

MARX AFTER MARXISM

Value, Critique, Crisis

Nick Nesbitt

Abstract: The article distinguishes between two fundamental dynamics in Marx's critique of capitalism: the humanist, cyclical, perpetually-renewed struggle between capitalists and wage labor over profits, wages, and the distribution of social wealth more generally and what I term a "posthuman" dialectic between humans and machines, unfolding as the unilinear historical dynamic of automation and the corresponding decreases it brings to the capacity of living labor to produce surplus value. The consequence of this posthuman dialectic is both the growing superfluity of living labor relegated to a planet of slums and the actual and coming collapse of valorization as a global process (as opposed to its operation in any single unit of capital). If the former, humanist dialectic remained predominant in what Moishe Postone has termed "traditional" Leninist Marxism, the contemporary context of the "Second Machine-Age" and the expanding automation of virtually all production and services points to a collapse of valorization that philosophers such as Michel Henry and Robert Kurz identified in Marx's conceptualization of capitalism as "the moving contradiction."

Keywords: Value theory, automation, economic crisis

The thought of a theory of collapse elicits knowing winks even from so-called radicals, even though the problem has never been conceptually or theoretically explained, but has merely languished in the swamp of empirical surface reality.
(Robert Kurz, *Vies et morts du capitalisme*)

Le marxisme est l'ensemble de contresens qui ont été faits sur Marx.
(Michel Henry, *Marx*)

Marxism, Michel Henry asserts, is the name for nothing other than the collection of misinterpretations that were made of Marx across the twentieth century, a period that we can now delimit as the reign of so-called traditional Marxism, stretching roughly from Lenin's call for political action to overcome capitalist exploitation in *What is to be Done?* (1901) to the collapse of the so-called "socialist" (in reality state-capitalist) regimes in 1989.¹

The object of this critique is Leninism in its broadest sense: the struggle over the just distribution of the production of social wealth and the fullest and most rapid possible development of the industrial production of this wealth, with both goals to be achieved via revolutionary struggle culminating in the political domination of the working class.² Henry's critique of this general state of misinterpretation unfolds, like that of subsequent thinkers such as Moishe Postone and Robert Kurz, whom I will discuss below, as a methodical reconstruction of Marx's critique of political economy. In opposition to the postwar strain of humanist Marxism that focused on Marx's early writings, such as the *1844 Manuscripts* and the exploitation of the working class by capitalists, this "categorical" school of critique addresses the conceptual categories that Marx developed in *Capital*.

¹ For an analysis of Henry's meticulous, highly original, and much neglected 1,000-page 1976 study of Marx in comparison with the thinkers discussed below, see my forthcoming chapter, "Value as Symptom," in Nick Nesbitt (ed.), *The Concept in Crisis: Reading Capital Today* (Durham, NC: Duke University Press, 2017).

² The classic statement of Lenin's productivist orientation is undoubtedly his famous assertion that "Communism is Soviet power plus electrification. [...] For this we must place the economy of the country, including agriculture, on a new technical basis, that of modern large-scale production. [...] Only when the country has been electrified, and industry, agriculture and transport have been placed on the technical basis of modern large-scale industry, only then shall we be victorious." (V. I. Lenin, "Address to the Eighth Congress of Soviets, December, 1920," in Robert C. Tucker [ed.], *The Lenin Anthology* [New York: Norton, 1975], p. 494). See also Lenin's 1921 *Pravda* article on "The Importance of Gold Now and After the Complete Victory of Socialism," where he links the initial (1917–1920) Bolshevik imperative to "restore large-scale industry" to a renewed call to "revive [...] capitalism, while cautiously getting the upper hand" through the development of "an excellently equipped large-scale machine industry" accompanied by "a rise in the productivity of labor" (Tucker, *The Lenin Anthology*, pp. 512, 515, 516).

What I would refer to, following Postone, as a categorial reconstruction has underscored a long-neglected yet absolutely crucial dimension of Marx's critique of capitalism that will be the focus of this essay: a terminal structural dynamic both Henry and Kurz underscore, arising from an absolute limit inherent to the expansion capacity of capital, or, more precisely, in the capacity of capitalism as a whole to continuously expand the production of surplus value in totality.

Though Marx clearly identified this dynamic in a number of places, it remained largely implicit and underdeveloped in *Capital*.³ It received its most succinct and best-known formulation in the "Fragment on Machines" from the *Grundrisse*, where Marx famously described capitalism as the "moving contradiction, in that it presses to reduce labor time to a minimum, while it posits labor time, on the other side, as the sole measure and source of wealth."⁴ In this view, capitalism possesses a "moving" dynamic that is unilinear and, implicitly, terminal, as opposed to the more visible cyclical crises of expansion and contraction that have plagued capital in every period of its development, and which are and always have been readily apparent to capitalism's subjects across the ideological spectrum. The implication of this simple dialectic is ineluctable: at some unpredictable future point in the history of capital, the contribution of living labor power to commodity production will be so reduced that "labor time" (what Marx would come to call socially-necessary "abstract labor" in *Capital*) would cease to create value in the face of automated production processes and the social structure that continues even today to depend upon labor power as the source of value will collapse.

In what follows, I wish to distinguish these two fundamental structural processes by identifying them, respectively, as "humanist" and "posthuman" dialectics of capital. The phenomenology of cyclical crises and exploitation that forms the substance of traditional Marxist analyses is humanist, in this view, in so far as it locates the system's dynamic in the class struggle to control the wealth of society and its mode of production and, above all, its mode of distribution. This humanist dialectic pits capitalists against workers in the fight against exploitation and for universally humane and egalitarian wealth distribution. It is fundamentally cyclical in so far as it is manifest in the theoretically unending struggle within capitalism between two principal actors, capitalists and wage laborers, over empirical conditions such as wages, profits, and working conditions.

In contrast, in what Marx called the "moving contradiction" of capitalism, machines continuously appear as the fruit of science and industry under the control of capital,

³ On the fragmentary and incomplete nature of Marx's conceptualization of the structural limits of capital and, more generally, of his theory of crisis, see Robert Kurz, *Dinheiro Sem Valor: Linhas Gerais para uma Transformação da Crítica da Economia Política*, trans. Lumir Nahodil (Lisboa: Anígon, 2014), Chapter 13, "O character fragmentário e a recepção redutora da teoria marxiana da crise."

⁴ Karl Marx, *Grundrisse: Introduction to the Critique of Political Economy*, trans. Martin Nicolaus (New York: Vintage, 1973), p. 706.

displacing humans from newly invented and reconfigured processes of automation in the struggle to achieve increases in relative surplus value. This dialectic is tendentially “posthuman,” I am arguing, in that it enjoins a historically unilinear, if fitful, elimination of humans from the production of wealth, while capitalism as a general and predominant social relation continues to depend upon living labor as the substance of value, driving a now-superfluous humanity into what Mike Davis famously called a “planet of slums.”

This crucial structural movement that Marx first described in the fullest genius of insight was for the most part empirically invisible in his time, and largely ignored across the twentieth century. This lack of interest in a theory of an absolute structural limit to capitalist expansion is readily understandable, as the repeated creation of successive Fordist production processes – from automobiles to the televisions and refrigerators purchased globally from Manhattan to Manaus – increased global demand for living labor after 1945 even as automation displaced that labor from one job to the next, making it appear as if Schumpeter’s “creative destruction” were a transhistorical feature of capitalism, rather than a mere epiphenomenon of nineteenth- and twentieth-century industrialism.⁵ If this Fordist dynamic of labor recuperation collapsed in the 1970s, it is arguably only since the turn of the present century that the present or near-future automation of virtually every production and service process has made the crisis of value production empirically visible as the conjoined global immiseration and superfluity of living labor, today rapidly becoming a matter of broad social concern beyond a core of structuralist and (I might say) quasi-structuralist Marxist thinkers such as Henry, Postone, and Kurz.⁶

In the wake of the historical collapse of Leninist productivism and its attendant politics since 1989, as global capital lurches from one crisis to the next and human suffering under its yoke expands unabated, it becomes ever more essential to distinguish Marx’s monumental and unparalleled study of the structural and historical nature of capitalism from the distortions and misinterpretations to which his thought was subject in traditional Marxism, and to elucidate, develop, and – where necessary – extend the conceptual apparatus and categorial critique of *Capital* for the twenty-first century.

⁵ See Ernst Lohoff and Norbert Trenkle, *La grande dévalorisation: Pourquoi la speculation et la dette de l'état ne sont pas les cause de la crise*, trans. Paul Braun, Gérard Briche, and Vincent Roulet (Fécamp: Post-éditions, 2014), especially pp. 39–48, Chapter 2.1, “La pénétration du monde par le capitalisme lors du boom fordiste de l'après-guerre.”

⁶ See Erik Brynjolfsson and Andrew McAfee, *The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies* (New York: W. W. Norton & Company, 2014); Martin Ford, *The Rise of the Robots: Technology and the Threat of Mass Unemployment* (London: Oneworld Publications, 2015); Carl Benedict Frey and Michael A. Osborne, *The Future of Employment: How Susceptible are Jobs to Computerisation?* (Oxford, Eng.: University of Oxford, 2013) (online at www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf [accessed Jan. 6, 2015]); and the special report “Technology and the World Economy”, *The Economist* October 4–10 (2014), p. 52.

To begin to do so, I wish to argue in what follows that it is the concept of *value*, the conceptual kernel of what I am calling capitalism's posthuman, terminal dialectic, that constitutes the single most essential Marxian category to be developed for any contemporary critique of the limits of global capitalism in the twenty-first century. Few of the various Marxist-Leninist categories of analysis and militancy that dominated the twentieth century, from labor, socialism, nationalization, modernization, the proletariat, and the state, to the very category of revolution – traditionally understood – itself, have retained their critical valence in the decades since the fall of Eastern European state-capitalism. This can be affirmed as a categorial tendency of late capitalism: the very real successes and advances of the modernizing revolutions – not only the Bolshevik, but also the French, Haitian, and even American, as well as the anticolonial struggles that sought a more egalitarian redistribution of social wealth to be achieved through industrialization – those two and a half centuries of advances in the form of modernization are simply no longer available, for better and worse, in a world in which industrial production, and human labor more generally, produce ever less surplus value.⁷ Moreover, both the anticolonialist and the anticapitalist revolutions, while often instantiating real advances in social justice (as in post-slavery Haiti, including the first postcolonial land reform) and in the distribution of wealth (as in the former Eastern Bloc), remained structurally incapable of extracting themselves from the telos of global capital, the universal compulsion to valorize value. Such was the destiny of orthodox Marxism as Moishe Postone analyzed it two decades ago in *Time, Labor and Social Domination*, where the author's meticulous reconstruction of the conceptual, categorial logic of *Capital* revealed how central the "moving contradiction" – a concept ignored by orthodox Marxism – is to Marx's analysis of the developmental dynamic of capital itself.⁸

Postone identified orthodox Marxism, somewhat abstractly and reductively, with what Badiou has called *The Century*, as an undifferentiated, wrong-headed totality, a 150-year revolutionary movement uniformly oriented toward what he, Postone, called social critique from the standpoint of labor, rather than a critique of labor itself. In this view, labor,

⁷ Dani Rodrick has argued that the process of deindustrialization has become global, and not merely limited to the post-industrial North Atlantic States. "Countries are running out of industrialization opportunities sooner and at much lower levels of income compared to the experiences of earlier industrializers. [...] The evidence suggest both globalization and labor-saving technological progress have been behind these developments." Dani Rodrik, "Premature Deindustrialization," *NBER Working Paper No. 20935*, February, 2015 (online at <http://www.nber.org/papers/w20935>, p. 2 [accessed April 28, 2015]).

⁸ Marxian thought (in contrast to that of Marx himself) has been characterized by a distinct failure to attend to the impact of increases in relative surplus value, caused by automation, upon value itself, at least until this deficiency was addressed by Negri in the 1970s, the German school of Value Critique (*Wertkritik*) in the 1980s (Neil Larsen, et al. [eds.], *Marxism and the Critique of Value* [Chicago: MCM, 2014]), and Moishe Postone (*Time, Labor and Social Domination: A Reinterpretation of Marx's Critical Theory* [Oxford: Oxford University Press, 1996]).

along with its fundamental empirical forms, from the proletariat and its dictatorship to the state itself, stand not as the antithesis to capital, not even as fundamentally antagonistic to capital, but rather as features of the social objectivity of capital, as constitutive elements in the growing perfection of capital toward what Marx called its most “adequate,” automated and posthuman form.⁹ Even when the proletariat (or, later, “the multitude”) seems to oppose work, in Postone’s view labor and the class struggle in fact drive forward the organic composition of capital to further the universal compulsion to valorize value.

Marx developed this theme in his discussion of the struggle for the ten-hour workweek in mid-nineteenth century Britain. Marx’s point has often been missed, because his discussion is divided between the analysis of absolute surplus value and the struggle over working conditions (Chapter 10, “The Working Day”), and the subsequent exposition of the concept of relative surplus value. The latter is presented first in theoretical abstraction (Chapter 12), followed by three chapters on co-operation, manufacture, and industry. After this long theoretical and analytic development, however, Marx returns to his earlier historical discussion of the workweek, and offers the following conclusion on the outcome of labor’s “successful” struggle to limit working hours: “Capital’s tendency, as soon as a prolongation of the hours of labor is once and for all forbidden, is to compensate for this by systematically raising the intensity of labor, and converting every improvement in machinery into a more perfect means for soaking up labor-power.”

Despite the fact that Postone’s dismissal of a century of Marxist-Leninist and Stalinist thought is stated in absolutist and abstract terms, to a large extent it would seem to be warranted. One is hard pressed to find more than a few lone voices in twentieth-century Marxism who sustained Marx’s critique of value and labor rather than relying upon a transhistorical understanding of labor as a human constant.¹⁰ There were of course

⁹ While Christopher Taylor revealingly underscores C. L. R. James’s influence on the refusal of capitalist labor and the valorization of value in the work of Negri and Italian *Operaiismo*, he, like Kathi Weeks (*The Problem with Work: Feminism, Marxism, Antiwork Politics and Postwork Imaginaries* [Durham and London: Duke University Press, 2001]), significantly misreads Postone’s argument, for whom capitalist labor (no matter whether it is that of the Caribbean slave for James, of the “proletarian” for the Negri of the 1970s, or of the “multitude” in Negri’s later works) in its struggle to refuse work actually spurs on the *development* of capitalism. Precisely because of the continuing global hegemony of capital, even the *antagonism* of labor to capital and the refusal of work drives capital on to the automation of labor, toward the development of what Marx called “the necessary tendency of capital, [...] its most adequate form,” (Marx, *Grundrisse*, pp. 693–694). When human labor (as in the exhortations of James, Negri, and Weeks) refuses work in its perpetual struggle with capital, it actively compels and accelerates, Postone argues, the automation of production to assure continued increases in relative surplus value, furthering in the process its own becoming-superfluous to capital in a world in which wages nonetheless remain the basis of human survival (Christopher Taylor, “The Refusal of Work: From the Postemancipation Caribbean to Post-Fordist Empire,” *Small Axe* 44 (2014), pp. 1–17).

¹⁰ In 1943, the Soviet bureaucracy actually came to admit in an anonymous article published in the theoretical mouthpiece of the Soviet Communist Party, *Pod znamenem marksizma*, that the

those few who condemned global Stalinism as what Castoriadis and CLR James alike called state-capitalism, but even rarer were those voices, largely unheard and marginal, that went even further, not only rejecting Stalinism but specifically criticizing a trans-historical affirmation and glorification of labor: one thinks in particular of CLR James and Raya Dunayevskaya's visionary, but long-forgotten critique of the political economy of state-capitalism in *Invading Socialist Society* from 1947, which replicated essential elements of Postone's argument half a century ahead of *Time Labor and Social Domination*, before retreating into the familiar celebration of the world-historical mission of the proletariat in its conclusions.¹¹

Marx's original analysis of value contains three basic aspects. The first, most familiar dimension describes the realization of relative surplus value, articulated in volume I of *Capital*, while the second, the Law of the Falling Rate of Profit that Marx repeatedly reaffirmed as "the most important law of political economy" and the very key to all of political economy since Adam Smith, is developed in Chapters 13–15 of Volume III. The third and least familiar element of the theory of value occurs in the famous "Fragment on Machines" from the *Grundrisse*, where Marx describes the fundamental compulsion of capitalism that is the basis of Postone's elaboration: capital as the "moving contradiction."¹² Beyond this now-familiar dialectic, Kurz has also pointed to the finite character of the ever-increasing organic composition of capital as automation replaces living human labor. At some point, in this view, as we approach the total automation of labor (a point that Kurz believed global capital has already gone beyond), the process of the accumu-

"law of value" did in fact apply to socialist economies. Already in 1939 the XXIIIrd Party Congress had assigned the Soviet economy the task of "attaining and surpassing the per capita production level of the principal capitalist countries" and, by 1948, Soviet economists such as Ostrovityanov and Voznesensky were openly calling for the monetary evaluation of "socially necessary labor" in the planning process. It goes without saying that this was a purely ideological, rather than critical, project: by applying value-form analysis to the domain of the distribution of wealth alone, rather than to its mode of production, Soviet economists could maintain the fiction that the "law of value" operated differently in socialist and capitalist economies. (Michael Kaser, "The Debate on the Law of Value in USSR, 1941–53," in Vincent Barnett and Joachim Zweynert [eds.], *Economics in Russia: Studies in Intellectual History* [Aldershot, Eng.: Ashgate, 2008], pp. 141–156, here 142, 146). Raya Dunayevskaya first developed a prescient and detailed critique of the functioning of the value form in Soviet state capitalism (explicitly referencing the *Pod znamenem marksizma* article of 1943) in a series of extraordinary articles from 1941–1948, including "Can the Law of Value Be Uprooted?" (1944), "The Nature of the Russian Economy" (1946), and "Uprooting Capitalism's Law of Value" (1948). All are available online in the Raya Dunayevskaya Archive at Marxists.org.

¹¹ On James's critique of Stalinist state-capitalism, see C. L. R. James, *State Capitalism and World Revolution* (Chicago: Charles H. Kerr, 1986), and, above all, the "Appendix" to James and Dunayevskaya's 1947 *Invading Socialist Society* (Oakland: PM Press, 2010), which initiates, in schematic terms, the critique of Stalinist political economy (state-capitalism) from the perspective of the value-form in terms remarkably similar to those of Postone.

¹² Marx, *Grundrisse*, p. 706.

lation of surplus value will begin to collapse.¹³ It is this global collapse of the process of valorization that has finally made discernable the labor-ontological horizons that have limited the scope of historical revolutions, in spite of the very real revolutionary progress in universal equality and social justice they achieved.

Although James and Dunayevskaya, like many subsequent Western Marxists from Althusser to Negri, criticized various aspects of labor in capitalist society, they nonetheless remained trapped in an ontology of labor, positing labor as the essential, transhistorical source of value rather than as the nexus of Marx's critique of capitalism. It is arguably only with figures such as Postone and Robert Kurz that we see a critique of the capitalist valorization of value as a whole, and only in light of *this* critique does Marx's single most important critical concept come to the fore: the concept of value. Only now have these critiques begun to seriously challenge the dominance within Marxism of the critique of the distribution of wealth from the standpoint of labor.¹⁴ Of those theorists who offer thoroughgoing critiques of the concept of value, Moishe Postone, Guglielmo Charchedi, Andrew Kliman, and David Harvey continue to maintain that global capital still possesses the capacity to restore profitability through remedies such as financialization, exploitation of global inequalities in the value of labor power, and massive devaluation.¹⁵ In contrast, Robert Kurz has argued that in addition to this cyclical dynamic, capitalism possesses an internal structural limit to the valorization of value. In this view, the second machine

¹³ Robert Kurz, *Vies et mort du capitalisme* (Paris: Lignes 2011), pp. 16, 82, 92, 96, 140; see also Ernest Mandel, *Late Capitalism* (London: New Left Books, 1975), pp. 198, 204. Both Kurz and Mandel fail to distinguish clearly, as Marx did, between the number of human beings actually working (if in conditions of ever increasing misery) – which has indeed continued to rise since the 1960s – and the contribution of that mass of living labor to the creation of *surplus value*, which continues to fall, both relative to a given mass of capital and, eventually, with increasing automation and (what amounts to the same) the changing organic composition of capital (see above, note 11).

¹⁴ The most sophisticated analysis of the value-form in the Stalinist period, I. I. Rubin's *Essays on Marx's Theory of Value*, though first published in 1928, was not translated into English until 1972. While Rubin goes some way to critiquing the purely empirical conception of value as allowing for the determination of prices from labor inputs to production (the "transformation problem", see I. I. Rubin, *Essays on Marx's Theory of Value* [Delhi: Aakar Books, 2008], p. 125), his conception of *labor*, from the perspective of the Stakhanovite, Stalinist USSR of 1928, remains resolutely humanist in the terms I have adopted above, always being undertaken by living, human laborers. Rubin never seems to conceive that the development of capitalism and the value form itself, as Marx develops the concept, involves a dialectic between living and automated forms of labor historically limited to capitalism: "All the basic concepts of political economy express [...] social relations among people. [...] Labor as the expenditure of physiological energy is a biological presupposition of any human economy" (*ibid.*, pp. 63, 137). While he rightly observes that it is incorrect "to view Marx's theory [of value] as an analysis of *relations between labor and things*" if by things we mean commodities ("things which are products of labor"), this says nothing about the two types of *productive* labor Marx describes, living and machinic (*ibid.*, p. 67, emphasis in original).

¹⁵ Guglielmo Charchedi, *Behind the Crisis: Marx's Dialectic of Value and Knowledge* (Leiden: Brill, 2011).

age of the twenty-first century, in which virtually all labor processes have been or are on the verge of being digitalized, robotified, and dematerialized, has already brought global capital past a point of collapse in the global production of surplus value.¹⁶

It becomes more apparent every day that we now live in a world in which living labor has become, as Marx long ago predicted in the *Grundrisse*'s "Fragment on Machines," an "infinitesimal, vanishing" component of production. As discussed above, Marx sees this as the root of a fundamental, "moving contradiction" of capitalism leading toward the gradual collapse of the capacity for global capital in aggregate to realize surplus value.¹⁷ The "infinitesimal" – defined as an immeasurably small magnitude, so small that it cannot be distinguished from zero – is a remarkably apt description on Marx's part of the destiny of industrial capitalism's capacity to produce surplus value.¹⁸ In the *Grundrisse*'s "Fragment on Machines" at the end of Marx's Notebook VI and beginning of Notebook VII of these preliminary studies for *Capital*, Marx describes the historical dynamic of what he will come to place under the concept of the "organic composition" of capital – of what I am calling a "posthuman" dialectic between living labor and the machine automation of the production process – as a dialectic in which living labor is increasingly rendered superfluous to production while remaining the source of value in the social relations that constitute capitalism. In the *Grundrisse*, Marx emphasizes the domination of automation processes as the "culmination" of "the production process of capital" in which the human is displaced from production to become the mere "watchman and regulator" of the "virtuoso" machine, such that machinery "confronts [the human laborer's] individual, insignificant doings as a mighty organism, [...] a power which rules" over living labor.¹⁹ Crucially, Marx identifies this as a universal tendency toward the development of automation as capitalism's "most complete, most adequate form, [...] the necessary tendency of capital."²⁰

¹⁶ See Kurz, *Vies et mort*; and Anselm Jappe, *Crédit à mort* (Paris: Lignes, 2011); and, for an English language selection of the work of Kurz, Jappe, and other members of the Value Critique school of thought (*Wertkritik*), see Larsen et al. (eds.), *Marxism and the Critique*. For a lucid overview of Kurz's thought, see Anselm Jappe, "Kurz: A Journey into Capitalism's Heart of Darkness," *Historical Materialism* 22 (2014), nos. 3–4, pp. 395–407.

¹⁷ Marx, *Grundrisse*, p. 694. Kurz (who died in 2012) analyzes at the level of theory the failure to rigorously address this dimension of Marx's thought and to develop a production-based theory of crisis across the spectrum of traditional Marxism, from Eduard Bernstein, Karl Kautsky, and Nikolai Bukharin to Rosa Luxemburg and Henryk Grossman (Robert Kurz, *The Substance of Capital*, trans. Robin Halpin [London: Chronos Publications, 2016]).

¹⁸ Marx, *Grundrisse*, p. 694. The original German in fact refers to the *unendlich Kleines* or "infinitely small" rather than the mathematic and scientific concept of the *infinitesimal* contribution of living labor to the production process in fully developed capitalism; in this case, the English translation arguably improves upon Marx's original draft.

¹⁹ *Ibid.*, pp. 694, 705.

²⁰ *Ibid.*, p. 692.

Marx would later elaborate on the structural dynamic of organic composition at length in various sections of *Capital*, but the condensed, dramatic rather than analytical presentation of this dialectic in these pages of the *Grundrisse* sheds light on the crucial feature of this structure: the way in which a general and universal (if always uneven) tendency of development implies an inherent structural limitation to the creation of surplus value. Here, the creation of surplus value appears not merely as a (perpetually correctable) *falling rate of profit* but as a diminishing *total aggregate mass*. “The value objectified in machinery,” Marx writes, “appears as a presupposition against which the value-creating power of the individual [human] labor capacity is an infinitesimal, vanishing magnitude [*als ein unendlich Kleines verschwindet*].”²¹

Marx was concerned with describing the actual dynamic of liberal capitalism, and he was naturally unable to imagine the ways that automation would, in the twenty-first century, come to rule over domains of labor that even a few years ago were thought unimpeachably human. The implication of his claim that living labor would become “infinitesimal” is, however, blatant: if the contribution of living labor to the (general, global) production process at some point became infinitesimal or “infinitely small” [*unendlich Kleines*], humans across the planet would only create surplus value in “infinitely small” amounts.²² Although humans would continue to work, in necessarily greater numbers and ever-worsening conditions of exploitation in competition with increased automation, little of this work would in fact contribute to the production of surplus value, simply because the level of socially-necessary labor for any given commodity in an automated world would have shrunk to “infinitesimal” levels.²³ In other words, ever-greater empirical masses of living labor would be required to continue, let alone increase, surplus value production in the face of machinic automation.²⁴

The implication of Marx’s formulation of the “infinitely small” or “infinitesimal” is that, in a way analogous to the strange behavior of the “infinitely small” particles of quantum mechanics, this “quantum capitalist economy” in which humans work and continue to be exploited, yet produce virtually no surplus value, would begin to show bizarre, seemingly countersensical characteristics before collapsing altogether. Perhaps

²¹ *Ibid.*, p. 612.

²² Kurz initially put forward this thesis in his 1986 article “The Crisis of Exchange Value: Science as Productivity, Productive Labor, and Capitalist Reproduction,” while Claus Peter Ortlieb offers a detailed analysis of the logic of the collapse of surplus value production in “A Contradiction Between Matter and Form: On the Significance of the Production of Relative Surplus Value in the Dynamic of Terminal Crisis,” both translated in Larsen et al. (eds.), *Marxism and the Critique*.

²³ “Higher levels of productivity become a new general standard,” writes Robert Kurz. “When, in a crisis, capital is devalued or destroyed, the standard of productivity remains the same, because it is inscribed in aggregate knowledge and know-how. Simply put: capitalism cannot return from the standard of microelectronics to that of the steam engine.” (Kurz, *Vies et mort*, p. 15).

²⁴ Marx argues this often-overlooked point unambiguously: “As the mass of constant (fixed and circulating) capital set in motion by this labor grows, so there is a fall in the ratio between this

these “quantum” effects of the collapse of value include already today the ways in which virtual commodities such as smartphone apps can suddenly minimize earlier limits on geographical distribution, capturing and completely dominating global markets, infinitely reproducing themselves at infinitesimally small cost, liquidating all competitors (what is the #2 competitor with Facebook?) in a way previously impossible for tangible commodities located in brick and mortar sites of purchase.²⁵ Nevertheless, although this “second machine age” enables capitalism to overcome previous physical limits placed on it, it may also bring capitalism up against the very structural limitations of capitalism itself in its capacity to expand and even maintain the production of surplus value.

The picture of capitalism at the point of its structural limits finds compelling visualization in Ridley Scott’s *Blade Runner*. While the calamity that has befallen planet earth prior to the film’s narration is never made explicit, it is visualized as a combination of ecological, nuclear, and economic disaster, the latter of which could be interpreted as a global collapse of valorization, that is, of capital’s ability to extract surplus value from living labor. Most significantly, the film imagines a world that, in the face of exponential increases in the organic composition of capital via technological revolutions of automation, is unable simply to function by the employment of living labor. In this world, even massive devaluations of capital (perhaps via nuclear holocaust, hyperinflation, or other processes unidentified in the film) have proven unable to restore the centrality of living labor to post-calamitous society. In this sense, what is perhaps most striking in the visual composition of *Blade Runner* is the glaring coexistence of massive economic collapse amid stunningly advanced levels of scientific production in the form of the replicants, who labor tirelessly within a world of global economic impoverishment and near-universal misery.

Blade Runner shows a world without political struggle, a world in which struggle is reduced to the mere survival of humans in competition with replicants. In this sense, the film visualizes the collapse of capitalism not as a result of internationalist political struggle, but due to its own contradictions, a situation that Anselm Jappe has described:

The current decomposition of the system is in no sense due to the efforts of its revolutionary enemies, nor even to passive resistance, for example to work. [...] The collapse [of global capitalism] bears no necessary relation to the emergence

magnitude and the value of the constant capital. [...] The decline is relative, not absolute, and it has in fact nothing whatsoever to do with the absolute amount of labor set in motion. [...] The number of workers employed by capital, i.e., the absolute mass of labor it sets in motion, and hence the absolute mass of surplus labor it absorbs, the mass of surplus value it produces, *can* therefore grow, and progressively so, despite the progressive fall in the rate of profit. This not only can but must be the case – discounting transient fluctuations – on the basis of capitalist production.” (Karl Marx, *Capital: A Critique of Political Economy*, vol. III [London: Penguin, 1991], pp. 322–324, emphasis in original)

²⁵ Brynjolfsson and McAfee, *The Second Machine Age*, Chapter 10.

of a better organized society:[...] capitalism has had sufficient time to crush other forms of social life, of production, and of reproduction that would have constituted a point of departure for the construction of a post-capitalist society. When its end comes, there will only remain a scorched earth where the survivors will fight over the debris of capitalist “civilisation.”²⁶

While never thematized explicitly, the economy visualized in *Blade Runner* is consistent: the film depicts the exponential advance of what Marx termed “science as a business,” science subsumed, that is to say, to the demands of valorization (in *Blade Runner*, it appears in the guise of the Tyrrel Corporation, manufacturers of the replicants). This leads not to a workerist, socialist utopia but to its opposite, to global collapse and the immiseration of a human species utterly marginalized from the production (and possession) of wealth. This is a humanity forced all the same to labor, in ever more misery, but for mere animal survival, expelled into global slums of universal misery.

The collapse of the valorization process is even more explicitly thematized in the play that partially inspired *Blade Runner*, Karel Čapek’s prescient 1920 drama *R.U.R.*²⁷ In his protean invention of the “robot” (Čapek famously coins the term in this work), Čapek makes explicit the connection Marx had theorized between increasing automation and the collapse of the rate of profit. The play opens with a group of industrialists discussing, in staccato, pseudo-American Czech, the invention of robots by a scientist named “Reason” (in Czech he is called “Rossum,” an Anglicized allusion to the word *rozum*, “reason”), machines able to perform all labor necessary for production and, thus, able to replace human workers. “It was the dawn of a new industrial era. [...] The human machine finally had to be discarded. Too inefficient. Couldn’t keep up with the new technology. Acceleration means progress. When it comes to modern labor rhythms, nature hasn’t a clue.”²⁸

The industrialists of *R.U.R.* discuss the most immediate effect of the total automation of labor: the becoming-infinitesimal of the value of labor power, which is manifest to the industrialists as a fall of the price of the robots who undertake that labor in place of now-superfluous humans: “We sell them so cheaply! One item fully clothed – just a hundred and twenty dollars! Fifteen years ago that would have been ten thousand.” This depreciation of labor value rapidly spreads throughout the global production process via what Marx described as the structural compulsion to produce at socially necessary levels of productivity: “Factories all over the place either stock up on Robots or go bust!”²⁹

²⁶ Anselm Jappe, *Crédit à mort* (Paris: Lignes, 2011), pp. 40, 46.

²⁷ Karel Čapek, *Four Plays*, trans. Peter Majer and Cathy Porter (London: Bloomsbury, 1999); Karel Čapek, *Hry* (Praha: Československý spisovatel, 1956).

²⁸ Čapek, *Four Plays*, p. 19.

²⁹ *Ibid.*, p. 21.

At the same time, total automation of production drastically reduces the price of commodities more generally: “In five years’ time prices will have fallen another seventy percent. In five years, we’ll be drowning in wheat, cloth...” and, adds Helen, the young humanitarian English girl who is appalled at the effect of the changes she witnesses, “the workers will be on the scrap heap.”³⁰ Čapek vividly imagines the result of total automation as the collapse of commodity exchange (“Reason’s Robots will be producing such vast quantities of everything you can think of that commodity prices will be irrelevant! Everything will be produced by machines.”) along with intimations, even in the heads of industrialists, of the global devastation that would result – “Horrible things may happen” – before humans could ever reach the utopia Čapek’s industrialists promise, in which each will obtain as much as he needs (“*Nyní ber každý, kolik potřebuješ.*”).³¹ “People will no longer be laborers and secretaries, digging the streets, sitting at desks, paying for the bread they eat with their lives and with hatred, destroying their souls with work.”³² This day of course never arrives, and the falling value of labor and of general commodity prices brought on by automation, which had so preoccupied the industrialists in the first act, suddenly becomes of secondary concern when Čapek accelerates the process of breakdown by staging a revolution of the enslaved robots, who rise up and kill off the humans in the play’s second half.

One might still argue that the absolute collapse of valorization predicted by Kurz, and intimated by Čapek and Scott, remains a decade or two ahead of us. Automation continues its course, and the various palliatives Marx listed in his discussion of the tendency of the falling rate of profit,³³ from financialization and the expansion of global markets to the depreciation of the value of labor, lose their effect. Since the turn of the century, much of the science fiction depicted in *R.U.R.* and *Blade Runner* has, nonetheless, become the norm.³⁴ While the absolute mass of humans working continues to increase, as Marx

³⁰ *Ibid.*, p. 22.

³¹ Lit. “All take as much as you need.” This is Čapek’s rendering of the old socialist phrase, famously employed by Marx in the *Critique of the Gotha Program* (1875). There Marx had described the second phase of a future communist society, beyond the inequities of a mere direct exchange – in which the worker receives back “the same amount of labor which he has given [...] in another [form]” – a superior form of equality and social justice in which society will be able to apply the principle, “From each according to his ability, to each according to his needs!” (Karl Marx, *Critique of the Gotha Program*, online at <https://www.marxists.org/archive/marx/works/1875/gotha/ch01.htm> [accessed May 14, 2015]).

³² Čapek, *Four Plays*, p. 23.

³³ Marx, *Capital*, vol. III, Chapter 15.

³⁴ Perhaps one measure of when this process became dominant is the fact that, since 1997, growth in median wages (which might be said to reflect increases in *human* labor) has no longer tracked growth in productivity, as it largely had over the previous century, but has instead tended to decline (Brynjolfsson and McAfee, *Second Machine Age*, pp. 127, 143). One recent study by two Oxford University researchers concludes that a stunning 47% of all job categories in the US economy

predicted, their *relative* contribution to the creation of surplus value, and thus to the rate of profit *per given mass of capital*, tends ineluctably to decrease with the progress of socially necessary levels of productivity.

In twentieth-century Marxist philosophy, value remained deeply inscribed within a humanist horizon of living labor. The dynamic of the growing organic composition of capital that Marx described remained completely invisible within the Leninist ontology of labor and the Socialist drive for recuperative modernization,³⁵ class struggle, the dictatorship of the proletariat, and nationalization (summed up in Lenin's call for "electrification plus soviets"). In this sense, traditional Marxism falls behind even the thought of the Russian bourgeois economist Vladimir Dmitriev, whose 1904 *Economic Essays* at least attempt to formalize mathematically the implications for the rate of profit of the completely automated, post-human economy that Marx's theory implicitly predicts.³⁶ In fact, I would argue that the labor theory of value has remained unable to this day to transcend this anthropocentric horizon, even in its most recent developments in the thought of writers as diverse as Postone and Chris Arthur. Instead, value continues to be grasped, in Rubin's phrase, uniquely as a "social relation among people" rather

will become automatable in the next *two decades* (Frey and Osborne, "The Future of Employment").

³⁵ I take the concept of recuperative modernization from Robert Kurz. See his discussion on the limits of twentieth century Marxist anticolonialism: Robert Kurz, "On the Current Global Economic Crisis: Questions and Answers", in Larsen et al. (eds.), *Marxism and the Critique*; pp. 331–356. See also Kurz, *Vies et mort*. See also the writings of Anselm Jappe, including *Crédit à mort*. For a critique of industrialist modernization in twentieth century state socialism from a feminist and antiwork perspective, see Kathi Weeks' expansion of the Postonian critique of traditional Marxism (*The Problem with Work*, Chapter 2, "Marxism, Productivism, and the Refusal of Work"). Weeks' powerful critique of productionism pays virtually no attention, however, to the antagonistic relation of antiwork and automation.

³⁶ V. K. Dmitriev, *Economic Essays on Value, Competition, and Utility* (Cambridge, Eng.: Cambridge University Press, 1974). "It is theoretically possible to imagine a case in which all products are produced exclusively by machines, so that no unit of *living labour* (whether human or of any other kind) participates in production, and nevertheless an industrial profit may occur." This is a totally automated economy, in which machines produce all commodities, including the machines of production itself (machines producing further "machines of an even higher order") (p. 64). Dmitriev's formalization, while announcing the science fiction of Čapek and Philip K. Dick, makes the elemental error of continuing to presume that in such a situation, self-replicating machines would continue to have a price beyond the merely transferred value of the raw materials and energy involved in their production (the prices of which might themselves collapse as well in such a machinic age); a price, in other words, representing surplus value embodied in the commodity; Dmitriev thus takes for granted precisely what needed to be proven in any situation of near-total automation. See Andrew Kliman, *Reclaiming Marx's "Capital": A Refutation of the Myth of Inconsistency* (Lanham, Md.: Lexington Books, 2007), p. 43. Čapek's *R.U.R.* is more perceptive on this count than the Russian mathematician, recognizing that in a situation of total machinic production prices will collapse catastrophically.

than as the dialectical relation between humans and machines that Marx describes as the growing organic composition of capital and the attendant collapse in the capacity to valorize value.

Crucially, value and the value-form constitute a problem that would arguably remain invisible until Moishe Postone's 1993 analysis of the value form in *Time, Labor, and Social Domination*. In fact, the distinction between wealth and value, rigorously developed by Marx in the opening chapters of *Capital*, will constitute one of the fundamental interventions in Postone's critique of what he called "traditional Marxism," which criticized society from "the standpoint of labor" rather than undertaking a critique of labor itself as Postone argues Marx himself did. This distinction between wealth and value, which Postone shows was important for Marx, would remain a stumbling block for thinkers such as Habermas and Deleuze and Guattari when each attempts to consider the creation of value in the face of the ever-increasing automation of production that would begin to appear as a *problem* for capital only in the 1970s.

Marx's distinction between wealth and value was no less a stumbling block for thinkers in the Eastern Bloc in the 1960s and 70s than it was for Western critical theorists. Witness, for example, the attempt made by Radovan Richta and his colleagues in the Czechoslovak Academy of Sciences to theorize the postwar "technological revolution" and the incipient automation of post-Fordist production in the 1966 collaborative study *Civilization at the Crossroads: Social and Human Implications of the Scientific and Technological Revolution*. In celebrating the growing capacity to increase the production of material wealth (use-values) through the application of science to production processes, Richta and Co., for all their many and varied citations of Marx, systematically exclude any consideration of value as a category distinct from both use- and exchange-value, a distinction any reader of the first five pages of *Capital* will have been forced to register. In this reductive formulation, what the study terms the "automatic principle" – the historical tendency toward "the elimination of man from participation in immediate production" – can be presented as an unproblematic social good.³⁷

When Marx's most fundamental category does ever rear its head in the volume's 400-some pages, it is taken uncritically to have been automatically superseded – the tyranny of value magically rendered in a past tense as if it were a mere fungible technical component of industrial production rather than the dominant social relation Marx described, as if it were something that could be eliminated in the chemist's and computer scientist's lab in the supposed passage from industrialism (whether capitalist or socialist) to the new age that is the object of the study: "In the [previous] industrial model [of production], man's sole value for the growth of the productive forces was essentially that of a unit of simple labor power. With the scientific and technological revolution, however, the

³⁷ Radovan Richta, *Civilization at the Crossroads: Social and Human Implications of the Scientific and Technological Revolution* (White Plains, NY: International Arts and Sciences Press, 1969), p. 28.

reverse is true: now the leading factor is the extent to which the content of science – as a productive force – is harnessed by human activity.”³⁸ This blindness to the problem of valorization culminates in a call for socialist society to discover new means “to achieve a steady maximum growth in productivity” and “expanding consumption,”³⁹ given the absence of a market dynamic enforcing increases in relative surplus value through competition between capitals.⁴⁰

In light of these implications of the posthuman dialectic of humans and machines that Marx called capitalism’s “moving contradiction,” the very concept of “development,” largely unquestioned across the political spectrum from Lenin and Trotsky to neoliberalism today, calls for unsparing critique. In traditional Leninist Marxism, the process of “development” contained within Trotsky’s concept of Uneven Development – in Trotsky’s original, pre-1917 formulation, as well as for Lenin from the point of the “April 1917 Theses” that rally to Trotsky’s formulation – remained unquestioned.⁴¹ The concept of development (as socialist industrialization) remains a pre-critical normative horizon, both for Trotsky and Lenin’s appropriation of the concept of uneven development. The perspective of “development” in this view then travels throughout the century, as Löwy shows, to serve a plainly ideological function in “third world” industrializing socialist revolutions.⁴² The theory of uneven and combined development, in this view, serves as the primary ideological justification for peripheral socialist revolutions as the struggle for recuperative modernization, while it never calls into question the norm of development itself, but merely addresses the social distribution of wealth resulting from industrial development.

If this is the case, does Marx suggest a critique of uneven development analogous to the categorial critique of labor and valorization that Postone identifies in his critique of political economy? What, in other words, can a reading of *Capital* today – in contrast to the labor-centric perspective of Trotsky’s theory and its traditional, peripheral reception – bring to bear on the concept of uneven development? While I can here only suggest the mere sketch of an answer, we find that answer suggested in Marx’s formulation of unequal development:

³⁸ Richta, *Civilization at the Crossroads*, p. 43. Cf. Kliman, *Reclaiming Marx’s “Capital”*, pp. 47–51 and 65–67.

³⁹ Richta, *Civilization at the Crossroads*, p. 75.

⁴⁰ *Ibid.*, pp. 75–80.

⁴¹ On the history of the concept of uneven and combined development, see Löwy’s penetrating exposition: Michael Löwy, *The Politics of Combined and Uneven Development* (New York: Verso, 1981).

⁴² While Postone and Kurz’s critiques of “traditional Marxism” and “recuperative modernization” (respectively) both remain abstract and historically unsubstantiated, in the first (English) edition of his study, Löwy investigates in detail the Yugoslav, Chinese, Vietnamese, and Cuban revolutions and, unconsciously, as it were, confirms the similar claims of Kurz and Postone.

In the non-developed country [Marx writes], where the first composition of capital represents the mean, the rate of profit would be $66 \frac{2}{3}$ %, while it would be 20 % in the country where production stands at a much more elevated stage (etc.).⁴³

In other words, for Marx the “development” in uneven development is a purely analytical, categorial measure. That is to say, uneven development indicates for Marx, unlike for Trotsky and traditional, peripheral Marxism, the uneven *organic compositions of capital and, especially, value of labor globally*. These differences allow for the crucial recovery of profitability in the face of the tendency of falling rates as capital searches out across the globe for every remaining “underdeveloped” site in which labor-power can be made subject – through competition with machinic automation – to super-exploitation. This is a contemporary world in which living labor is subject to pay rates, in other words, that are at starvation levels below even the value of its reproduction.⁴⁴

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Ultimately, the concept of labor, by definition the key component of Marx’s labor theory of value, remains utterly mystified in traditional, humanist Marxism. In response, instead of attempting to transcend Marx’s labor theory of value to argue, for example, that machines can in fact create value in the face of the collapse of human labor, the crisis of value in the twenty-first century impels us to return again to Marx, to construct a non-anthropocentric and neo-structuralist concept of value. When, as in the current and near-future context, human labor – not empirically, but in its capacity to produce surplus value – becomes vanishingly infinitesimal, the system itself necessarily enters into crisis. Faced with the enormous empirical complexity and even obscurity of this dynamic, today more than ever a return to Marx is essential, a Marx read after the collapse and the errors of Marxism, to develop out of his thought a posthuman, categorial understanding of the labor theory of value, to begin to construct a critique of the quantum economy of massive inequality and global slums that lies ahead.

⁴³ Marx, *Capital*, vol. III, p. 557.

⁴⁴ See John Smith, *Imperialism in the Twenty-First Century: Globalization, Super-Exploitation, and Capitalism’s Final Crisis* (New York: Monthly Review Press, 2016).