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Chapter 1

Labor and Labor Power

All forms of life sustain themselves on their natural environment; thus all conduct activities for the purpose of appropriating natural products to their own use. Plants absorb moisture, minerals, and sunlight; animals feed on plant life or prey on other animals. But to seize upon the materials of nature ready made is not work; work is an activity that alters these materials from their natural state to improve their usefulness. The bird, the beaver, the spider, the bee, and the termite, in building nests, dams, webs, and hives, all may be said to work. Thus the human species shares with others the activity of acting upon nature in a manner which changes its forms to make them more suitable for its needs.

However, what is important about human work is not its similarities with that of other animals, but the crucial differences that mark it as the polar opposite. "We are not now dealing with those primitive instinctive forms of labour that remind us of the mere animal," wrote Marx in the first volume of *Capital*. "We pre-suppose labour in a form that stamps it as exclusively human. A spider conducts operations that resemble those of a weaver, and a bee puts to shame many an architect in the construction of her cells. But what distinguishes the worst architect from the best of bees is this, that the architect raises his structure in imagination before he erects it

in reality. At the end of every labour-process, we get a result that already existed in the imagination of the labourer at its commencement. He not only effects a change of form in the material on which he works, but he also realises a purpose of his own that gives the law to his modus operandi, and to which he must subordinate his will." [1] *

Human work is conscious and purposive, while the work of other animals is instinctual.** Instinctive activities are inborn rather than learned, and represent a relatively inflexible

* Thus labor in its human form was called by Aristotle *intelligent action;* Aristotle, despite his vain effort to find a single cause underlying all the products of nature, animals, and humans, gave the earliest form to this distinctive principle of human labor: "Art indeed consists in the conception of the result to be produced before its realization in the material." [2] In recent times, the artistic mind has often grasped this special feature of human activity better than the technical mind; for example, Paul Valéry: "Man acts; he exercises his powers on a material foreign to him; he separates his operations from their material infrastructure, and he has a clearly defined awareness of this; hence he can think out his operations and co-ordinate them with each other before performing them; he can assign to himself the most multifarious tasks and adapt to many different materials, and it is precisely this capacity of ordering his intentions or dividing his proposals into separate operations which he calls intelligence. He does not merge into the materials of his undertaking, but proceeds from this material to his mental picture, from his mind to his model, and at each moment exchanges *what he wants* against *what he can do,* and *what he can do* against *what he achieves.*" [3]

** Fourier thought he recognized in this the cause of "happiness" among animals and the "anguish of repugnant labor" among humans: "Labour, nevertheless, forms the delight of various creatures, such as beavers, bees, wasps, ants. . . . God has provided them with a social [he might have said biological] mechanism which attracts to industry, and causes happiness to be found in industry. Why should he not have accorded us the same favour as these animals? What a difference between their industrial condition and ours!" [4] But to see in the noninstinctual character of human labor the *direct* cause of the "anguish of repugnant labor," one must skip over all the intervening stages of social development which separate the early emergence of human labor out of pre-human forms, from labor in its modern form.

pattern for the release of energy upon the receipt of specific stimuli. It has been observed, for example, that a caterpillar which has completed half of its cocoon will continue to manufacture the second half without concern even if the first half is taken away. A more striking illustration of instinctual labor is seen in the following:

> The South African weaverbird builds a complicated nest of sticks, with a knotted strand of horsehair as foundation. A pair was isolated and bred for five generations under canaries, out of sight of their fellows and without their usual nest-building materials. In the sixth generation, still in captivity but with access to the right materials, they built a nest perfect even to the knot of horsehair.[5]

In human work, by contrast, the directing mechanism is the *power of conceptual thought,* originating in an altogether exceptional central nervous system. As anthropologists have pointed out, the physical structure of the anthropoid ape is not entirely unsuited to tool making and tool using. The ape's hand is an adequate, if relatively coarse, instrument, and because the lower limbs as well as the upper are fitted with opposable thumbs, it has been said that the ape has four hands. But it is not, first of all, in the hands or posture that the human advantage lies. Among the physical differences between humans and apes, it is the relative enlargement of nearly all parts of the brain, and especially the pronounced enlargement of the frontal and parietal parts of the cerebral hemispheres, which is most important in accounting for the human capacity for work well-conceptualized in advance and independent of the guidance of instinct.* "Men who made tools of standard

* The general increase in brain size is important, but "certain parts of the brain have increased in size much more than others. As functional maps of the cortex of the brain show, the human sensory-motor cortex is not just an enlargement of that of an ape. The areas for the hand, especially the thumb, in man are tremendously enlarged, and this is an integral part of the structural base that makes the skillful use of the hand possible. . . .

type," as Oakley says, "must have formed in their minds images of the ends to which they laboured. Human culture . . . is the outcome of this capacity for conceptual thought." [7]

It is true, as experiments in animal behavior have shown, that animals are not entirely devoid of the power to learn, or to conceive rudimentary ideas, or to solve simple problems. Thus, a creature with as primitive a nervous system as the angleworm can learn to thread a maze; chimpanzees can be stimulated to "invent" and make tools, such as extensions of sticks, that enable them to reach food, or to stack boxes for the same purpose. As a result, some anthropologists and physiologists have concluded that the difference between the human and the nonhuman animal is not a difference in *kind* but in *degree.* But when a difference of degree is so enormous as the gap that exists between the learning and conceptual abilities of humans and even the most adaptable of other animals, it may properly be treated, for the purposes of our present discussion, as a difference in kind. And, we may add, whatever learning capacities may be stimulated in animals through ingenious forms of human tutelage, it has not proved possible to stimulate in them an ability to manage symbolic representation, especially in its highest form, articulate speech. Without symbols and speech, conceptual thought must remain rudimentary and, moreover, cannot be freely transmitted throughout the group or to succeeding generations:

> Culture without continuity of experience is, of course, impossible. But what sort of continuity of experience is prerequisite to culture? It is not the continuity which comes from the communication of experience by imitation, for we find this among apes. Clearly, it is continuity on the subjective side rather than on the objective, or overt, that is essential. As we have shown, it is the symbol, particularly in word form, which provides this element of continuity in the tool-experience of man. And, finally, it is this factor of continuity in man's tool-experience that has made accumulation and progress, in short, a material culture, possible.[8]

Thus work as purposive action, guided by the intelligence, is the special product of humankind. But humankind is itself the special product of this form of labor. "By thus acting on the external world and changing it, he at the same time changes his own nature," wrote Marx.[9] Writing in 1876, Frederick Engels had worked out, in terms of the anthropological knowledge of his time, the theory that: "First labour, after it and then with it speech—these were the two most essential stimuli under the influence of which the brain of the ape gradually changed into that of man." "The hand," he maintained, "is not only the organ of labour, *it is also the product of labour.*" [10] His essay, called "The Part Played by Labour in the Transition from Ape to Man," was limited by the state of scientific knowledge of his day, and some of its details may be faulty or wrong—as for example his implication that the "undeveloped larynx of the ape" is inadequate to produce speech sounds. But his fundamental idea has again found favor in the eyes of anthropologists, particularly in the light of recent discoveries of stone tools in association with "near-men" or "man-apes." In an article on tools and human evolution, Sherwood L. Washburn says:

> Prior to these findings the prevailing view held that man evolved nearly to his present structural state and then discovered tools and the new ways of life that they made possible. Now it appears that man-apes—creatures able to run but not yet walk on two legs, and with brains no larger than those of apes now living—had already learned to make and use tools. It follows that the structure of modern man must be the result of

[6] "The same is true for other cortical areas. Much of the cortex in a monkey is still engaged in the motor and sensory functions. In man it is the areas adjacent to the primary centers that are most expanded. These areas are concerned with skills, memory, foresight and language; that is, with the mental faculties that make human social life possible."

> the change in the terms of natural selection that came with the tool-using way of life. . . . It was the success of the simplest tools that started the whole trend of human evolution and led to the civilizations of today.[11]

Labor that transcends mere instinctual activity is thus the force which created humankind and the force by which humankind created the world as we know it.

The possibility of all the various social forms which have arisen and which may yet arise depends in the last analysis upon this distinctive characteristic of human labor. Where the division of function within other animal species has been assigned by nature and stamped upon the genotype in the form of instinct, humanity is capable of an infinite variety of functions and division of function on the basis of family, group, and social assignment. In all other species, the directing force and the resulting activity, instinct and execution, are indivisible. The spider which weaves its web in accordance with a biological urge cannot depute this function to another spider; it carries on this activity because that is its nature. But for men and women, any instinctual patterns of work which they may have possessed at the dawn of their evolution have long since atrophied or been submerged by social forms.* Thus in humans, as distinguished from animals, the unity between the motive force of labor and the labor itself is not inviolable. *The*

* Veblen's "instinct of workmanship" can be understood only in a figurative sense, as a desire or proclivity to work well. A British "social psychologist" expresses himself somewhat agnostically on this matter: "Animals work too . . . and do so largely through instinctive patterns of behaviour, which are the product of evolutionary processes. It is not clear whether man has innate patterns of work behaviour or not." He adds: "It is possible that man's capacity for learnt, persistent, goal-directed behaviour in groups is such an innate pattern." [12] But the sum of the wisdom in this statement is that the human capacity to work *noninstinctually* may itself be called an instinct. This seems to be a useless and confusing attempt to force an assimilation of human and animal behavior.

unity of conception and execution may be dissolved. The conception must still precede and govern execution, but the idea as conceived by *one* may be executed by *another.* The driving force of labor remains human consciousness, but the unity between the two may be broken in the individual and reasserted in the group, the workshop, the community, the society as a whole.

Finally, the human capacity to perform work, which Marx called "labor power," must not be confused with the power of any nonhuman agency, whether natural or man made. Human labor, whether directly exercised or stored in such products as tools, machinery, or domesticated animals, represents the sole resource of humanity in confronting nature. Thus for humans in society, labor power is a special category, separate and inexchangeable with any other, *simply because it is human.* Only one who is the *master of the labor of others* will confuse labor power with any other agency for performing a task, because to him, steam, horse, water, or human muscle which turns his mill are viewed as equivalents, as "factors of production." For *individuals who allocate their own labor* (or a community which does the same), the difference between using labor power as against any other power is a difference upon which the entire "economy" turns. And from the point of view of the species as a whole, this difference is also crucial, since every individual is the proprietor of a portion of the total labor power of the community, the society, and the species.

It is this consideration that forms the starting point for the labor theory of value, which bourgeois economists feel they may safely disregard because they are concerned not with social relations but with price relations, not with labor but with production, and not with the human point of view but with the bourgeois point of view.

Freed from the rigid paths dictated in animals by instinct, human labor becomes indeterminate, and its various determinate forms henceforth are the products not of biology but of

the complex interaction between tools and social relations, technology and society. The subject of our discussion is not labor "in general," but labor in the forms it takes under capitalist relations of production.

Capitalist production requires exchange relations, commodities, and money, but its *differentia specifica* is the purchase and sale of labor power. For this purpose, three basic conditions become generalized throughout society. First, workers are separated from the means with which production is carried on, and can gain access to them only by selling their labor power to others. Second, workers are freed of legal constraints, such as serfdom or slavery, that prevent them from disposing of their own labor power. Third, the purpose of the employment of the worker becomes the expansion of a unit of capital belonging to the employer, who is thus functioning as a capitalist. The labor process therefore begins with a contract or agreement governing the conditions of the sale of labor power by the worker and its purchase by the employer.

It is important to take note of the historical character of this phenomenon. While the purchase and sale of labor power has existed from antiquity,* a substantial class of wage-workers did not begin to form in Europe until the fourteenth century, and did not become numerically significant until the rise of industrial capitalism (that is, the *production* of commodities on a capitalist basis, as against mercantile capitalism, which merely *exchanged* the surplus products of prior forms of production) in the eighteenth century. It has been the numerically dominant

* Aristotle includes "service for hire—of this, one kind is employed in the mechanical arts, the other in unskilled and bodily labor" along with commerce and usury as the three divisions of exchange which form an unnatural mode of wealth-getting, the natural or "true and proper" modes being through livestock raising and husbandry. He seems, however, to have in mind the *sale of one's labor power* rather than the *purchase of that of others* as a means to wealth, an attitude the precise opposite of that which is characteristic in the capitalist era.[13]

form for little more than a century, and this in only a few countries. In the United States, perhaps four-fifths of the population was self-employed in the early part of the nineteenth century. By 1870 this had declined to about one-third and by 1940 to no more than one-fifth; by 1970 only about one-tenth of the population was self-employed. We are thus dealing with a social relation of extremely recent date. The rapidity with which it has won supremacy in a number of countries emphasizes the extraordinary power of the tendency of capitalist economies to convert all other forms of labor into hired labor.

The worker enters into the employment agreement because social conditions leave him or her no other way to gain a livelihood. The employer, on the other hand, is the possessor of a unit of capital which he is endeavoring to enlarge, and in order to do so he converts part of it into wages. Thus is set in motion the labor process, which, while it is in general a process for creating useful values, has now also become specifically a process for the expansion of capital, the creation of a profit.* From this point on, it becomes foolhardy to view the labor process purely from a technical standpoint, as a mere mode of labor. It has become in addition a process of accumulation of capital. And, moreover, it is the latter aspect which dominates in the mind and activities of the capitalist, into whose hands the control over the labor process has passed. In everything that follows, therefore, we shall be considering the manner in which the labor process is dominated and shaped by the accumulation of capital.**

* Thus Marx says of the process of production that "considered . . . as the unity of the labour-process and the process of producing surplus-value, it is the capitalist process of production, or capitalist production of commodities." [14]

** This is not the place for a general discussion of the capital-accumulation process, and the economic laws which enforce it on the capitalist regardless of his wishes. The best discussion remains that of Marx, and

Labor, like all life processes and bodily functions, is an inalienable property of the human individual. Muscle and brain cannot be separated from persons possessing them; one cannot endow another with one's own capacity for work, no matter at what price, any more than one can eat, sleep, or perform sex acts for another. Thus, in the exchange, the worker does not surrender to the capitalist his or her capacity for work. The worker retains it, and the capitalist can take advantage of the bargain only by setting the worker to work. It is of course understood that the useful effects or products of labor belong to the capitalist. But what the worker sells, and what the capitalist buys, is *not an agreed amount of labor, but the power to labor over an agreed period of time.* This inability to purchase labor, which is an inalienable bodily and mental function, and the necessity to purchase the power to perform it, is so fraught with consequences for the entire capitalist mode of production that it must be investigated more closely.

When a master employs the services of a beast of burden in his production process, he can do little more than direct into useful channels such natural abilities as strength and endurance. When he employs bees in the production of honey, silkworms in the making of silk, bacteria in the fermentation of wine, or sheep in the growing of wool, he can only turn to his own advantage the instinctual activities or biological functions of these forms of life. Babbage gave a fascinating example:

> A most extraordinary species of manufacture . . . has been contrived by an officer of engineers residing at Munich. It consists of lace, and veils, with open patterns in them, made entirely by caterpillars. The following is the mode of proceeding adopted:—He makes a paste of the leaves of the plant, which is the usual food of the species of caterpillar he employs, and spreads it thinly over a stone, or other flat substance. He then, with a camel-hair pencil dipped in olive oil, draws upon the coating of paste the pattern he wishes the insects to leave open. This stone is then placed in an inclined position, and a number of the caterpillars are placed at the bottom. A peculiar species is chosen, which spins a strong web; and the animals commencing at the bottom, eat and spin their way up to the top, carefully avoiding every part touched by the oil, but devouring all the rest of the paste. The extreme lightness of these veils, combined with some strength, is truly surprising.[15]

Notwithstanding the ingenuity displayed by this officer, it is evident that the entire process is circumscribed by the capacities and predisposition of the caterpillar; and so it is with every form of the use of nonhuman labor. It is implied in all such employments that the master must put up with the definite natural limitations of his servitors. Thus, in taking the *labor power* of animals, he at the same time takes their *labor,* because the two, while distinguishable in theory, are more or less identical in practice, and the most cunning contrivances can get from the labor power of the animal only minor variations of actual labor.

Human labor, on the other hand, because it is informed and directed by an understanding which has been socially and culturally developed, is capable of a vast range of productive activities. The active labor processes which reside in potential in the labor power of humans are so diverse as to type, manner of performance, etc., that for all practical purposes they may be said to be infinite, all the more so as new modes of labor can easily be invented more rapidly than they can be exploited. The capitalist finds in this infinitely malleable character of human labor the essential resource for the expansion of his capital.

occupies much of the first volume of *Capital*, especially Part VII. A very clear and compressed exposition of the capitalist drive for accumulation, considered both as subjective desire and objective necessity, is to be found in Paul M. Sweezy, *The Theory of Capitalist Development* (New York, 1942), pp. 79–83 and 92–95. This should be supplemented with Paul M. Sweezy and Paul A. Baran, *Monopoly Capital*, which is devoted to the conditions of accumulation in the monopoly period of capitalism (New York, 1966; see especially pp. 42–44 and 67–71).

It is known that human labor is able to produce more than it consumes, and this capacity for "surplus labor" is sometimes treated as a special and mystical endowment of humanity or of its labor. In reality it is nothing of the sort, but is merely a prolongation of working time beyond the point where labor has reproduced itself, or in other words brought into being its own means of subsistence or their equivalent. This time will vary with the intensity and productivity of labor, as well as with the changing requirements of "subsistence," but for any given state of these it is a definite duration. The "peculiar" capacity of labor power to produce for the capitalist after it has reproduced itself is therefore nothing but the extension of work time beyond the point where it could otherwise come to a halt. An ox too will have this capacity, and grind out more corn than it will eat if kept to the task by training and compulsion.

The distinctive capacity of human labor power is therefore not its ability to produce a surplus, but rather its intelligent and purposive character, which gives it infinite adaptability and which produces the social and cultural conditions for enlarging its own productivity, so that its surplus product may be continuously enlarged. From the point of view of the capitalist, this many-sided potentiality of humans in society is the basis upon which is built the enlargement of his capital. He therefore takes up every means of increasing the output of the labor power he has purchased when he sets it to work as labor. The means he employs may vary from the enforcement upon the worker of the longest possible working day in the early period of capitalism to the use of the most productive instruments of labor and the greatest intensity of labor, but they are always aimed at realizing from the potential inherent in labor power the greatest useful effect of labor, for it is this that will yield for him the greatest surplus and thus the greatest profit.

But if the capitalist builds upon this distinctive quality and

potential of human labor power, it is also this quality, by its very indeterminacy, which places before him his greatest challenge and problem. The coin of labor has its obverse side: in purchasing labor power that can do much, he is at the same time purchasing an undefined quality and quantity. What he buys is infinite in *potential,* but in its *realization* it is limited by the subjective state of the workers, by their previous history, by the general social conditions under which they work as well as the particular conditions of the enterprise, and by the technical setting of their labor. The work actually performed will be affected by these and many other factors, including the organization of the process and the forms of supervision over it, if any.

This is all the more true since the technical features of the labor process are now dominated by the social features which the capitalist has introduced: that is to say, the new relations of production. Having been forced to sell their labor power to another, the workers also surrender their interest in the labor process, which has now been "alienated." *The labor process has become the responsibility of the capitalist.* In this setting of antagonistic relations of production, the problem of realizing the "full usefulness" of the labor power he has bought becomes exacerbated by the opposing interests of those for whose purposes the labor process is carried on, and those who, on the other side, carry it on.

Thus when the capitalist buys buildings, materials, tools, machinery, etc., he can evaluate with precision their place in the labor process. He knows that a certain portion of his outlay will be transferred to each unit of production, and his accounting practices allocate these in the form of costs or depreciation. But when he buys labor time, the outcome is far from being either so certain or so definite that it can be reckoned in this way, with precision and in advance. This is merely an expression of the fact that the portion of his capital expended on labor power is the "variable" portion, which

undergoes an increase in the process of production; for him, the question is how great that increase will be.

It thus becomes essential for the capitalist that control over the labor process pass from the hands of the worker into his own. This transition presents itself in history as the *progressive alienation of the process of production* from the worker; to the capitalist, it presents itself as the problem of *management.*

Notes

1. Karl Marx, *Capital*, vol. I (Moscow, n.d.), p. 174.
2. Aristotle, *De Partibus Animalium*, i.1.640ª32.
3. Paul Valéry, *Über Kunst* (Frankfurt, 1959), p. 69; quoted in Alfred Schmidt, *The Concept of Nature in Marx* (London, 1971), p. 101.
4. Charles Fourier, *Design for Utopia: Selected Writings* (New York, 1971), pp. 163–164.
5. Kenneth P. Oakley, "Skill as a Human Possession," in Charles Singer, E. J. Holmyard, and A. R. Hall, eds., *A History of Technology*, vol. I (New York and London, 1954), pp. 2–3.
6. Sherwood L. Washburn, "Tools and Human Evolution," *Scientific American* (September 1960), pp. 71–73.
7. Oakley, "Skill as a Human Possession," p. 27.
8. Leslie A. White, *The Science of Culture* (New York, 1949), p. 48.
9. Marx, *Capital*, vol. I, p. 173.
10. See Karl Marx and Frederick Engels, *Selected Works*, vol. III (Moscow, 1970), pp. 66–77.
11. Washburn, "Tools and Human Evolution," p. 63.
12. Michael Argyle, *The Social Psychology of Work* (London, 1972), p. 1.
13. Aristotle, *Politics*, i.11.1258ᵇ9–38.
14. Marx, *Capital*, vol. I, p. 191.
15. Charles Babbage, *On the Economy of Machinery and Manufactures* (London, 1832; reprint ed., New York, 1963), pp. 110–11.

Chapter 2
The Origins of Management

Industrial capitalism begins when a significant number of workers is employed by a single capitalist. At first, the capitalist utilizes labor as it comes to him from prior forms of production, carrying on labor processes as they had been carried on before. The workers are already trained in traditional arts of industry previously practiced in feudal and guild handicraft production. Spinners, weavers, glaziers, potters, blacksmiths, tinsmiths, locksmiths, joiners, millers, bakers, etc. continue to exercise in the employ of the capitalist the productive crafts they had carried on as guild journeymen and independent artisans. These early workshops were simply agglomerations of smaller units of production, reflecting little change in traditional methods, and the work thus remained under the immediate control of the producers in whom was embodied the traditional knowledge and skills of their crafts.

Nevertheless, as soon as the producers were gathered together, the problem of management arose in rudimentary form. In the first place, functions of management were brought into being by the very practice of cooperative labor. Even an assemblage of independently practicing artisans requires coordination, if one considers the need for the provision of a workplace and the ordering of processes within it, the centralization of the supply of materials, even the most elementary