanges for). Sraffa and his supporters, in their commodity-equivalent effort, go the way of the “vulgar economists” who, according to Marx, “assume the value of one commodity...in order in turn to use it to determine the values of other commodities” (*Capital* I 174). Thus, instead of a labor theory of value, they use the symmetry of the algebraic equations describing the input-output relations of an economy to point out that labor (whose “price” is wages) need not provide the value dimension; any other commodity that enters into all branches of production could do so as well, e.g., iron or oil. In so doing, Okishio, echoed by Sraffa’s supporters, argues that increasing productivity would not lead to a 24-hour limit per worker on the surplus (however physically productive the worker is). The surplus products per worker would be expandable indefinitely, and consequently the rate of profit would be growing, with the increasing introduction of machinery and scientific knowledge to production, instead of declining.

Consequently, the incommensurability tendency is logically contrary to the falling rate of profit. If labor-time fails to be a measure of the value of commodities, labor power, and capital, then the falling rate of profit loses its legitimacy and plausibility. These two climactic endings of the *Grundrisse* pose one overwhelming question: will capitalism be destroyed by the loss of measure or by the loss of profitability?

***Capital* and the Disappearance of the Incommensurability Tendency**

In order to answer this question from Marx’s perspective, we should study the fates of these two tendencies in the post-*Grundrisse* period of Marx’s writing. And their fates are

quite different. The law or tendency of the falling rate of profit becomes a basic element in the analysis of capitalism (and its demise) while the “incommensurability tendency” simply disappears in *Capital* Volumes I, II, and III. This disappearance is startling, yet Marxist scholars do not often note it. Thus Ernest Mandel claims, “the essential contributions to the development of Marxist theory...are to be found in the *Grundrisse*” (102). But though he praises what I have been calling the “incommensurability tendency,” he does not note its absence in Marx’s post-*Grundrisse* works.

The reason for the increasing prominence of the law of the falling rate of profit is clear and can be summarized in the words that end the part of *Capital* III devoted to the law: “Hence crises” (375). Marx saw in the law of the falling rate of profit the internal a priori evidence for the finitude of capitalism: “The barriers to the capitalist mode of production show themselves...in the way that the development of labour productivity involves a law, in the form of the falling rate of profit, that at a certain point confronts this development itself in a most hostile way and has constantly to be overcome by way of crises” (367). The incommensurability tendency, being incompatible with the law of the falling rate of profit as noted above, was inevitably pushed out of the logical space of Marx’s categorical development in the decade after the writing of the *Grundrisse* notebooks. Indeed, the increasing saliency of the falling rate of profit led to the importance of the commensurability of value and labor-time. In any event, Marx began his mature published work on the critique of political economy, *Capital* I, by reaffirming the value-creating power of labor and the appropriateness of labor-time as the measure of the value of commodities. He seemed to have no questions about the labor theory of value.

Was the incommensurability tendency completely erased from Marx’s thought after the *Grundrisse*? No, but it mutated in an ingenious way. Instead of being antagonistic to the falling rate of profit, it was transformed into an essential preliminary for the law. Since the law is, more precisely stated, the fall in the general or average rate of profit, the incommensurability tendency reappears in *Capital* III, Chapter 9, “Formation of a General Rate of Profit (Average Rate of Profit) and Transformation of Commodity Values into Prices of Production,” as a way of understanding how a general or average rate of profit throughout a capitalist system can be realized even though individual firms and branches of industry have radically different organic compositions, hence different individual rates of profit (254-272).

I make this claim because it is exactly in this chapter that Marx declares the labor theory of value to be apparently false (which is the essence of the incommensurability tendency), and yet he also claims that it operates to the letter the more machinery and products of mental labor enter into commodity production! That is, in this chapter labor-time is rejected as the measure of the price of commodities (a version of the incommensurability tendency), especially when there is a great dispersion of organic composition and labor productivity (which inevitably will happen in capital’s effort to counter the tendency of the falling rate of profit), and, at the same time, labor-time is vindicated as the measure revealing the inner essence of the system. In other words, in the transformation of commodity values into prices of production the incommensurability thesis is preserved and finally made compatible with the falling rate of profit tendency. If

the value-to-price-of-production transformation did not occur, the high organic composition industries would suffer from inadequate profit rates and would be unable to develop into a hegemonic presence in production. Indeed, the transformation makes it possible for there to be electricity-generating nuclear power plants that successfully realize an average rate of profit (on the basis of an enormous investment in fixed and circulating capital) even though the workers within them create a tiny fraction of the surplus value created by workers in a typical sweatshop.

This peculiar metamorphosis of the incommensurability tendency clearly expressed both the reasons why Marx thought that capitalism could survive in the face of class struggle (by applying technical and scientific knowledge to transform the conditions of production resulting in the displacement and division of workers) and at the same time why capitalism was continually confronting barriers to its survival of its own making. The metamorphosis of incommensurability also showed the objective unity of the capitalist class in the face of individual capitalists' competitive struggle with each other. Indeed, one can see in this "communal sharing" of surplus value an essential element in the creation of the capitalist class. Finally, without such a transformation, capitalism would have largely never gotten "off the ground" of absolute surplus value production, since the occasional forays into relative surplus value production could not be sustained because the profit rates in return would have been abysmally low. Hence it could not have survived the success of the working class struggle to shorten the workday.

This is my structural argument for the rejection/inclusion of the incommensurability thesis in *Capital*. There is also a biographical narrative to accompany the structural transformation of the incommensurability tendency to the transformation of values into prices. In 1857-58, Marx saw that a breakdown was looming due to the increasing use of science, technology and other products of the General Intellect. In effect, Marx's position at that time was similar to his critics in the falling rate of profit and "transformation" debates of the future, i.e., the labor-time measure becomes increasingly inadequate, as there is an increase in the dispersion of organic composition due to the application of machinery and scientific technique. After all, isn't this the point of the Okishio theorem and "Marx killers" from Bohm-Bawerk to the present? If there is a relatively low dispersion of organic composition, the "problem" of transforming values into prices of production and surplus value into profit is resolved immediately in favor of the labor-time analysis. But inevitably the dispersion increases because as the class struggle intensifies (especially around the length of the working day and the creation of absolute surplus value) and capital reacts by investing in relative surplus value generating technology and it also develops branches of industry that have a low organic composition. As Marx writes:

[N]ew branches of production open up, particularly in the field of luxury consumption, which precisely take this relative surplus population as their basis, a population often made available owing to the preponderance of constant capital in other branches of production; these base themselves in turn on a preponderance of the element of living labour, and only gradually pass through the same trajectory as other branches. (*Capital* III 344)

Indeed, one might say that as a corollary of the law of the falling rate of profit and its counter-tendency, a new law develops: the law of the ever greater dispersion of organic compositions and the ever greater average difference between values and prices of production. This opening up of new low organic composition industries is an important feature of contemporary “globalizing” capitalism. This capacity implies that capital has ways of escaping the falling rate of profit and eternalizing itself through a form of “bad infinity.” *Capital’s* success in finding this “way out” of the falling rate of profit conundrum (by balancing the effects of scientific or cognitive labor with the exploitation of direct living labor) has been an important source for the anti-capitalist movement’s techno-skepticism of the late twentieth and early twenty-first century, as I will argue in Part II of this essay.

But as Marx developed his understanding of the holistic meaning of the transformation and the importance of the tendency of the falling rate of profit (that must periodically bring about crises and ever “new enclosures”), he realized that it is only through the action of the labor-time measure and the living labor creation of value that there is any reason to believe that capitalism is not an eternal idea like space, time, self, nature, history and the absolute, i.e., stuffed with self-reflexive contradictions, but historically unlimited. It is only because value is created by labor and measured by labor-time that capital is its own barrier and creates a transfer of value within the system that is ever more ruinous to most workers and, yes, even to most would-be capitalists.

Chapter 9 of *Capital* III is famous (or infamous) for its simultaneous critique and vindication of the labor theory of value. In the days before the publication of *Capital* I, Marx understood this chapter to be something of a trap waiting for “philistines” and “vulgar economists” who would read *Capital* I’s vindication of the labor theory of value and cry foul:

Here it will be shown how the philistines’ and vulgar economists’ manner of conceiving things arises, namely, because the only thing that is ever reflected in their minds is the immediate form of appearance of relations, and not their inner connection. Incidentally, if the latter were the case, we would surely have no need of science at all. Now if I wished to refute all such objections in advance I should spoil the whole dialectical method of exposition. On the contrary, the good thing about this method is that it is constantly setting traps for those fellows which will prove them into an untimely display of their idiocy. (Marx and Engels 390)

Some would argue that Marx, the trapper, was trapped by the transformation, but for him it explained capitalism’s “inner connection” that made it a totality of sorts. This, in effect, meant that a worker was exploited not only by an individual boss, but by the whole capitalist class that allocated the surplus value s/he created according to capital’s “justice” (i.e., those with more invested capital receive a larger profit). Conversely, when one struggles against one’s boss, one is taking on the whole capitalist class. But one could only understand this transformation by stepping out of capital’s totalizing perspective and abandoning capital’s assumption that it is the main agent of value

creation. For an individual capitalist, “imprisoned” by competition and workers’ demands, is not able to do this:

[The transformation of surplus value] is important for him in so far as the quantity of surplus value created in his own branch intervenes as a co-determinant in regulating the average profit. But this process takes place behind his back. He does not see it, he does not understand it, and it does not in fact interest him...[However] [w]ith the transformation of values into prices of production, the very basis for determining value is now removed from view. (*Capital* III 298)

This class “blind spot” is to be expected, but economists (both vulgar and not so vulgar) are also blindsided by this process:

all economics up till now has either violently made abstraction from the distinctions between surplus-value and profit, between rate of surplus-value and rate of profit, so that it could retain the determination of value as its basis, or else it has abandoned, along with this determination of value, any kind of solid foundation for a scientific approach, so as to be able to retain those distinctions which obtrude themselves on the phenomenal level. (268-69)

One thing is sure, for Marx in *Capital* the ever-growing introduction of machinery and scientific technique into commodity production is not changing the fact that labor-time remains the measure of commodity production. The image of revolution in *Capital* is not an “invasion of the future,” led by the introduction of mental labor in production. The revolution will have to come from “inside” the class struggle that is ruled by the creative power of all living labor (mental and manual, cognitive and non-cognitive) and is measured by labor-time. Indeed, in the 1870s, after the bloody defeat of the Paris Commune, Marx even begins to enlist the forces of still existing fragments of “primitive communism” throughout the planet!

Part II

What Ever Happened to Zerowork?

Marx’s changing evaluation of the role of science and technology in the end of capitalism from the *Grundrisse* to *Capital* that I sketched out in Part I has a parallel in the historical metamorphosis in the anti-capitalist movement from the 1960s until today. For this movement in the 1960s was affected by both the dominant empirical trends and the capitalist discourse of the time. The trends were clear: from the mid-1800s to the mid-1900s there was a dramatic increase of real wages and a decrease in the working day. Indeed, in the case of the US, if those trends continued through to the end of the twentieth century the work-day would have gone to less than 30 hours a week and real wages would have been twice what they are today.

The simple induction of past trends into the future stimulated a series of epithets that would describe the society being shaped by these trends, e.g., the leisure society, the affluent society, the society of abundance, the era of zerowork, and the post-scarcity

society. A whole planning literature developed around what was considered inevitable: a dramatic increase in “free,” “disposable,” and “leisure” time for the average worker due to the application of science and technology (what at that time was called “automation” or, less frequently, “cybernation”). Sociologists, “futurologists,” and social thinkers of the “mass society” saw this development as the problem of the early twenty-first century. For example, A. R. Martin, Chairman of the American Psychiatric Association Committee on Leisure Time and Its Use, claimed:

We must face the fact that a great majority of our people are [sic] not emotionally and psychologically ready for free time. This results in unhealthy adaptations which find expression in a wide range of sociopathological and psychopathological states. Among the social symptoms of this maladaptation to free time are: low morale, civilian unrest, subversiveness and rebellion. (qtd. in Theobald 56)

Robert Theobald, who quoted Martin, ended his essay, “Cybernetics and the Problems of Social Reorganization,” with a more hopeful message of liberation: “Man will no longer need to toil: he must find a new role in the cybernetics era which must emerge from a new goal of self-fulfillment” (68-69). Indeed, Theobald, a major proponent of the Guaranteed Income proposal in the 1960s, was one of the “players” in now quaint-sounding discourse on “the end of work.”

This discourse came from both capitalists and critics of capitalism. For example, the Students for a Democratic Society’s manifestoes of the time expressed problematics similar to those of Theobald and his fellow establishment authors (like Admiral Hyman Rickover) in the book *The Social Impact of Cybernetics*. The AFL-CIO took a similar position. Their 1961 convention adopted the following policy: “Reduction in standard hours of work with no loss of pay should be sought as a vital part of our total program to solve the problem of unemployment, to convert our rapid technological progress into a boon rather than a burden, and to bolster the long-term economic and social health of our society” (qtd. in Francois 119). Critics of capitalism isolated automation and the reduction of the workday as an inevitable product of capitalist industrial development that was having immediate consequences for workers (especially black workers) who were “structurally” unemployed (i.e., they could not find employment due to their lack of skills to hold jobs in the occupations that are offering employment). There was, of course, a debate around this claim and many “nay-sayers” arose to claim that automation and cybernation was not the source of the decline in the workweek or in the increasing unemployment in manufacturing (e.g., Silberman 1966).

Indeed, the impact of the *Grundrisse* (which was only made available in Western Europe in 1953) during the late 1950s and 1960s was accentuated by Marx’s apparent ability to foresee the arrival of a sort of twilight capitalism (with the workweek declining and workers’ “free time” becoming a problem for capital). Passages from the *Grundrisse* like the following had an almost prophetic character in the eyes of many in the anti-capitalist movement of the time: “The development of fixed capital indicates to what degree general social knowledge has become a direct force of production, and to what degree, hence, the conditions of the process of social life itself have come under the control of the

general intellect and been transformed in accordance with it” (*Grundrisse* 706). Marx of the *Grundrisse*, after being identified as the visionary of the universalization of Manchester’s Satanic mills, became the ancestral theorist of the era of zerowork. As a co-editor of *Zerowork I*, a journal partly founded on the application of “the Fragment on Machines” to the present, I can testify that I was not alone in experiencing the dramatic impression *Grundrisse* had on politics and conceptual framework in the early 1970s (the first complete English translation of the *Grundrisse* by Martin Nicolaus was published in 1973). It was both disturbing and salacious, like discovering a hidden life of someone you thought you had known intimately. The old mole had sprung from his hole to become a shining cyborg in the sky with diamonds!

Many times, however, major social trends begin to dissipate at the very moment that they become the source of large-scale and acrimonious debates. This is what happened to discussion about the ever-shortening workweek that was supposed by many to be caused by automation and cybernetics. After falling steadily for almost a century (roughly from 1850 to 1940) the workweek in the US stabilized and stagnated at about 40 hours a week since 1950. A similar reversal of a long-term trend also appeared in the early 1970s: the real wage, which steadily grew from the Depression to 1974, began to decline and then stagnate until today (Wolff 2002). Indeed, one can divide the post-WWII era in the US in two epochs: (1) 1945-1975, with the workday stagnant and the real wages increasing and (2) 1975-the present: the workday stagnant and real wages stagnant. (Indeed, the notion that workers “accepted” a tacit class deal that rejected further reductions in labor-time in exchange for increasing “consumption,” though plausible for epoch (1), becomes positively ridiculous for epoch (2).)

The disappearance of the two major wages-and-hours trends that formed the essence of the claims of the impact of technology and science in the strategic debates of the time took quite some time to appreciate, much less predict and explain in the 1960s. Some economists like Herbert Northrup and Edward Denison argued then that capital’s ability to respond to decreases in the workday with increases in economic growth had come to an end; hence further reduction of the work week would lead to a reduction of the rate of profit (Northrup 1966 and Denison 1962). Or, in Marxist terms, the ability of capital to replace a reduction of absolute surplus value by an increase in relative surplus value was reaching an inflection point of exhaustion. But the majority opinion of the time was in agreement with Keynes’s earlier prediction that capitalists, with the increasing investment in scientific methods of production, would gradually “provide” a sumptuous standard of living for the working class and be agreeable to a one- to two-percent profit rate by the time of his grandchildren (circa 1990) (Keynes 1972 [1930])!

These erroneous predictions of the consequences of techno-science of both the US Left and Right in the 1960s were followed by a suspicion towards the work-liberating power of technology and science in subsequent decades going down to the present. This has not had anything to do with the stagnation of the General Intellect’s activity, given the remarkable development of genetic engineering, the computer industry, and robotics since the 1960s. It is often claimed that the main reason for this techno-skepticism was due to the ecology movement’s critique of capitalism’s externalization of the costs of

production and its apparent drive to global apocalypse. Once these external costs are brought into the equation, the introduction of scientific methods of production are often shown to be profitable just as long as the health and environmental damage and the pollution created by them are absorbed by those who make no claims on the polluting company. Indeed, if there was to be a pollutionless production and a genuine effort to “save the planet” from the various apocalyptic consequences of capitalist accumulation, there would have to be a dramatic reduction in the use of high-tech production processes (like nuclear reactors) and, in fact, a possible reversal of the reduction of the working day. Nature seems to be antagonistic to the reduction of work.

This ecological explanation of the increasing impact of the suspicion of science and technology in the anti-capitalist movement has its virtues. But there is another explanation for this political and ideological development that comes from the center of the Marxist tradition—Labor. One of the first signs of skepticism towards the “zerowork” consequences of the introduction of science and technology into production was expressed politically by a reconceptualization of the workday that was initiated by the feminist movement, especially the theorist-activists of the wages for housework campaign (Dalla Costa and James 1973, Federici 1974).

In the midst of the excitement brought about by the rediscovery of the *Grundrisse*’s Marxism of the future, Dalla Costa, James, Federici, and others asked: who is responsible for the unpaid part of the working day? Is it only the workers in the office, factory, or field? Doesn’t the unpaid labor portion of the working day also include the labor that is required for the reproduction of the waged laborer? This unaccounted-for value-creating labor goes on outside the office, factory or field, but, when properly accounted for, it dwarfs the surplus value produced by waged labor. Women, of course, do the bulk of this labor in the US and around the world. Once one introduces this labor into the equation of wages-and-profits, then one begins to see that the introduction of the General Intellect into production does not have the consequences conceived by political readers of the *Grundrisse*. It was a 24-hour housework day (largely involved with work that was familiar to women centuries and even millennia before) meeting zerowork! Indeed, this paradox (or, more frankly, contradiction) was at the center of the political project that launched the journal, *Zerowork*, in 1975.

One of the ironic consequences of this reconceptualization of the working day was the revaluation of the labor theory of value, i.e., the theory that defines labor as the creator of value and labor-time its measure. But as in many resurrections, the revived being is quite different from his/her/its former self. The key form of labor in this revival is one that Marx never really considered, the reflexive labor of labor-power production and reproduction. Marx, whenever he did consider the production and reproduction of that most metaphysical of commodities, became quite physicalistic (in Kliman’s sense): “the value of labour-power is the value of the means of subsistence necessary for the maintenance of its owner” (*Capital* I 274). This literally came down to the value of the commodities used in the process of reproduction not in the labor of reproduction itself. Marx’s basic oversight was as deep as the political economists’ impossible concept of

“the value of labor,” which, he was fond of saying, was a category mistake on the order of a “yellow logarithm” (*Capital* III 957).

Once one introduces the labor-time involved in the reproduction of labor-power, the so-called possibility of zerowork begins to look ever more distant, since the machines to decrease the work of giving birth, parenting children, and caring for the sick and dying are not likely to be reduced anytime soon, whatever the promises of the genetic engineers and the pharmaceutical researchers.

Indeed, what was increasingly discovered though the “discovery of housework” was the manifold of work, having many aspects that were excluded from the official list of waged, contractually recognized, “free” occupations and employments. A whole range of unwaged, uncontracted for, incidental, criminal, and often coerced labor needs to be introduced to begin to understand the manifold of work in capitalist society. For example, one must introduce into the notion of work the often unconscious body work done in absorbing the toxic wastes injected into the environment by the capitalist production process. One should also introduce the quasi-slave labor done in criminal enterprises that in various parts of the capitalist world are the dominant form of labor. The discovery of this manifold opened up a new world of struggle and working class organization in the last thirty years (Staples 2006).

On the other side, capital saw in this manifold of work (often recognizing it through the insight of working class militants) a new source of accumulation. A most important focus for this effort was in new low organic composition industries based on the production and reproduction of the body and the soul. Instead of leaving this area wageless and its providers indirectly and informally provisioned by the waged workers reproduced, a whole set of “service” industries began to develop in the 1970s and 1980s that soon became important branches of industry. This was due, of course, to the struggle women were making to reject their wageless status and provides a classic example of how capital transforms working class demands into engines of accumulation. This development was centered in the region of low organic composition industry that was exactly required by the counter-tendency of the law of the falling rate of profit and of the increasing dispersion of organic composition that I cited above.

This counter-tendency ended in the new division of labor that had “service work” increasingly dominating manufacturing and agriculture, whereby “service work” is meant the labor of reproducing capital (clerical and information-based regulative and supervisory work) and of reproducing workers (from restaurant cooks to hospice nurses). This transformation made it possible to keep unemployment rates in the US, at least, within historical averages, to keep the workweek unchanged, and to control the real wage even though the relative size of the manufacturing and agricultural sectors of the work force in the US have dramatically reduced. The 1960s alarms concerning the tsunami of unemployment that was to have been unleashed by automation and cybernetics have thus been falsified in the twenty-first century.

At the same time, along with this discovery of a new world of labor came a semantic explosion of new descriptions of labor from “reproduction labor” to “affective labor” to “immaterial labor” to “cognitive labor” and whole new sciences of labor (beyond the elements of Taylorism). Economists like Nobel-prize winner Gary Becker introduced the conceptual and strategic transformations (acceptable for capital’s ideology and strategic science) needed to bring reproduction work into the purview of accumulation. They did for capital what theorists of the wages for housework campaign and other feminist thinkers like Maria Mies did for the anti-capitalist movement (Caffentzis 1999). Becker and his followers saw those working outside of the wage labor market as in field of proxy values or “shadow prices,” constantly comparing the opportunity costs of not taking a waged job with the utility of their wageless work for themselves or their family unit (whatever and whoever that includes). On either side of the class divide, however, there was a recognition that the notion and reality of the manifold of work had tremendously increased and that the key value being produced in a capitalist economy was not cars, iron or even computers, it was the power to create value.

This double recognition certainly put work back on the agenda in the 1970s and beyond. It showed why the so-called reduction of the work day that was achieved in the century between 1848 and 1948 was not exactly what it was presented as by either capitalist or anti-capitalist thinkers (i.e., as a progressive liberation of the working class from work, instead of great shifting of the work load from one part of the class to another). Once one brings the manifold of work to the foreground, the official class struggle around the working day (codified by law), presumably driven by the introduction of the products of the General Intellect into production, becomes much more articulated. A reduction of the working day in the large factories often means the exact opposite for the houseworkers, the bathroom cleaners, the drug runners, the call-center responders and the indentured agricultural workers of the world. In fact, given the “law of the increasing dispersion of organic composition,” every increase in the introduction of science and technology is matched by an increase in the organic composition of one branch of industry that will lead to an equivalent increase in the introduction of low organic composition production in other branches of industry. Therefore, the introduction of science and technology into production (so eloquently described by Marx 150 years ago in the *Grundrisse*) will not lead to the explosion of capital’s foundation. Therefore, the main way to put capitalism into crisis is to block its ability to evade the consequences of the falling rate of profit, by workers making exploitation in low organic composition industries difficult for capital. However expressed, this insight has become one of the starting points of the contemporary anti-capitalist movement: suspicion of the work-liberating powers of science and technology.

Conclusion: The Image of Revolution from the *Grundrisse* to *Capital*

Marx’s two images of revolution—the external explosion of the foundations in the *Grundrisse* and the burst integument in *Capital I*—that are expressed by the two epigraphs at the beginning of the paper can now be understood both from his perspective and ours. The first image of capitalism being driven to create the forces of science and technology to escape capitalist class competition and working class struggle only to

destroy its “limited foundation” in the end was compelling to the isolated Marx who was watching the system’s monetary and commercial crisis in 1858 with growing, but solitary excitement. By 1867 the scene had dramatically shifted, the forces at work were not the external workings of the system driven by the introduction of science and technology into production, but a working class that was inside the system, threatening to burst out of capital’s desiccated skin. Marx was no longer waiting for the Revolution “ex Machina,” he was experiencing it in the flesh again.

This interpretation is supported by the fact that after the defeat of the Commune, instead of piously waiting for the maturation of the General Intellect, Marx began to study the world of already existing communalism throughout the planet (not just the dying embers in Britain and Western Europe) (Shanin 1983). Indeed, the scene had shifted from the glistening superhuman machines of the *Grundrisse* to the Russian *obschina*! In fact, the last sentence in Marx’s last published writing in 1882 (the Preface to the second Russian edition of the Communist Manifesto) was the following: “If the Russian Revolution becomes the signal for a proletarian revolution in the West, so that the two complement each other, the present Russian common ownership of land may serve as the point of departure for a communist development” (qtd. in Shanin 139).

Marx’s third image of revolution, a resurrection of pre-capitalist communalism, has a similar political echo in the early twenty-first century in the re-evaluation of the struggles for already existing commons that can be traced in the anti-capitalist political and theoretical developments of the last two decades (e.g., De Angelis 2006; Federici 2004; Linebaugh 2008). But this is a matter for another anniversary.

Works Cited

- Caffentzis, George. "On the Notion of a Crisis of Social Reproduction: A Theoretical Review." *Women, Development and the Labor of Reproduction*. Ed. M. Dalla Costa and G. Dalla Costa. Lawrenceville: Africa World Press, 1999. 153-187.
- Dalla Costa, Mariarosa, and Selma James. *The Power of Women and the Subversion of the Community*. Bristol: Falling Wall Press, 1973.
- De Angelis, Massimo. *The Beginning of History: Value Struggles and Global Capital*. London: Pluto Press, 2007.
- Denison, Edward F. *The Sources of Economic Growth in the United States and the Alternatives Before Us*. Supplemental Paper, No. 13. New York: Committee for Economic Development, 1962.
- Federici, Silvia. *Wages Against Housework*. Bristol: Falling Wall Press, 1974.
- Federici, Silvia. *Caliban and the Witch: Women, the Body and Primitive Accumulation*. New York: Autonomedia, 2004.

- Francois, William. *Automation: Industrialization Comes of Age*. New York: Collier Books, 1964.
- Gulli, Bruno. *Labor of Fire: The Ontology of Labor Between Economy and Culture*. Philadelphia: Temple UP, 2005.
- Keynes, John Maynard. The Economic Possibilities for Our Grandchildren (1930). In *Essays in Persuasion, The Collected Writings of John Maynard Keynes*, Vol. IX. London: Macmillan, 1972.
- Kliman, Andrew. *Reclaiming Marx's "Capital": A Refutation of the Myth of Inconsistency*. Lanham: Lexington Books, 2007.
- Linebaugh, Peter. *The Magna Carta Manifesto*. Berkeley: U of California P, 2008.
- Mandel, Ernest. *The Formation of the Economic Thought of Karl Marx: 1843 to "Capital."* Translated by Brian Pearce. New York: Monthly Review, 1971.
- Marx, Karl. *Grundrisse: Foundations of the Critique of Political Economy*. Translated with a Foreword by Martin Nicolaus. London: Penguin, 1973.
- Marx, Karl. *Capital: A Critique of Political Economy*. Volume One. Translated by Ben Fowkes. London: Penguin, 1976.
- Marx, Karl. *Capital: A Critique of Political Economy*. Volume Three. Translated by David Fernbach. London: Penguin, 1981.
- Marx, Karl and Engels, Fredrick. *Karl Marx and Frederick Engels Collected Works, Vol 42: 1864-1868*. New York: International Publishers, 1987.
- Midnight Notes Collective. *The New Enclosures*. In *Midnight Notes Collective* (eds.), *Midnight Oil: Work, Energy, War 1973-1992*. New York: Autonomedia 1992.
- Negri, Antonio. *Marx Beyond Marx: Lessons on the Grundrisse*. Translated by Harry Cleaver, Michael Ryan and Maurizio Viano. New York: Autonomedia, 1991.
- Northrup, Herbert R. The Reduction in Hours. In Clyde E. Dankert, Floyd C. Mann and Herbert R. Northrup (eds.), *Hours of Work*. New York: Harper & Row, 1965.
- Rosdolsky, Roman. *The Making of Marx's "Capital."* London: Pluto Press, 1977.
- Shanin, Teodor. *Late Marx and the Russian Road. Marx and "the Peripheries of Capitalism."* New York: Monthly Review Press, 1983.
- Silberman, Charles E. *The Myths of Automation*. New York: Harper, 1966.

Staples, David E. *No Place Like Home: Organizing Home-Based Labor in the Era of Structural Adjustment*. New York: Routledge, 2006.

Theolald, Robert. Cybernetics and the Problems of Social Reorganization. In Charles R. Dechert (ed.), *The Social Impact of Cybernetics*. New York: Simon and Schuster, 1966.

Wolff, Edward N. *Recent Trends in Living Standards in the United States*. 2002. Jan. 10, 2008.

<<http://www.econ.nyu.edu/user/wolffe/LevyLivingStandardsMay2002.pdf>>.