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CRITICAL NOTICE

G.A. COHEN, Karl Marx's Theory of History, A defense. Oxford: Clarendon Press, 1978. Pp. xvi+369. WILLIAM H. SHAW, Marx's Theory of History. Stanford: Stanford University Press, 1978. 202 pp.

In his 1859 Preface — the best-known summary account of historical materialism — Marx articulates a conception of human history as a law-governed series of transitions from lower to higher "modes of production":

In the social production of their existence, men inevitably enter into definite relations, which are independent of their will, namely relations of production appropriate to a given stage in the development of their material forces of production. The totality of these relations of production constitutes the economic structure of society, the real foundation, on which arises a legal and political superstructure and to which correspond definite forms of social consciousness. The mode of production of material life conditions the general process of social, political and intellectual life. It is not the consciousness of men that determine their existence, but their social existence that determines their consciousness. At a certain stage of development, the material productive forces of society come into conflict with the existing relations of production or

- this merely expresses the same thing in legal terms - with the property relations within the framework of which they have operated hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an era of social revolution. The changes in the economic foundation lead sooner or later to the transformation of the whole immense superstructure. In studying such transformations it is always necessary to distinguish between the material transformation of the economic conditions of production, which can be determined with the precision of natural science. and the legal, political, religions, artistic or philosophic — in short, ideological forms in which men become conscious of this conflict and fight it out. Just as one does not judge an individual by what he thinks about himself, so one cannot judge such a period of transformation by its consciousness, but, on the contrary, this consciousness must be explained from the contradictions of material life, from the conflict existing between the social forces of production and the relations of production. No social order is ever destroyed before all the productive forces for which it is sufficient have been developed, and new superior relations of production never replace older ones before the material conditions for their existence have matured within the framework of the old society. Mankind thus inevitably sets itself such tasks as it is able to solve, since closer examination will always show that the problem itself arises only when the material conditions for its solution are already present or at least in the course of formation. In broad outline, the Asiatic, ancient, feudal and modern bourgeois modes of production may be designated as epochs marking progress in the economic development of society. The bourgeois mode of production is the last antagonistic form of the social process of production antagonistic not in the sense of individual antagonism but of an antagonism that emanates from the individuais' social conditions of existence - but the productive forces developing within bourgeois society create aise the material conditions for a solution of this antagonism. The prehistory of human society accordingly closes with this social formation.1

'marx here makes it clear that the analytical concepts in terms of which modes of production are to be understood are primarily those of 'productive forces' (sometimes qualified as 'social', and sometimes as

¹ Karl Marx, Preface to A Contribution to the Critique of Political Economy (London: Lawrence and Wishart, 1971). To avoid continuous use of footnotes, I list below the editions of certain of Marx's works to be referred to in the text:

⁽a) Grunrisse, Martin Nicolaus translation (Harmondsworth: Penguin Books Ltd., 1973)

⁽b) Capital (Moxcow: Progress Publishers, 1972)

⁽c) The German Ideology, chapter one reprinted in Karl Marx and Frederick Engels, Selected Works in three volumes (Moscow: Progress Publishers, 1969), henceforth "S.W.".

⁽d) Results of the Immediate Process of Production, appearing as Appendix in Karl Marx, Capital Volume 1 (Harmondsworth: Penguin Books Ltd., 1976)

"material", productive forces), on the one hand, and of "relations of production" on the other. Questions concerning the character of these two concepts, and the nature of their interconnections, must therefore be fundamental questions for an understanding of what the materialist conception of history comes to. Needless to say, Marx did not oblige the reader by spelling out the answers to such questions at the general, abstract level at which they may be posed. Beyond the theoretical framework of historical materialism as it is so schematically presented in, e.g., the 1859 Preface, there are the more or less concrete analyses of particular modes of production (especially the bourgeois mode) as they appear in *Grundrisse* and *Capital*, as well as the "pre-mature" but highly suggestive discussions to be found in the 1844 *Manuscripts*, *The German Ideology*, etc. Between the former and the latter, then, there is room for reconstruction and dispute.

One reconstruction of historical materialism which has received increasing advocacy recently (it is itself by no means recent) may be characterised as technological determinism. In general terms, technological determinism consists in a certain theory of the connection between the forces and relations of production, to the effect that the latter are determined by the former. But within this general framework there remains a good deal of room for dispute, both about the precise character of the determination of the relations by the forces of production, and concerning the nature of these two basic factors in themselves.

It is perhaps worth pointing out that, except in its most vulgar forms, technological determinism is not a theory of human history as somehow epiphenomenal to forces in themselves external to that history — a theory of human activity as the mere effects of causes which are extrahuman. Rather, it is a theory according to which certain human activities, and in particular those involved in human industry, in the production of items required for the satisfaction of human needs and desires, determine the character of other human activities and relationships and institutions. A society based on agricultural production, such as feudal society, can be expected to be a very different sort of society, and in particular to exhibit very different forms of property relations, from a society based on machine production, such as modern capitalism. But this is very vague and general, and a more precise formulation of the technological construal of historical materialism has been defended by William Shaw and G. A. Cohen in their recent books.

According to their view, the forces of production are the extra-social, technological factors involved in the production of use-values, including e.g. machinery and tools and raw materials, while the relations of production are just the relations people enter into in the process of production, both with each other and with the means of production, and including perhaps most importantly the relations involved in the

ownership of the means of production. Furthermore, the former are related to the latter as causes to effects. More precisely, there is a fundamental tendency in history for the forces of production to expand, and at certain crucial quantitative levels of expansion, specific sets of new production relations are generated, and old ones are destroyed. The structure of ownership results from the quantitative level of development of the technological structure. "The master thesis of historical materialism", Cohen writes, "is that the nature of a set of production relations is explained by the level of development of the productive forces embraced by it".²

For Shaw and Cohen, historical materialism is in effect a systematic explanation of the whole category of the social by reference to factors which are extra-social, since the relations of production are not only, on this view, the effects of the forces of production; they are also the basis of the overall system of social relations which constitutes society. Cohen describes the extra-social factors as "material" — a term whose only function in the context appears to be that of applying to phenomena to which the description "social" cannot be applied — and using this terminology, historical materialism may be characterised as a theory according to which social phenomena are explained by reference to material phenomena. The material phenomena which explain the relations of production, and thereby social phenomena in general, are of course the forces of production, and these consist primarily of two elements, labour power and means of production.

It is important to note in this connection that to describe the productive forces as "material" or "non-social" is *not* to imply that they are "non-human": the form of technological determinism presented by Cohen, in particular, involves "abstracting" those characteristics of human beings which are essentially social from those which are not. Thus Labour power is taken to be the not-essentially-social capacity of a human being, both physical and mental, to work or labour or produce. (The means of production are those facilities, including tools, raw materials, buildings, mines, machines and the like, that are employed with or by labour in production).

² This sentence combines, but with complete propriety, phrases on pages 285 and 134 of Cohen's book. It should also be pointed out that Cohen is curiously coy about attributing a technological "determinism" to Marx, apparently finding some distinction between this and a technological "explanation" of history; see in particular his note 1 on p. 147. I shall not be likewise coy in attributing a technological determinism to Cohen; I shall here ignore his apparent distinction between "explained by" and "determined by".

Shaw's and Cohen's books are in many ways complementary reading. Cohen's book is important, for not only is it a defense of a certain version of historical materialism — itself the theoretical premise of communism — but it is worked up in a style and detail which makes Marxism particularly accessible to the contemporary English-speaking philosophical community. Shaw's book, on the other hand, does not require the same degree of philosophical sophistication in its reader, but in my view it is clearer overall because of it. Shaw's appeal is to a somewhat broader readership, and he treats of theoretically important questions, such as that concerning the so-called "Asiatic mode of production", which are put aside by Cohen.

Now whether Marx was a technological determinist in some sense other than the sense that Shaw and Cohen claim he is, is not a question I am here concerned with; but I do not think he was a technological determinist in just *their* sense. I shall argue that technological determinism of the kind defended by Shaw and Cohen misrepresents Marx's notions of the forces and relations of production, and his view of the link between them. As opposed to Shaw and Cohen, I shall argue that Marx's category of the forces of production does not exclude essentially social features; that his notion of the relations of production is a significantly narrower notion than they say it is; and that the qualitative nature of the forces of production is as important to the understanding of their effects on the relations of production, as is their quantitative level of development.

There is a preliminary matter concerning Cohen's thesis in particular, and this is the question of what the "materialist" comes to, in "the materialist conception of history". Cohen claims to find in Marx a contrast, briefly alluded to earlier, between the "social" and the "material", whereby the forces of production count as a material, and the relations of production as a social, factor. The materialist conception of history is thus materialist in that, in positing the primacy of the forces over the relations of production, it posits the primacy of the material over the non-material.

But in the first place, the textual justification for the contrast Cohen claims to find in Marx is hardly satisfactory. Without actually engaging in word-counts, Marx appears to refer to the forces of production with the qualification "social" at least as often as he refers to the relations of

³ See especially chapter IV of his book. Actually this sentence stands in need of qualification: Cohen says that there are in Marx relations of production that are not social relations at all, which he calls "work relations". It is just the social relations of producition, Cohen says, that Marx refers to in the Preface.

production with the qualification "material". Cohen might attempt to deal with the second fact by referring to his distinction between two kinds of production relations, social and material, and since this raises questions of some importance, I shall return to it in due course.

Secondly and more importantly, however, it may be doubted whether Marx intended the appellation "the materialist conception of history" in anything like the way that Cohen in effect suggests. How Marx intended this appellation seems reasonably clear from the 1859 Preface, as indeed from many other sources, including in particular chapter one of The German Ideology and the Afterword to the second German edition of Capital. Marx's conception of materialism would seem to be in certain ways traditional, in assigning explanatory primacy to the nonconscious or "material" over the conscious or "nonmaterial". As Marx says in the Preface, it is "not the consciousness of men that determines their existence, but their social existence that determines their consciousness". The contrast is not of the material and the social, but of the material and the conscious. Marx's materialism differs from the traditional kind, however, in that traditional materialism tends to be a materialism of the isolated and atomic individual, the individual as he appears among the early empiricists, e.g., abstracted out of history and society; whereas Marx's materialism is a concrete (and thus consistent) materialism of the non-atomic individual located squarely in society and history — it is, as its name implies, a sociohistorical form of materialism, one whose object is not a mythical Robinson Crusoe. Marx's interest is thus with what he calls "forms of social consciousness", "legal, political, religious, artistic and philosophical" forms, rather than with consciousness as something that human beings have in common with non-social animals. In Marx's understanding of "material" and "materialism", then, these are not to be contrasted with the social. The explanatory basis of the "nonmaterial", the social consciousness, is to be found in the conditions of "material life", conditions which, as the Preface states, include both forces and relations of production. Thus if Marx's materialism does not require a contrast of the social and the material, it does not require a contrast of the social with the forces of production — it does not require the categories of the social and of the forces of production to be treated as exclusive. The import of this point will be much clearer, when we consider just what Marx's notion of the forces of production actually involves, and contrast this in certain respects with what Shaw and Cohen claim that it involves.

Both writers take the view that the primary constitutents of the productive forces, for Marx, are human labour power, the capacity to produce, on the one hand, and the means of production on the other. However, along with the majority who take this view, they offer little in the way of concrete textual evidence in its support. Cohen simply

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remarks that these are factors that are "traditionally recognised" as belonging to the forces of production (p. 32); and indeed it is the conventional wisdom that labour power and means of production are the basic constituents of the productive forces, though it appears to be seldom thought necessary to justify this by reference to Marx's texts. It may of course be pointed out that labour power and means of production are the basic forms of *property* in the production process; but to infer from this that, they are the basic productive forces would be to allow economic criteria to determine technological categories.

It is of some importance to notice in the first place that what is standardly referred to, in the discussion and elucidation of historical materialism in English, as "the productive forces", is not always so referred to by Marx, either in the German original or even in the standard English translations of his works. Marx in fact uses a variety of terms more or less interchangeably; but he primarily uses the terms "Produktivkraft" (in both singular and plural forms) and "Produktivpotenz" — terms which are translated variously depending on context, and again more or less interchangeably, but primarily as "productive force" (or "forces") and "productive power" (or "powers"). Furthermore there is I think a cluster of notions here, and that the fundamental notion in the cluster is the notion, not of an object or objects, but of a potential or capacity or power. "Produktivkrafte" itself, though often translated as "productive forces", is more precisely translated as "productive powers" (as Cohen himself notes); and the term first appears in Marx's writings, in the 1844 Manuscripts, as a translation of the English term "productive powers", as this figures in the writings of Smith and Ricardo, and where it generally means something like "productive capacity" or simply "productivity". Furthermore Marx's term "Arbeitskraft", which appears to specify a species of the genus which "Produktivkraft" specifies, is almost invariably translated as a power-specifying term, to wit, as "labour power". Again, Marx sometimes uses the term "Arbeitsvermögen" instead of "Arbeitskraft", and the former term is naturally translated as "capacity for labour". The virtual equivalence for Marx of the notions of force, power and capacity is reflected throughout his writings; e.g. at Grundrisse pp. 334-5 Marx writes "... suppose that the productive powers of labour double, i.e. that the same labour creates double the use-value in the same time .. the doubling in the productive force is the reduction of necessary labour

I maintain, then, that although Marx's categories are exceptionally fluid, his notion of "productive force" is at bottom a notion of productive power, a general concept of which the concept of labour power, a man's capacity to labour or produce, is a specific instance. Labour power is a productive power, indeed throughout most of what Marx

calls human "prehistory" it is the central productive power. (At Grundrisse p. 711 Marx speaks of "the productive power of labour as the greatest productive power"). But labour power has seldom if ever been the sole productive power: Marx notes that from very early times men have harnessed the powers of nature to the goals of production — they have transformed the forces of water, wind and fire, as well as the powers of animals, into productive powers. And particularly since the emergence of industrial capitalism, there has been an increasing development of the powers of machinery, as a result of which the "direct" power of labour undergoes a relative diminution as a component of the overall social productive power. The power of knowledge, increasingly separated from the power of physical labour in the forms of science and technology, assumes an ever more important role.

But though Marx often distinguishes the power of labour proper from the overall productive power which is also represented by, e.g., the power of machines and animals, he sometimes regards these latter powers merely as extensions of the power of labour, and not as powers distinct from it. Thus at *Grundrisse* p. 831 he writes:

The fact that in the development of the productive powers of labour the objective conditions of labour, objectified labour, must grow relative to living labour — this is actually a tautological statement, for what else does growing productive power of labour mean than that less immediate labour is required to create a greater product ...?

And this is not the only extension or variation on the notion of productive power. In fact to fully comprehend Marx's notion we need to distinguish four separate categories: we need to distinguish the notion of productive power from that of the *bearer* of productive power, the exercise of the power, and the *grounds* of the power.

In the first place, then, although we must distinguish between a power or capacity and the bearer of that power or capacity, Marx sometimes, though not often, uses his notions of power and force and capacity in an extended sense to refer to those agencies that are the bearers of power or force in the core sense. (It is in just such a way that we speak of the "great powers" in a socio-economic and political sense, meaning thereby the bearers of great socio-economic and political power; and we speak of the military and police forces, by which we mean those agencies whose role it is to apply military and civil force). Hence Marx sometimes speaks of men, and — much less often — of machines, as actually being productive forces or productive powers. In the division of labour in industry, where each labourer may have a

fragment of the total task, Marx notes that since "the collective labourer has functions, both simple and complex, both high and low, his members, the individual labour-powers, require different degrees of training, and must therefore have different values" (Capital vol.1, p. 330). He also speaks of "implements, in regard to which man has always acted as a simple motive power" (ibid, p. 354); and having quoted Moses as saying "Thou shalt not muzzle the ox that treads the corn", he remarks ironically that the "Christian philanthropists of Germany, on the contrary, fastened a wooden borad round the necks of the serfs. whom they used as a motive power for grinding, in order to prevent them putting flour in their mouths" (ibid, p. 354). He speaks of man becoming "merely the motive power of an implement-machine" (ibid, p. 355), and remarks that "assuming that he is acting simply as a motor ... he can be replaced by natural forces" (ibid, p. 355). Of machines themselves, Marx says that with certain qualifications, "they each do their work gratuitously, just like the forces furnished by Nature' (ibid, p. 366). Indeed men become forces of production on a par with machines precisely because they are transformed into mere components of the machinery. Marx quotes Adam Ferguson as saying that the workshop "may be considered as an engine, the parts of which are men" (ibid., p. 341), and remarks that "the individual himself is made the automatic motor of a fractional operation" (ibid, p. 340). While it is customary to suppose, as Cohen does, that Marx distinguishes between men and their means of production, he in fact speaks of "that means of production so indispensable to the capitalist: the labourer himself" (ibid, p. 537), and says that the labourer's "means of consumption ... are the mere means of consumption required by a means of production" (ibid., p. 536). The difference between the labourer and the machine, after all, is just that the latter embodies constant, while the former embodies variable, capital. And whereas it is normally supposed that Marx regards a man's labour power as being sold to the capitalist, Marx also says that "division of labour brands the manufacturing workman as the property of capital" (ibid., p. 341; all italics in this paragraph are mine).

Since, therefore, Marx sometimes speaks of men and machines as productive forces or powers, the dispute about whether it is men or their labour power which is what he really intends by "productive power" or "productive force" is a somewhat idle dispute. But if one insists, contra Marx, that it is just labour power, as opposed to the labourer, which is a productive force, then consistently one ought to speak of machine power and not its bearer, the machine, as a productive force. Equally, if one insists on regarding machinery itself as an element in the forces of production (as Marx rarely does), then one ought to regard men and not their labour power as a force of production (as Marx more often does). The view of Shaw and Cohen, which as I

mentioned earlier, is orthodox in this respect, involves the inconsistent classification of labour power as opposed to the labourer, and machinery as opposed to machine power, as forces of production.

In general, then, Marx's conception of productive forces or powers is such that not only the powers of men and other objects may be counted as productive powers, but so too may their bearers. Furthermore, and if in the context "labour" means "the exercise of labour power", then Marx sometimes regards the exercise of the power, and not just the power or its bearer, as a productive force. For he says that moden industry "makes science a productive force distinct from labour" (ibid., p. 341), which is to say that labour is itself a productive force. Similarly, at *Grundrisse* p. 274, Marx writes that the capitalist "obtains labour itself, labour as value-posting activity, as productive labour; i.e. he obtains the productive force which ... becomes the productive force ... of capital ..." (italics mine).

Now men and machines, as well as oxen, water, etc., can be regarded as bearers of or elements in productive power just because they do in fact possess a power — the power of motion or activity. In this sense, tools lacking built-in power sources, e.g. chisels, cannot properly be regarded as either the bearers of productive power or, in an extended sense, as productive powers themselves. And this is true of all intert or "powerless" components of production, such as factory buildings, mines, and raw materials other than fuels. Yet these too are standardly regarded as elements in the forces of production (and just possibly, they are sometimes so regarded by Marx). But if so, this can only be because they constitute grounds or bases for productive power — in the case of tools, they evidently constitute a basis for the extension of human productive power. So once again, in an extended sense, "productive power" or "productive force" may be taken to cover not just productive power proper, and not just its bearers and its exercise, but also its grounds or bases, where and when these go beyond its bearers.

I want at this point to turn to what seems to me an important passage in the chaper in volume one of *Capital* on "Co-operation". Here Marx writes:

When numerous labourers work together side by side, whether in one and the same process, or in different but connected processes, they are said to co-operate, or to work in co-operation.

Just as the offensive power of a squadron of cavalry, or the defensive power of a regiment of infantry, is essentially different from the sum of the offensive or defensive powers of the individual cavalry or infantry soldiers taken separately, so the sum total of the mechanical forces exerted by isolated workmen differs from the social force that is developed, when many hands take part simultaneously in one and the same undivided operation, such as raising a heavy weight, turning a winch, or removing an obstacle. In such cases the

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effect of the combined labour could either not be produced at all by isolated individual labour, or it could only be produced by a great expenditure of time, or on a very dwarfed scale. Not only have we here an increase in the productive power of the individual by means of co-operation, but the creation of a new power, namely, the collective power of masses.

Apart from the new power that arises from the fusion of many forces into one single force, mere social contact begets in most industries an emulation and stimulation of the animal spirits that heightens the efficiency of each individual workman ... The reason is that man is, if not as Aristotle contends, a political, at all events a social animal (p. 308-9).

It wold seem that Marx is saying here is that co-operation may constitute the basis (or grounds) of an expansion of productive power, wholly on a par in this respect with the introduction of tools, for instance — so that in an extended sense co-operation may itself be included among the forces of production. Indeed in The German Ideology Marx says bluntly that "this mode of co-operation is itself a "productive force" ..." (p. 31). Where co-operation is involved in the development of the productive forces of labour, it becomes appropriate to speak of these as social productive forces and to classify co-operation as belonging to the same general category as machinery. This, in fact, is precisely what Marx does: he speaks of the "social productive forces of labour, or the productive forces of directly social, socialised (i.e. collective) labour which come into being through co-operation, division of labour within the workshop, the use of machinery ..." (Results, p. 1024, italics in original). (The rationale of capitals development of productive power though the development of cooperation and technical division of labour is obvious. Unlike a development of productive power based on hiring extra "hands" or "brains" or buying more machinerey, this development costs virtually nothing.)

Marx further describes how, because of the character of the system of property, the co-operative character of the productive forces of labour comes to seem detached from labour itself, and indeed, in a certain sense, to be so:

Since — within the process of production — living labour has already been absorbed into capital, all the social productive forces of labour appear as the productive forces of capital ... the *social configuration* in which the individual workers exist, and within which they function only as the particular organs of the total labour power that makes up the workshop as a whole, does not belong to them ... these social productive forces of labour, or productive forces of social labour, came into being historically only with the advent of the specifically capitalist mode of production (p. 1052, italics mine, original italics omitted).

Now co-operation is indeed a social relation, a relation, furthermore, that is involved in the production process: but I see no reason whatever

for classifying it as what Marx calls a "relation of production" rather than as an element of the forces of production. Marx's notion of the relations of production is not a purely descriptive concept; it performs a certain explanatory role. The relations of production are not just any relations whatsoever that men enter into in the process of production they are, as Marx says they are, those relations that may be described "in legal terms" as "property relations", and that may come into a certain kind of conflict with the forces of production. In his discussion of this conflict, too, Marx makes it clear that relations of co-operation enter on the side of the forces of production. Perhaps the most fundamental "contradiction" of the capitalist mode of production is precisely that between the "socialised forces of production" - production as involving relations of co-operation and interdependence between the producers - and the private or independent form of property which is capital. This is a matter to which I will return; for the moment, however, I want to consider the response of Shaw and Cohen to Marx's views about co-operation.

In the Preface, Marx equates the relations of production with the system of property relations⁴ and with the economic structure. In supposing that relations of co-operation, which are not property relations, are relations of production, Shaw and Cohen are obliged to reject Marx's equation as confused or inconsistent. Thus Cohen accepts Marx's equation of the system of property relations with the economic structure, but holds that his equation of the economic structure with the relations of production ''is inconsistent'' with the rest of Marx's views (see especially pp. 111-112). Shaw, on the other hand, accepts Marx's equation of the economic structure with the relations of production, but rejects his equation of the relations of production with the system of property relations. Shaw, like Cohen, calls non-property relations such

⁴ It is nonetheless somewhat misleading to characterise the relations of production in terms of "property" or "ownership", as these are standardly conceived (and Marx himself would be the first to agree on this); since it is his view not so much that property is the property of persons, as that persons are the property of property. That is, even to characterise property or ownership relations as relations involving the power of certain individuals or groups over others is in Marx's view both superficial and misleading, since what is really at the heart of these relations is rather the power or domination or control of the products of labour, and especially of the means of produciton, over the producers. The nominal "owners" of these objects — those who appear on the economic stage as the wielders of power — are in reality the mere "personifications" or human embodyments of the power exercised by these objects over their producers. Qua capitalist, a man is wholly an instrument of capital, "endowed with will and consciousness"; qua worker, on the other hand, a man is a resistant cog in the machine.

as those involved in co-operation "work relations", and speaks of the economic structure as "the totality of the relations of production, both work and ownership" (p. 39). I have suggested that Marx's views do not need altering before they can be made consistent.

How, in view of Marx's apparent location of co-operative work relations within the forces of production, do Shaw and Cohen justify assigning them to the relations of production? Their justification, which as Shaw acknowledges (see chapter one, note 52) is essentially due to Cohen, seems very weak. It is that the "principles of scientific management" — the knowledge which is part of "managerial labour power" — is part of the productive forces, but that the system of work relations which embodies this knowledge is not. However, if we consider instead machinery, it is not as if Marx regards the knowledge underlying the production of sophisticated machinery as a productive force while denying that the machinery is itself a productive force. Machinery is just, as Marx so often says, "the power of knowledge objectified". Furthermore, in view of Cohen's insistence that the forces of production are non-social, it is hard to see how even the "principles of scientific management" can count as forces of production, since any description of these principles will of necessity involve the use of social concepts.

Cohen attempts to buttress his position by claiming that work relations, unlike machinery and labour power, cannot be *owned* (p. 114); but this too seems not in harmony with Marx. As he says in *Results*, "collective unity in co-operation, combination in the division of labour ... confront the individual worker as something alien ... the social forms of their own labour ... are utterly independent of the individual workers ... these social formations *do not belong to them* and so rise up against them as the forms of capital itself" (pp. 1054-5, italics mine). If ownership is conceived in Marx's way as a non-legal relation, as more or less equivalent to effective *control*, then there is certainly a question of who or what it is that controls the way the process of production is organised, who or what controls the division of labour and co-operative relations within the process of production.

In view of Cohen's idea of the forces of production as non-social factors determining the social, and in view of the undeniable intimacy of the link between co-operative work relations and the forces of production, Cohen attempts to cover his position by claiming that work relations are just not *social* relations at all. But if Marx's "co-operation" and "social configurations" do not involve social relations, it is not clear what does. For Cohen, it seems, social relations are fundamentally economic: but this is a stipulative definition of what constitutes the social which is neither intuitively plausible nor to be found in Marx.

I remarked earlier that the conception of the forces of production developed by capitalism as social — as themselves involving cooperation and division of labour — is crucial to Marx's view of capitalism as increasingly involving "contradictions" and as giving way to communism. Shaw and Cohen, lacking this conception of the social forces of production, present no clear account of the necessary replacement of capitalism by communism. We must now consider this at greater length.

Marx attaches a good deal of importance to a distinction he says was overlooked by Adam Smith, between the division of labour "in society" and the division of labour "in industry or manufacture." The point of the distinction is that the former involves property relations between the producers and their products whereas the latter does not. It should perhaps be mentioned here, though the point is obvious enough, that in the capitalist mode of production all property takes the form of commodities. Marx writes "But what is it that forms the bond between the independent labours of the cattle-breeder, the tanner, and the shoemaker? It is the fact that their respective products are commodities. What, on the other hand, characterises division of labour in manufacture? The fact that the detail labourer produces no commodities" (Capital vol. 1 p. 335).

Within the factory walls, as against between independent firms related through the market, there are no property relations connecting the producers with each other or with their products. The "technical" relations between the producers do not take the commodity form, and the only property relations that exist are not "horizontal" but "vertical", between each of the producers or his labour power, and each of the products, on the one hand, and the capitalist or capital on the other. And it is this fact as much as any, that enables us to understand the nature of capitalist development. For as the individual capital expands — as expand it must, if it is to survive at all — it either disposses independent individual producers, farmers or artisans, or, at a later stage, it incorporates independent capitals. What was previously the division of labour in society between independent commodity producers — the economic relationship — becomes transformed into the division of labour within the individual unit of capital - the non-economic relationship. The sphere of the market shrinks as the sphere of the productive forces expands. (It should not be supposed that market relations are something other than relations of production: they are quite clearly economic relations, and as Marx makes clear in the introduction to Grundrisse — a text he alludes to in the 1859 Preface, though not by name - production in a broad sense is a concept covering distribution, exchange, and even consumption by the

producing class). Of course, the division of labour in industry is not the sole basis for the expansion of productive power; the introduction of machinery requiring collective labour is also vital. Still, it is the division of labour in manufacture which itself makes *possible* the development of such machinery; this division of labour long preceded the industrial revolution.

It is of some importance here to notice that the distinction between economic and technical relations (between property and productive force) corresponds not merely to the distinction between the relationships of independent producers and relationships within a single capital, the division of labour in society and in the single firm: the distinction between these two kinds of relations must be made even in the case of the division of labour in society itself. For although the relations between independent commodity producers are one of formal economic independence, there is clearly a relation of substantial technical dependence of the shoemaker on the tanner and of the tanner on the cattle breeder. As the economically independent producers progressively lose their economic independence and are swallowed up within the same unit of property, the same unit of capital, their technical relations of dependence are stripped of the form of economic independence — and the resulting possibilities of co-ordination, of planned co-operation rather than that "co-operation" which takes the form of competition and which depends on the all-too-shaky "hidden hand" of the market, greatly expands the productive potential. This stripping of relations of technical dependence of their form of economic independence is a central constituent of what Marx refers to as the "socialisation" of the forces of production — a notion which must be unintelligible it the forces of production are conceived of as essentially non-social. (Actually there is in this discussion a still too mechanical isolation of the technical and economic factors, of the forces and relations of production. Thus e.g. the technical advantages of the introduction of exchange, and particularly money, are enormous. Exchange conducted in the form of barter requires the producer to search out someone who wants what he has and who is identical with the person who has what he wants; a time-consuming process. Money, on the other hand, enables the producer to sell the product at his own convenience, and to purchase his requirements in the same manner. The productive power is thereby expanded: from a technical standpoint, money oils the wheels of production, just as from an economic standpoint it is a form of capital). The mechanical separation of the forces and relations of production, their linking through a linear causality, seems part of what has sometimes been described as "vulgar Marxism"; and though I do not like the implications of this term, there is a point of substance here. The forces and relations of production are inseparable elements of a unitary

object, the mode of production: one and the same social relationship may be seen to have both technical and economic aspects.

The socialisation of the forces of production, which has as a central constituent the development and expansion of the system of technical relations within the individual units of capital, is crucial to understanding what is in Marx's view a basic contradiction of the capitalist mode of production — that between the ever-increasing socialisation of the forces of production and the economic relations of private, independent property. The development of capitalism consists in the progressive abolition of private property, relations of economic independence, commodity relations, through their transformation into technical relations of dependence, non-commodity relations, albeit within the framework of private property or commodity production — hence Marx's description of capital as "the moving contradiction" (Grundrisse, p. 706).

Typical of Marx's descriptions of the development by capital of the social, dependent, co-operative character of the forces of production is the following well-known passage from *Capital*:

Hand in hand with this centralisation, or this expropriation of many capitalists by few, develop, on an ever-extending scale, the co-operative form of the labour-process, the conscious technical application of science, the methodical cultivation of the soil, the transformation of the instruments of labour into instruments of labour only usable in common, the economising of all means of production by their use as means of production of combined, socialised labour, the entanglement of all peoples in the net of the world market ...

And Marx goes on to note how this development comes into conflict with the form of capital itself, the production relation.

Centralisation of the means of production and socialisation of labour at last reach a point where they become incompatible with their capitalist integument (vol.1, pp. 714-715).

The result is "the transformation of capitalistic private property, already practically resting on socialised production, into socialised property" (p. 714), since private property is a wholly unviable form for socialised productive labour. What is crucial is the recognition of the *qualitative* character of the changes in the forces of production — their transformation from individual to social forces — which necessitates the transformation of the economic structure. Indeed, this qualitative change implies enormous quantitative expansion of the forces; and we can concede that it is the quantitative development which makes communism *possible*. But it is the qualitative change, on the other hand, which makes communism *necessary*.

The distinction between the two is clearly made by Marx himself: he writes in Results that the "material result of capitalist production, if we except the development of the social productive forces of labour, is to raise the quantity of production ..." (p. 1037). The spelling out of the details of the conflict of socialised forces of production and capitalist economic relations is a lengthy and complex matter: here it must suffice merely to mention a few of its dimensions. In the first place, then, the socialisation of the forces of production introduces the necessity of planning into the individual firm — something which, as Marx observes, the "bourgeois mind" denounces in connection with the overall social production process as much as it praises it for the individual firm (see Capital volume 1 pp. 336-337). But the development of planning within the individual firm co-exists with a lack of planning in society at large. making it increasingly difficult for the firm to manage its activity. It lacks certain guidelines as to how much it must produce, and the larger it becomes, the more costly are mistaken forecasts for society at large. Furthermore the expansion of productive capacity goes hand in hand with the need on the part of the individual capital to keep its costs to a minumum, including here the cost of labour power as wages. But the pressure to keep wages down conflicts with the pressure to expand output, and there is a constant tendency to overproduction: too many cars produced, which therefore go unsold; too much coal, too much wheat. Workers must therefore be laid off, finding themselves in the absurd position of being unable to buy a car because too many cars have been produced. The means of consumption tend to lag behind the means of production. The problem can be temporarily alleviated: surplus products and means of production can be simply destroyed, as in war; credit can be expanded, generating inflation; armaments may be produced since these are purchased by the state itself, their level of production is not restricted by the growth in wages. The internal rationality of planned, socialised production conflicts with the overall irrationality of unplanned, private appropriation; production directed by the drive for private profit increasingly diverges from production directed to the satisfaction of the people's needs. The conflict is reflected in the perennial conflict between the actual producers, whose conditions of existence are subject to the sometimes vicious forces of the market, and the personifications of the mode of production - a conflict whose management requires increasing intervention by the state.

Contrary to what Shaw and Cohen claim, however, I do not think that any of this implies that it is the development of the productive forces themselves which brings about the needed changes in the economic structure of society (indeed if the notion of productive force is, as I have claimed, at bottom the notion of a power, then productive force is not of the right ontological category to be a cause of anything. The exercise

of a power may have effects; the power itself may not). The actual situation is I think more complex. Society finds itself in possession of a certain productive potential, a capacity to satisfy its desires and needs. But the evolving nature of the *grounds* of this capacity brings them into increasing disharmony with the economic *forms* (the relations of production) in which the power is exercised. The exercise of productive power is thus inhibited or "fettered", with the result that desires and needs must go unmet. Society can only solve its problem, which manifests itself as unmet needs, by changing the form in which its productive power is exercised so as to bring it into line with the changed character of the grounds of that same power. It is not the power *per se*, but the unmet needs resulting from its inadequate exercise, given the prevailing forms of property, which press for changes in these forms. Speaking in this case of agriculture, Marx remarks that

leaving aside the so-called "rights" of property, I assert that the economical development of society ... will more and more render the nationalisation of the land a "Social Necessity", against which no amount of talk about the rights of property can be of any avail. The imperative wants of society will and must be satisfied, changes dictated by social necessity will work their own way, and sooner or later adopt legislation to their interests.

What we require is a daily increasing production, and its exigencies cannot be met by allowing a few individuals to regulate it according to their whims and private interests, and to ignorantly exhaust the powers of the soil (S.W. vol. 2 p. 289)

Of course, if people themselves are counted as belonging to the forces of production, then it is a truism that property relations are changed by the forces of production; but it is not at all obvious that Marx was thinking of a truism.

I have stressed the importance of the qualitative, social aspects of those changes in the productive forces which for Marx are relevant to economic change, and neglected the quantitative and "non-social" aspects of the changes, even though these two aspects are inseparable; but I have done so only because Shaw and Cohen suggest that changes in the productive forces are essentially quantitative (for Marx), and this is clearly a mistake. Indeed if one ignores the development of technical relations, of the technical aspect of the division of labour, it is difficult to see what the development of productive power could consist in, other than a development of the powers of the means of production distinct from labourers. And it is perhaps revealing in this connection that in spite of his explicit rejection of the equation of productive forces and means of production, Cohen often (and presumably unwittingly) slides into just such an equation. He remarks that "... the standard of the level of development of the *productive forces* is their degree of productivity

... Two ways of improving the productivity of means of production may be distinguished" (p. 55). He goes on to quote Marx in the Manifesto as "The bourgeoisie cannot exist without continually revolutionising the instruments of production, and thereby the relations of production ...", and paraphrases this by saying that what "changes the productive forces thereby changes the production relations" (p. 145). In critcising the views of Acton and Plamenatz, Cohen writes that they "suppose that work relations are too closely linked with productive forces to change as a result of changes in the latter. They fail to see how new work relations may be adopted because they constitute a good setting in which to use new means of production"(p. 168; all italics mine).

Cohen might claim that these are unfortunate slips, and draw attention to the fact that he has explicitly included *knowledge*, and especially science, among the productive forces (as indeed does Marx), and that the development of scientific knowledge is a development of *labour power* as distinct from means of production. This would however be a doubtful move, since Marx's view seems to be that science contributes to the development of productive power to the extent that it is embodied in the means of production. Or rather, more cautiously, it is a crucial dimension of the development of industrial capitalism that science is increasingly incorporated into the instruments of production: labour power is increasingly dominated by science as a force *distinct* from labour power itself.

As an account of Marx's view of history, Cohen's thesis that "the nature of a set of production relations is explained by the level of development of the productive forces embraced by it" depends for its plausiblity on its interpretation; and it is as much Cohen's interpretation of this statement, as anything else, that may be questioned. However, it is a striking feature of Cohen's book — though one which may not be immediately evident — that very *little* of it is acutally devoted to an explicit defense of this so-called "master thesis" of historical materialism. Strange as it may seem, this putative defense consists only of a single paragraph (the final paragraph of p. 158) — a fact that might lead one to wonder just how defensible Cohen takes his version of the materialist conception of history to be.

Stranger still, Cohen argues in this very paragraph that the "level of development" of the productive forces (which is supposed to explain the nature of the production relations) may be defined by reference to the emergence of "constraints" imposed on the development of these forces by the *already existing production relations*. But this seems far from being the kind of "reductionist" thesis that Cohen summarily presents historical materialism as being, since here reference to an old set of production relations is an essential factor in the explanation of the

emergence of a new set of production relations. (And this, as I have already in effect suggested, is crucial to Marx's view of a new economic structure arising out of *conflict*). Are we to conclude, then, that Cohen has merely misrepresented the character of the thesis that he is actually concerned to defend? I think not, for the ambiguity between the "reductionist" and "dialectical" conceptions of historical materialism is one that pervades the book, even though the "reductionist" view is given official pride of place.

One of the various concrete examples of this ambiguity is to be found in Cohen's discussion of the emergence of capitalism. Here Cohen argues on the one hand that capitalist economic structures arise "when and because productive power reaches a level beyond which it cannot rise within existing structures" (p. 175, my italics). And if this is to be taken at its face-value, it would seem to require some non-question-begging specification of what those structures might be. So taken, that is, it would require a description of them not merely as "pre-capitalist" (although, interestingly enough, this seems to be the description favoured by Cohen), but rather a description such as, e.g., "petty commodity" or even "feudal" relations of production. To describe them as "pre-capitalist" makes the thesis either vacuous, or a disguised version of the "reductionist" version of historical materialism.

On the other hand, Cohen argues that the capitalist economic structure arises "when and because productive power attains a moderately high level" (p. 180, italics mine); and in spite of the inconsistencies of Cohen's presentation, there is throughout his book the strong suggestion that however "moderately high" is to be defined, it is at any rate not to be defined by reference to relations of production. Cohen does give hints as to what this "moderately high level" might be: he makes reference to "improved techniques of cultivation", "superior methods of tillage", and the like — see especially p. 176 ff. — although the hints are disappointingly thin.

However, there seems to be a gloss on this latter kind of explanation of the rise of capitalism — or for that matter, of any other mode of production — which is favoured by Cohen, according to which the "moderately high level" of development required for capitalist relations of production may *in a sense* be defined by reference to those very relations of production, even though the sort of explanatory primacy of the forces vis-a-vis the relations which is required by Cohen's reductionism is nonetheless maintained: and this is the so-called "functional explanation".⁵

According to this putative type of explanation, the capitalist economic structure "arises and persists because it is suited to develop productive power at the stated levels" (p. 180). Cohen argues that there is a legitimate mode of explanation, appropriate to the sort of case in

question, in which "reference to the effects of a phenomonon contributes to explaining it" (p. 250). That is, in the case in question, the effects (development of productive power from moderately high levels) of capitalist economic relations "contribute to" explaining the appearance and persistence of those relations. If I have Cohen anything like right about this, his point is that the "moderately high level" to be elucidated may be described as that which is suited to the emergence and persistence of capitalism, even though this level maintains its explanatory primacy vis-a-vis capitalism. But whether functional explanation must be supposed to be a feature of historical materialism or not, it surely cannot subserve this magical function.

There may well be senses in which "reference to the effects of a phenomenon contributes to explaining it" — perhaps, e.g., where the phenomenon in question is some such continuous process as temperature change in a room with thermostatic control — an altogether humdrum example — but a phenomenon cannot have effects at all unless it actually exists; so its existence or beginning can hardly be explained by reference to any effects that it might have. The persistence of capitalism, as distinct from its emergence, might perhaps be explained in "functional" terms, and in that case it is crucial that the two factors not be conflated.

Cohen thinks that the fact that were giraffes to have longer necks in a certain environment, they would have better survival chances, "contributes to" explaining why their necks get longer in such an environment; see p. 269. But this mysterious process is surely distinct from the fact, as Cohen puts it, that the environment "selects in favour of variants with longer necks" (p. 269) — of already existing variants, that is — for here the actual appearance of individuals with longer necks is not fun-

⁵ I shall not comment on this aspect of Cohen's book at any length, since Taylor makes it the focus of his own discussion; but I am bound to say that I find Cohen's functionalism no more plausible than Taylor's — a version of functionalism which as Cohen notes is an ancestor of his own. In fact I am not sure that Taylor's "teleological explanation" is not wholly incoherent. At any rate, we find in *The Explanation of Behaviour* (London, Routledge and Kegan Paul Ltd., 1964), such conflicting statements as the following:

^{(1) &}quot;... the fact that the state of a system and its environment is such as to require a given event if a certain result is to accrue can be perfectly observable ... whether laws of this kind hold can be verified or falsified ... To say that a system can only be explained in terms of purpose, then ... does not involve making an unverifiable claim ..." (p. 10, italics mine).

⁽²⁾ to the question of "whether animate beings must be given a different status from inanimate things in that their behaviour can only be explained in terms of purpose ... no conclusive answer can be given, since the claim to special status involves a negative existential statement ..." (p. 272, italics mine).

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ctionally explained, even if the persistence of their characteristics is, but results instead from the so-called "random variations".

It is significant that Cohen himself sometimes sees the force of the distinction between emergence and persistence, for as well as claiming that capitalism both persist and arises for functional reasons, he also and separately claims that capitalism "(a) emerges when and because productive power reaches a level beyond which it cannot rise within existing structures and (b) persists because and so long as it is optimal for further development of productive power" (p. 175). So much, then, for the ambivalence of Cohen's central thesis — an ambivalence existing within the structure of a strongly reductionist framework. It is not I think surprising that Cohen nowhere gives a non-circular account of just what "level of productive power" is necessary and sufficient for the emergence of a given set of economic relations; for no such account is to be found in Marx. Economic structures do not appear fullblown out of levels of productive power: they result from transformations of earlier economic structures. Thus the necessary precondition of capitalism, in Marx's view, is petty commodity production, and it is essential to understanding the emergence of capitalism to understand the disappearance of this earlier mode of production, for the two events are one and the same — the separation of the producers from their means of production. Similarly, the passage from capitalism to communism (or "socialism", as it has become customary to refer to it in its early stages) consists primarily in the re-uniting of the producers with their means of production — only this time on the basis of collective ownership, since only this can constitute a viable totality with the forces of production when they have themselves been socialised.

I have directed criticism more at Cohen's book than at Shaw's, and this is because, although their basic theses seem in all essentials to be much the same, Cohen appears to have dubious distinction of being the originator of their shared mistakes, or at any rate, of the mistakes which strike me as important. But important mistakes need not make for unimportant books; indeed the contrary is often true, and Shaw's and Cohen's books will be required reading for anyone concerned about the character of historical materialism.

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