

measured motions of his giant limbs, at length breaks out into the fast and furious whirl of his countless working organs." But there is no easy answer to whether what has been written before the 1860s was discarded. For the answer is two-fold, is contradictory, and yet is true in both of its parts.

Technology, Methodology, and Workers' Revolts

Insert quotation from p 3 here

There is no doubt whatever that the period between the 1857-1858 Notebooks (that were not intended for publication and that have since become famous as the Grundrisse) and the 1867-75 editions of Capital was a period of total change, both of the method of presentation and of what Marx presented on the subject of Machines. Thus, the restructuring of the Grundrisse and the Critique of Political Economy as they developed into Capital meant a great deal more than the fact that the material had grown into 4 books. It meant a separation of analysis of the spheres of production, circulation and the forms of the process as a whole, in which would also be included the history of the theories of surplus value. Of necessity, this signified not only a sharp and fundamental distinction between the essential function of machines in production and their appearance in the market, but that there be no rush to deal with their possible function in a non-value producing society for the need was to be concrete, historically precise, and, far from skipping stages to get to the end, to keep eyes rivetted on men history, at work.

Thus, the decision to make room, in the first volume of Capital, for a new section on "The Working Day" meant, at one and the same time, a dramatic and basic shift in the concept of theory, from one of counterposing one's theories to those of other theoreticians, to that of watching the birth of theory emerging out of the developing class struggles. Insofar as the subject of technology was concerned, deep insight into the transformation of subject to object, of the perverse relationship of machine as "subject" dominating men as "object" naturally entailed seeing the machine as "the enemy." Indeed, the greater part of the first volume of Capital--Parts II through V, or some 400 pages devoted to the process of production--is, precisely, this; the method of analysis is nothing other than the process of development of essential relationship of subject to object. It is

therefore totally and completely opposed to the idea that the worker is already that of "watchman and regulator", a phrase used in the Grundrisse.

Thus, finally, the many new developments in Marx's theoretical discoveries, his creation of original categories, in the decade between the two works, would seem appear to have torn everything up by its roots. For example, to the extent ^{at the time of} that/the 1857-58 Notebooks, the dual character of labor had not been fully worked out as that unity of opposites from which all development proceeded, there was, of necessity, the tendency to be altogether too brief with the stage described in Capital as the stage of manufacture where "capital celebrated its orgies"(2) It is certainly true that, in the Grundrisse, there is altogether too much emphasis on the material, that is to say, the technological, foundation of the new social order. At the same time, there is also no doubt that Marx, at no time, was looking at the expanding material forces as they were "the condition, the activity, the purpose of liberation"; but that, on the contrary, he was talking of the expanding human forces as "the motive force of history." They and they alone could abrogate the exploitative value relations of capitalist society; their activity and theirs ^{resolve} alone would ~~bring about~~ contradictions and it is for them and them alone that the expansion of the material forces was intended. Marx speaks eloquently enough on this subject in the Grundrisse(3)

"The exchange of living labor against materialized labor, i.e., the existence of social labor in the form of the antagonism between capital and wage labor, is the last stage in the development of the value rela-

(2)Ibid,p.p.264 (3)The section is entitled "Die Letzte Entwicklung des Wertverhältnisses und der auf dem Wert beruhender Produktion"pp.591-2,595-6

TYPIST,

this quotation on history is to be transferred to p.2, right under subheading: "History does nothing; it 'possesses no colossal riches', it 'fights no fight'. It is rather man--real, living man--who acts, possesses and fights everything. It is by no means 'History' which uses man as a means to carry out its ends as if it were a person apart; rather History is nothing but the activity of man in pursuit of his ends."--Marx, The Holy Family

tionship and of production based on value. It presupposes the decisive factor in the creation of wealth is the amount of direct working time...But the more modern industry develops, the creation of wealth becomes less dependent on working time... Labor no longer appears so much enclosed in the process of production but rather man relates himself to it as watchman and regulator...Once direct labor has ceased to be the direct source of wealth, labor time must cease to be its measure, and, consequently, exchange value the measure of use value. The surplus labor of the masses has ceased to be the condition for the development of social wealth just as the idleness of the few has ceased to be the condition for the development of the universal capacities of the human mind. With this, the mode of production based on exchange value collapses and the immediate material process of production is stripped of its scantiness and its antagonistic form. Thus it is not the reduction of labor time to create surplus labor but the reduction of the necessary labor of society to a minimum which is then in accord with (entspreichend) the artistic, scientific, etc. education of the individuals through the free time and the means created for everyman, for the free development of the individual...The measure of wealth will then no longer be labor time, but leisure time."

That any one could conclude from this that it is Automation, here and now, which is creating "the material foundation" for the new, with or without ^{(the prole-} ~~the~~ ^{the} proletariat doing the overthrowing of the old, is only further proof of the fact that our age is ridden with ^{such} irreconcilable opposites as to have produced the disintegration of thought. We see this range before our eyes from those who see our times to be "the end of ideology", the age of the "one-dimensional man", "the critique of dialectical reason" leading us all to accept terror as the way to communal life! So overwhelmed by the total mechanization of life that Automation seems to imply are philosophers even close to Marxism that they seem to have embarked on a search of some new principle of reality apart from either materialism or idealism or its unity in Humanism. Jean-Paul Sartre has even introduced the question of sexuality into the machine as the daydream of the worker subjected to automated production. Naturally, he opposes such dehumanization. Naturally, he wants, not to

reject Marxism, but to revivify "today's Marxism" by making the human being central to it. But to the extent that neither, nor the other philosophers close to Marxism ~~neither~~ ^{go down} to where the worker is in the process of production nor listen to his thoughts, the result is that, instead of holding on tight to the fact that Man alone is Freedom and Reason, they allow technology with rationality and capacity to be its own transcendence, or they consider "the Party" to be able to do so for Man. Philosophers who, yesterday, saw in the movement of Reason the tendency to go beyond ontology, i.e., beyond philosophy "as such", today very nearly degrade ontology to technology. All the more reason for us to watch Marx at work on technology.

"I am enlarging presently the chapter on Machines," Marx writes Engels on January 28, 1863. "There are many problems there which I had bypassed in the first draft... In order to clarify myself I reread in full my notebooks (extracts) on technology and am attending a practical course (experimental only) for workers... I understand the mathematical laws, but the simplest technical reality demanding perception is harder for me than to the biggest blockhead." Four days prior to this letter he had written Engels that he found himself "in great difficulty" because he didn't understand "what was the work of the so-called spinner before the invention of the self-acting mule" and, again, ^{questioned:} "in what then does the interference of the motive force of the spinner express itself in relation to the forces of power?" (All these requests for information on "motive forces" and "forces of power" are soon to result in Marx's creation of a new category, "labor power!")

Marx had been plying Engels with questions about "categories of workers in your factory" for months prior to these questions. But then it was for purposes of showing the falsity of Adam Smith's view of the division of labor as if that which was true in society--competition, independence, "equality"--held in the factory. Marx would show that, in the factory, it is not competition that rules the division of labor, but the authority of the capitalist, his "despotic plan", the hierarchic structure of capital itself. Moreover, his materialist conception of history notwithstanding, he seemed constantly amazed

to find that scientists and philosophers would in all, but their own specialty, except the given as the real. Thus, on June 18, 1962, he wrote Engels: "Remarkable that Darwin in the animal and plant kingdom reveals anew his English society with its division of labor, competition, opening of new markets, 'inventions' and Malthusian 'struggle for existence.' This is the Hobbsian bellum omnium contra omnes, and this bears a resemblance to Hegel in his Phenomenology in which civil society is described as 'the spiritual kingdom of animals' while with Darwin the animal kingdom represents civil society." He was to put a similar thought directly in the section on "Machines" in Capital: "A critical history of technology would show how little any of the inventions of the 18th century are the work of a single individual....The weak points in abstract materialism of natural science, a materialism that excludes history and its process, are at once evident from the abstract and ideological conceptions of its spokesmen, whenever they venture beyond the bounds of their specialty."⁽⁴⁾

Clearly, Marx's case was not "pure research" Marx was never restricted to "science" as such, but included the study of the Blue Books, those reports of the British factory inspectors Marx made so famous, "practical courses", history of all class struggles and some histories that had not yet been written, ~~settled~~ ^{Marx} settled down to work out the actual relations at the point of production, new categories emerged. Once he entered the process of production and saw that machinery had indeed no other existence than that which they fulfill in the factory, then the domination, utter and unquestioned and oppressive, of capital over all else was seen in the very change of title for his main work from that of Critique of Political Economy to Capital. His two major original categories--constant capital and variable capital--showed that not only do machines/^{in the factory} exist as capital, but so does living labor, the only distinction between the two kinds of capital being that one was constantly undergoing a variation in magnitude, that is to say, living labor was exploited, made to produce many unpaid hours of labor.

The fact that he wouldn't permit the publication of his own lecture on "Value, Price and Profit" until after he completed Capital is further proof
 (4) Capital, Vol. I, p. 367 ftn

that only the latter contained the whole of his theory, without which no single element could be fully understood. Like his category, labor power, which was not in the Grundrisse or Critique or the pamphlets; in a word, hadn't been fully worked out until Capital itself was. The ^{non-}existence of the category before his main theoretical work was completed was surely not due to any question about his "knowing" or not "knowing" about the vital differences between labor, as activity, and labor, as commodity. He no sooner broke from bourgeois society back in 1843 than he knew that. He kept writing about it, lecturing on it, ^{publishing} ~~publishing~~ his lecture, "Wage-Labor and Capital" in the Neue Rheinische Zeitung when the 1848 revolutions were still fresh. What was at issue, in his mind, was the fact that a new stage of generalization, a new stage of cognition that gives birth to an original category, liberates you both theoretically and practically; it is a sort of point of intersection in history itself which permits a view of the future because the past and present have been so fully comprehended that the future inherent in the present ^{can} emerge; And with ^{Marx's new original principle} ~~that~~ category, labor power, it was not only its appearance as a "name" for a commodity, a most unique commodity, the only one that was ^{being exploited and was} constantly exploited to produce more, and produced all the value and surplus value, but ^{that} it was a power as well. It was a power not only because it then became conscious that the machine that was exploiting it had feet of clay, could drive labor, but itself could do nothing but "yield up" what labor was already materialized in it, for though "loaded with value" it itself "creates no value." (5) It was a power also because, as contrasted ^(to the extent...) when labor first entered the factory and found his voice "stifled in the storm and stress of the process of production" (6), it now united with others right at the point of production, in the cooperative labor process manufacture had to introduce, and was further not only disciplined by that instrumentality, but united to act, inside and outside the factory. [Marx's decision, therefore, to add a section on "The Working Day", a decision he didn't make until 1866, had further consequences in expanding the power of the proletariat as historic and philosophic? "In place of the pompous catalogue of the 'inalienable rights of man' comes the Magna Charta of a legally limited working day which shall

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(5)p.383 (6)p.216 (7)p.288

make clear when the time which the worker sells is ended, and when his own begins.

Quantum mutatus ab illo!"

Naturally, all these decisive factors of reality, as contrasted to mere research or arguments with other theoreticians in the 1850s, led to a change also in the concept of technology: "It would be possible to write quite a history of the inventions made since 1830 for the sole purpose of supplying capital with weapons against the revolts of the working class."⁽⁸⁾

Once capitalism has moved from the need to extend the hours of the working day to extract unpaid hours of labor, to being able to extract the surplus within the same working day--and it is the development of machinery that has achieved this feat--it is first then Marx begins referring to machinofacture as "the specifically capitalistic mode of production." Concrete, concrete, concrete--this sums up the scrupulousness with which Marx follows the machine's development, never considers it outside of its historic, capitalistic context, and proceeds to show how "the machine which is the starting point of the industrial revolution, supersedes the workman."⁽⁹⁾ Because, says Marx, "Technology ~~has~~ also discovered the few fundamental forms of motion....necessarily taken by every productive action of the human body"⁽¹⁰⁾, the automaton could now become "an organized system of (to which motion is communicated by the transmitting mechanism) machines/ from a central automaton"⁽¹¹⁾ and thereby become "objective" so that "the laborer becomes a mere appendage to an already existing material condition of production."⁽¹²⁾ What is to be watched, however, is not the machine, but what it does to the workman who is subjected to the "uniform motion of the instrumental of labor" for it is this which "gives rise to a barrack discipline, which is elaborated into a complete system in the factory."⁽¹³⁾ where capital erects its own code "like a private legislator."⁽¹⁴⁾

In a word, the whole system of capitalist production "based on the fact that the workman sells his labor power as a commodity"⁽¹⁵⁾ ends by having "the instrument of labor strike down the laborer"; "Hence, the character of independence and estrangement which the capitalist mode of production as a whole gives to the instruments of labour and to the product, as against the workman, is developed, by

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(8)p.436 (9)p.370 (10)p.492 (11)p.377 (12)p.382 (13)p.423 (14)p.424 (15)p.431

means of machine, into a thorough antagonism."(16)

Throughout the ten sections of that single chapter, "Machinery and Modern Industry" Marx never lets go for a single instance the internal dialectic, the essential relation of subject to object, leading inexorable to the absolute, irreconcilable contradiction so that when he strikes out against the economists who contend that there can be no antagonisms since they cannot arise from the machinery "as such" we are left breathless that there would be any other view of machines than as capital, oppressive, domineering, exploitative, full of contradictions, perverse. But, far from thinking of Hegel, we think of this new world vision. Marx himself, however, a little later brings us back to Hegel when he laughs at John Stuart Mill for attempting "to annex" such irreconcilables as ^(David) Ricardo's theory of profit based on labor as source of wealth to Nassau Senior's "remuneration of abstinence" "He is as much at home in absurd contradictions as he feels at sea in the Hegelian contradiction, the source of all dialectic."(17)

We are in a very different world than the machines we saw in Grundrisse; it is the real world of capitalism. And, if even we wished to forget the strife of workman and machine, we couldn't rid ourselves of the contradictions in technology for even "as such" they are productive of crises and economic contradictions. For the simple fact is that each technological change makes obsolete the machinery which yesterday was "perfect." Large-scale economies permitted by technological revolutions do allow for accumulation of capital and should make the capitalist happy, but, unfortunately, they also lead to competitive pressures to introduce still newer techniques and "big capital starts eating little capital." Moreover, each machine seems to have a "will" of its own in opposition to the motive force of capitalist production--the production of value and surplus value. Marx calls this the "absolute contradiction between the technical necessities of Modern Industry, and the social character inherent in its capitalistic form"(18)--which doesn't stop the capitalist from having many headaches about his machine "producing for production's sake". Irrespective where there are "customers." Marx continues: "We have seen, too, how this antagonism vents its rage in the creation of that (16)p.432 (17)p.698n (18)p.493

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monstrosity, an industrial reserve army, kept in misery in order to be always at the disposal of capital; in the incessant human sacrifices from among the working class, in the most reckless squandering of labor power, and in the devastation caused by a social anarchy, which turns every economic progress into a social calamity."(19)

But, from the capitalistic point of view, what is unexplainable is that, though he keeps investing more and more into these wonderfully efficient and ever mightier and labor-saving machines, and the less he has need of these workers constantly in revolt, there suddenly appears a decline in the rate of his profit, no matter how fabulous it grows in mass. Having gotten out of his crisis and started on the new level of production with a higher organic composition of capital—more that is expanded for constant than for variable capital—those machines seem to be destroying the very source of their value—living labor itself. So he begins to concentrate his capital and centralize it and go in for more machines and again these monsters are the cause of "overproduction" and back goes the capitalist in ever deeper crises., till he has indulged himself in "colonisation"

["A new and international division of labor, a division suited to the developments of the chief centers of modern industry springs up, and converts one part of the globe into a chiefly agricultural field of production, for supplying the other

part of which remains a chiefly industrial field."(20) This does not abrogate the law of concentration and centralization of capital into "the hands either of a single capitalist or a single capitalist company."(21)

Handwritten scribbles

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All this Marx wrote in 1867 and 1872, but no one listened. It sounded so utterly out of this world at the heyday of capitalism when there wasn't even a single trust around to speak of "one single capitalist company" holding all the wealth and yet on its way to collapse that "the learned" paid no attention—until 1929 when all came crashing about their heads, and then they all rushed

not to learn the historic, dialectic method which enabled Marx to see technology as the mainspring of the whole process of crisis-ridden capitalistic production, much less of the "historic motive power of society" (23), the proletariat which alone can resolve these contradictions, but only to learn "the mechanism" on which to spin their Business Cycle theories --or technocratic mirages--anything at all except the ~~Marxist~~ tearing up by its roots of value production. ~~As~~ Ironically enough, they were much, too much preoccupied with the "mysticism" of the "Hegelian language" as if that excused their not having seen where their society was headed for half century back. As Schumpeter put it: "I hold that the philosophic garb is removable..." (24) Somehow, in the process, they also removed both the class analysis and the revolutionary dialectic! But, not accidentally, they also seem to have much in common with Russian Communism which is also busy separating what Marx made inseparable--technology and its actual historic contradictory development. Instead of the economic laws of capitalistic development, we hear instead of "the laws of nature" as "the objective basis of technology" and, like in the value controversy, alleged "disregard of the historical principle" (25) means denuding it both of its universal class character and the dialectic of its development. Indeed, no private capitalist ever dreamed more fantastic dreams of factories run automatically with no need "for the intractable hand of man" (26) than do Russian Communists. We must, instead, return to the specific class, the proletariat, and its relationship to Marx's, if not Hegel's, Absolutes.

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Marx's Absolutes

In circles of established Marxism ^{Social Democratic and Communist, not to mention} there have been two variations in the _{roots of}