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ON THE HISTORICAL CHARACTER OF PRODUCTIVE FORCES

— Machine, Skill, and “Human Productiveness” —

by Hiroshi OHNISHI*

The collapse of “Socialism” in Russia and Eastern Europe revealed the fact that the standard of industrial productivity in these countries had been extremely low. The discovery makes us rethink the problems of productiveness? Of particular interest, from a theoretical point of view, is that the issue of productive forces arose in conjunction with “social system” or “relations of production.” The purpose of this article is to study these issues as they exist at present.

Our study is in particular based on Marx’ thoughts which appear frequently in his “Capital” (Progress Publishers, Moscow, vol. I, p. 43) and “Critique of the Gotha Programme” (Collected Works, vol. 24, p. 81), that is, to identify human being and the nature (including means and object of labour) as two fundamental elements of productive forces.

I Capitalism and Machinery Productiveness

1. Capitalistic changes in Russia and Eastern Europe

In Russia and Eastern Europe, it has become a firm state policy to liberalize and to promote foreign investment. In addition, there now exists in Russia several types of autonomous enterprises including individual enterprises, limited companies and “cooperatives”, and they are expected to become major players in the economy. Among them, not only limited enterprises but also cooperatives are capitalistic firms substantially. Employing 20 or 30 people on the average,¹⁾ these cooperatives are owned, controlled and managed by the investors (capitalists) themselves who command the workforce (labourers). In this sense, cooperatives are identical with those small business which appeared in the initial stage of modern capitalism.

On the other hand, there is no doubt that privatization of state enterprises which is going on in these countries aims to create “capital-labour relationship”. As it is, relations of production in

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1) Toshitetsu Nishioka, “Soren ni okeru Kyodo Kumiai to Cooperatif” (Cooperative Unions and Cooperatifs in the USSR) in the *Shakaishugi Keizai Kenkyu*, No. 14, 1990, and “Soren Ryutsu ni Okeru Kojin Eigyo to Cooperatif” (Private Business and Cooperatifs in the USSR Distribution System) in the *Hannan Ronshu, Shakai Kagakuhen*, Vol. 16, No. 1, 1990.

the former Soviet Union and Eastern Europe are in the process of establishing and expanding the “capital-labour relationship” on the whole, and we may say that this is clearly a capitalistic change.

This “change” —especially as it concerns creation and expansion of capital-labour relationship, the main body of such a change, can be understood as the issue of “productive forces” and “relations of production”, and then, we should ask another question: was it large-scale mechanized industry that needed capitalistic changes in these countries, or rather, can’t productive forces grow without strong “capital-labour relationship” under these mechanized industry?

This question could be answered in various ways. One of them is to condemn capitalistic change in these countries simply as a “historical mistake”, or to “duck the issue”. As a matter of fact, this is the contention of “conservative” groups in these countries, and the dire confusion resulting from the sudden changes in the economic system is making many citizens to hope for return to the old system. However, this attitude does not seem to be justifiable, because (1) any economic system can’t be change without temporary confusion, (2) the level of productive forces in these countries cannot surpass that achieved under “capitalism” in any event, and (3) on a microscopic level also, productivity of ex-state enterprises cannot exceed that of many kinds of new private enterprises in these countries. The tide of “capitalistic change” is too overwhelming to discard it as a sheer mistake.

Another way to answer the question is to say that the “capital-labour relationship” is not a necessity for large-scale mechanized industry. However, this view also fails to explain why the “capitalistic change” has actually taken place. Furthermore, without explaining that the old regimes were not the “primitive accumulation from the above”, which is a historical necessity in any country, we can’t differ between the old regimes (=colossal states) from the “state capitalism” peculiar to developing countries,²⁾ because the old regime=developing country theory can explain such a change toward “proper capitalism” at advanced stage. If such a reasoning stops at explaining the past success of these colossal states at their early stage, then it fails to justify the proposition that mechanized industry and its machinery productiveness necessarily leads to

2) Y. Yasuba argues, in his “Kindai Keizai Seicho” (Modern Economic Growth), in *Keizaigaku Daijiten* (Encyclopedia of Political Economy), Toyo Keizai Shinpo, that the state intervention at the early stage of so-called “socialism” was in fact a compulsory shift of funds from workers and farmers to industrial capital, by saying: “in the case of Soviet Union, for instance, real wages were cut during early stage of economic growth and this resulted in farmer’s poverty, but the sustained economic growth soon improved the standard of living of workers and farmers” (p. 258). This amounts to say that state intervention is not unique to “Socialism” but unique to Rostow’s “Take-off”.

In this sense, I consider this “Socialism” as one kind of “state capitalism”. This view is shared by Masayuki Yamaguchi, “Rodo no Kokusaika to Shiteki Yuibutsuron” (Internationalization of Labour and Historical Materialism) in *Ritsumeikan Sangyoshakai Ronshu*, No. 23, 1980, and by Teinosuke Otani, “Genson Shakaishugi wa Shakaishugi ka” (Is Existing Socialism Really Socialism?) in *Keizai Shirin*, Vol. 58, Nos. 3 and 4, 1991. And then, from the new viewpoint, the state intervention for the “Take-off” can be recognized as a form of Marx’s “Primitive accumulation of capital”.

“capitalism”.

From this point of view, we must think the capitalistic changes in Russia and Eastern Europe was necessitated by large-scale mechanized industry or machinery type of productiveness. However, before coming to this conclusion it would be meaningful to make a question about Marx's “Historical Materialism”, that is, while large-scale mechanized industry is at the base of capitalistic productive forces, could socialism develop itself on the same basis, or rather, would one mode of production necessarily corresponds to one particular historical productive forces ?

On this question, Marx made a following remark :

“Social relations are closely bound up with productive forces. In acquiring new productive forces men change their mode of production ; and in changing their mode of production, in changing the way of earning their living, they change their all their social relations. The hand-mill gives you a society with the feudal lord ; the steam-mill, society with the industrial capitalist”.³⁾

Therefore, Marx clearly said that “new productive forces give rise to new mode of production and new social relations”, and that large-scale mechanized industry, of which the steam-mill is a symbol, inevitably brings capitalism. Therefore, it is by no means a leap in argument to say that at the stage of mechanized industry we can't reach at socialism.

Yet, the reason why this statement leaves us not totally convinced⁴⁾, is that it does not say what “character” of productivity must be got in order to realize socialism, and one of the tasks in our present thesis is to clarify this issue, and this require us to study difference between large-scale mechanized industry and other types of productive forces which preceded it, and why mechanized industry must give rise to capitalism.

3) Collected works, Vol. 4, p. 166.

4) One of possible objection may come from the Marxist thesis that “the shift to socialism starts from the above”, or it may arise on the basis of the following statement Engels made, that reform of the relations of production is possible within existing “modern industry” : “... only the abolition of the capitalist character of modern industry ..., can resolve this contradiction in modern industry, which is constantly reproducing itself”. (*Anti-Düring*, Collected works, Vol. 25, p. 282)

Yet, Engels says also that : “... modern industry develops, on the one hand, the conflicts which make absolutely necessary a revolution in the mode of production ... And, on the other hand, it develops, in these very gigantic productive forces, the means of ending these conflicts” (ibid., p. 245). Also, “Certainly, to be able to see that the revolutionary elements, which will do away with the old division of labour, among with the separation of town and country, and will revolutionize the whole of production ; see that these elements are already contained *in embryo in* production conditions of modern large-scale industry”. (ibid., p. 284)

These statements seem to show that rather than considering mechanized industry in itself as the economic basis of socialism, Engels thought it as a historical precondition for socialism. However, of greater importance is the interpretation of basic framework of historical materialism, discussed in the following section.

It should be remembered that Seiji Nakamura criticized years ago the opinion that capitalism and socialism both stand on the same basis of productive forces (S. Nakamura, *Seisan Yoshiki no Riron* (Theory on Mode of Production), Aoki Shoten, 1985, p. 40.

2. Productive Forces and Relations of Production Under Capitalism

To understand the characteristics of large-scale mechanized industry, it is useful to compare it with the production bases which supported feudal system. In the feudal production system, quality and quantity of output are basically determined by the skill of workers, and this is why in such a society the apprentice system, which needs to reproduce skills, as well as the hierarchial command-subordination relationships, have been solidly established as a relation of production along with the corresponding ideology.

Large scale mechanized industry which is the base of capitalistic production makes the skill totally unnecessary. Volume of production and performance of finished products no longer depend on skills of individual workers. Those are determined by machines or science they embody, i. e., capital equipment, and also by the novelty of business organization which operates the machinery. If we say the "character" of productive forces as of machinery productiveness (and productiveness of organization), then human labour is degraded to mere "simple labour" which is "an appendage of the machine" (Marx's "*Communist Manifesto*").

Moreover, simple labour alienated from "machinery productiveness" can be replaced at any time, and then workers lose their bargaining power against their employers. Low wage and long labour hours are forced on workers, while profit increases and capital=machinery continues to grow.

This is an extremely unkind society for workers and these "mercilessness" exploitation of labour would appear as highly "unjust" for workers.

Yet, without such "mercilessness" exploitation, productive forces can't grow, and this is due to historical character of productive forces of the stage which depends on machines. Of course, growth of capital (machinery) itself is against the workers. But if we can't raise the productive forces without capital (machinery) growth, we must say it rational and inevitable in this historical stage. For this reason, it produces bourgeois theory of economics to justify exploitation and public institutions to support it. In this sense, this is "the age of *capitalists* (owners of capital=machinery)" who command the whole society, and this is what we call "the age of capitalism". It is clear that this society is far from humanitarian, but as a class society (that is, a society which cannot exist without class domination), this has to be such a type of social system in order to be historically *rational* ("rational" in the Hegelian sense).

With regard to this observation, it should be remembered that Lenin tried to introduce Taylor System immediately after the revolution. "Taylorism" at that time was by no means humanitarian, but Lenin thought that it was indispensable for industrialization. This realistic thinking was based on the concept of "historical materialism",⁵⁾ and the fact that this sort of dictatorial command (which constituted the essence of capitalism) was indispensable for large-scale industry is clearly stated also by Engels. He said :

5) H. Braverman criticized USSR and Eastern Europe for their "capitalistic" control over labour. See his "*Labour and Monopoly Capital*", 1974, but his criticism, in the sense already mentioned, does not transcend ordinary humanism. Ref. Hiroshi Ohnishi, *Shihonshugi Izen no 'Shakaishugi' to Shihonshugi Go no Shakaishugi* ('Socialism' as Pre-capitalism and Socialism as Post-capitalism), Otsuki Shoten, 1992, Addendum 2.

“If man, by dint of his knowledge and inventive genius, has subdued the forces of nature, the latter avenge themselves upon him by subjecting him, in so far as he employs them, to a veritable despotism independent of all social organisation. Wanting to abolish authority in large-scale industry is tantamount to wanting to abolish industry itself, to destroy the power loom in order to return to the spinning wheel”.⁶⁾

It follows that reinforcement of dictatorial command=“capital” in Russia and Eastern Europe, based on large-scale mechanized industry, is inevitable, and the social class which is being developed at present and expected to undertake the historical task must be the true capitalists. Both the reality and the theoretical conclusion derived from it in Russia and Eastern Europe lead us to the conclusion that “capitalism” is a necessity in large-scale mechanized industry.

II On the Human Productiveness

1. Chinese Policy of Developing Small Enterprise and “Human Productiveness”

We saw that the “capitalistic reform” in Russia and Eastern Europe of today is inseparable from the character of productiveness of mechanized industry, and that under machine-based productive forces, human beings are no more than appendage. Yet, the “workers” who are now downgraded to the auxiliary status by no means constitute the whole population. It goes without saying that a part of the people are required to become “capitalists”, and in fact, the greatest bottleneck in the economic (=capitalistic) reform in Russia and Eastern Europe now is the lack of “capitalists” who have enterpreunial spirit and managerial talent.

Therefore, even in the age of “capitalism”=the age of machinery, human productiveness has a critical role to a certain degree. We are now going to consider this aspect.

In this regard, the case of China is interesting, because the country has been making efforts to develop small private enterprises in a manner quite different from Russian – Eastern European approach. In China, a large number of so-called “ten thousand yuan families” in rural districts are growing, leading to a differentiation of peasantry. Yet, the negative influence seems to be amply offset by the tremendous productivity growth being realized by these “ten thousand yuan families”. This presents us an interesting problem.

Apart from “ten-thousand yuan families”, Chinese land reform immediately after the Revolution and the policy taken by Liu Shaoqi —Deng Xiaoping generally contained seeds of class disintegration while they encouraged freedom for growth of agricultural production. Thus, the policy can be justified as long as its positive effect exceeds the negative effect, and if this is not the case, it has to be reviewed and restricted to some extent (the shift for the “Big Leap Forward —Cultural Revolution—Mao’s Production by Mass Movement” Line). Whether the policy to develop small private enterprises more than compensates the negative issues by stimulating

6) F. Engels, “On Authority”, Collected Works, Vol. 23, pp. 423-4. In this paragraph, do’nt miss the fact that what avenge mankind is not the forces of “human” but of “nature”. In this sense, “soft” productiveness is friendly to human beings.

economy depends on the amount of creative and active individuals who are able to take full advantage of free enterprises. If their number is sufficiently large, then the policy to develop small private enterprises is certain to realize spectacular growth of production, and the success will be a justification for the negative side effect. Thus, the form of "relations of production" is determined, in this case, by human quality such as individual creativity and activeness as elements of productive forces. The struggle between Mao Zedong and Deng Xiaoping quite possibly arose from their difference of view regarding appraisal of human factors.

2. Development of "Knowledge—Software Oriented Economy" in Advanced Countries

Be it an automobile or a garment, the product value is more and more dependent on design and other added value factors. So-called "tertiarization" portionally concerns production of "softwares" in the broadest sense (design, publicity, marketing and other information or data, as well as immaterial input contributing to higher performance)⁷⁾. This "post-industrialization" trend now appears to cause a far-reaching reorganization of labour within enterprises.

To "produce" such "softwares", machine system=capital equipment can no longer play the principal role because machine system is essentially suited to quantitative improvement of product, whereas "production" of "softwares" does not involve the quantitative aspect and solely depends on individual talents. In this sense, it may be said that the age of machine-based production is gradually giving way to "the age of human productiveness".

This change can not affect the capital-wage labour relations totally as long as such new designers remain only few, but if a large majority of workers are mobilized for intellectual or "soft" jobs, it must menace conventional capital-wage labour relationship. This is because the "reason" (rationality) which big industry demands can be found only in a limited number ("numerically unimportant" (Marx)) of "engineers" as a result of the "scale merit" of the "reason" itself, whereas "high sense" and "individuality" which software production requires can't have the "scale merit" simply because of its nature. The strong needs for high sense and individuality make it unnecessary to separate "thinker" (mental worker) from "operator" (physical labourer), and in the same vein, one-sided command by capital over labour also become unnecessary. Inasmuch as "capital" by definition means "dictatorial command over labour", the capital also loses its social *raison d'être*.

Thus, "human productiveness" is now regaining importance in a new form, and this new historical character of "productive forces" now necessitates a new relations of production and new mode of production to be built on that basis.

7) Kei Takeuchi and his study group, *Sofutoka Jidai ni Okeru Keizai Tokei no Kadai* (Economic Statistics in the Age of Softwares), Printing Bureau of the Ministry of Finance, 1985, p. 11.

8) As to my image of "software-oriented society", see "Gijutsu Kakushin to Seisanryoku Hatten" (Technological Innovation and Production Growth) in *Marx, Keynes, Schumpeter*, ed. by Y. Kotani, N. Okishio and J. Ikegami, Otsuki Shoten, 1991, *Shihonshugi Izen no 'Shakaishugi' to Shihonshugi Go no Shakaishugi* ('Socialism' as Pre-capitalism and Socialism as Post-capitalism), Otsuki Shoten, 1992.

3. Historical Development of "Human Productiveness"

As stated in the beginning, two fundamental elements of productive forces are the "nature" (which includes instruments and subjects of labour) and "human being". Consequently, it is only natural that "human productiveness" appears in many different forms in the history, and in this sense, it is meaningful to make reappraisal of each of these forms of human productiveness. A table is attached as an attempt to such reappraisal. We shall take a quick overview of it.

First, with regard to the small-scale feudal economy, each firm needs long and stable relationship in order to reproduce skills. This means that in each unit of economy, number of apprentices must be quite small to make learning process effective, and to make these apprentices to become masters one day (otherwise the master-apprentice relationship will become a rigid hierarchial system). Division of market under the guild system was a social system needed to maintain stability among small units of production, but in turn by restricting competition, had a negative effect of diminishing motivation of these small units to improve their operation and performance. In other words, when a certain number of people have got sufficient talent of creativity and activity to improve their work, the feudalistic division of market becomes against progress, and then the change needed private property, free competition and "freedom" of workers as preconditions for private capitalism. Needless to say, presence of men who are determined to fight out competition in such a free environment, that is, "human factors in productive forces" or "human productiveness", becomes a decisive condition for private capitalism.

Those who win the competition will grow in scale, but in order to become larger and to maintain high productivity, they must depend on "cooperative production" or "collective production", when "skills" and their reproduction are becoming less important. Without large-scale mechanized factory, which is yet to come, enterprises had to acquire a new type of management ability which knows how to command and control a large number of labourers working together. As such, it was again "human factors in production" = "human productiveness" which the "manufacture" needed as a new type of productive organization. However, in the actual history, command and control over large number of workers became prevalent only when advent of large-scale mechanized industry caused machine themselves to assume these functions (this mean 'machines use labourers'). In this sense, there is no doubt that large-scale industry, a technical condition (one "nature" type element of productive forces), was instrumental for the establishment and stability of capitalistic relations of production (capital-wage labour relations).

As we recall, feudalistic small-scale enterprise, which was mentioned in the beginning of this section, was based on workers' skill, and this meant that instruments of labour (another "nature" type element of productive forces) had to have a degree of precision so that end products could reflect delicate refinement of workers' skill. Therefore, as long as instruments of labour remained too primitive, the society felt no need for "skills" or the social system to perpetuate them (apprentice system). In such a primitive society, what counted the most was labourers' willingness to work, and the task to develop coherent and unified working groups.

For instance, at a stage in which individuals were hardly separate from community, relationship of personal dependence had to be maintained and perpetuated in order to promote "group

Table

Mode of Production	Organization of Production	Human Factors in Production
Primitive Communism	Primitive Community	Lack of individual talent for production
Slavery System	Large-scale slavery and paternalistic slavery system	—Lack of individual talent for production —Productive forces by collective labour (with difference in scale) based on strong personal dependency
	Land possessing slavey system (small-scale slavery system)	Inventions and ideas of individuals contributing to productivity (land possession as incentive to produce more)
Feudal - Serfdom System	Small-scale serfdom (agriculture)	—Individual talent for inventions and ideas more than in slavery era —Defacto land ownership as incentive to produce more
	Small-scale apprentice system (industry)	“Productiveness of skill”
	State slavery - state serfdom	
(Transitional period)	Individual enterprises	—Individual talent for inventions and ideas more than in serfdom era (real private land ownership as incentive to produce more) —Entrepreneurial initiatives among a certain number of people
Capitalism	Manufacture	—Entrepreneurial initiatives among a certain number of people —+ Managerial capability to control labour (workers need personal independence in order to be motivated. For this reason, labour control must become more complex and lenient compared to earlier times.)
	Large-scale industry	—Machines take the place of manager to control labour. —+ a certain number of technician
Post-capitalism	Matured individuals (“Software-oriented” society)	Sufficient sensitivity, individuality and creativity among all the persons

"Natural" factors in Productive Forces	State function, policies and religion
Definite immaturity in instruments of labour	Worship of natural powers, worship of nature→priests become the leaders of communities (ex. Queen Himiko (ancient Japan)).
	—Protection by states for owners of slaves —Moral education by religions
	—Protection by states for feudal lords —Moral education by religions
Instruments of labour are sufficiently developed so that subtle difference in skill is reflected in quality of product	—Protection by states for masters —Feudalistic regulations (such as guilds) —Moral education by religions
immaturity of means for large scale civil engineering works	—Dictatorship founded for flood control and irrigation (Indus River, the Nile, Yellow River (home of an- cient 4 great civilizations))
Instruments of labour sufficiently deve- loped – no longer depend on skill level	—Protection of private property —Policies for primitive accumulation of capital (ex. mercantilist policies)
	—State support to capital's command over labour (fac- tory act, moral education by school and religion, legislation to suppress labour movement) —+protection and training of labour (factory act, school education) + policies to promote capital accumulation (Keynesi- an policies etc.)
Machine – machine system (alternating muscular labour)	
Computers to replace impersonal brain work	All types of authority and political power (incl. labour control) become unnecessary.

productivity" (large-scale and paternalistic slavery system⁹⁾), and when the separation had been a little promoted only the land possession (land-possessing slavery)⁹⁾=(small scale slavery system)⁹⁾ or only the defacto land ownership by individuals (small scale serfdom)⁹⁾ could give those peasants higher incentive to produce more. The difference between these production systems came from the difference of the level of "human factors of productive forces"="human productiveness" in regard of growth of "individuality" and private incentives for labour.

At a stage where both of "human conditions" and "natural conditions" of productive forces were utterly primitive, there were no surplus product to be gained, and for this reason any ruling class could not exist, as the theory of historical materialism says. In such a society, people had to worship the nature, and the religion based on worship of nature would become the dominant institution, while priests assume the role of leader of community.

The preceding accounts are no more than a quick overview. But I think it is a possible approach to rethink the changes of the mode of production from the viewpoint of the interaction of natural and human factors of productive forces (although the former factors are relatively greater as we will see in the following section).

III Quantitative Growth of Productive Forces and Market Mechanism

Development of instruments of labour, which is a part of the "natural conditions of productive forces", can thus become a historical law in general, but a question remains as to if development of "human factor"- "human productiveness" can be identified as a historical law as well. In particular, will it be possible to say that independence of individual person from a community or development of individual sensitivity and talent can also be recognized as a historical law?

To this question, I already presented an answer in my book "*Seisaku Kagaku to Tokeiteki Ninshiki-ron*" (Policy Science and Statistical Epistemology), Showado, 1989, at Section 3 of Chapter 3). There, I explained that quantitative growth of productive forces, which is indicated as that of labour productivity, tends to bring development of market mechanism and disintegration of community which encourages freedom of individuals. Historically, standard of peoples' consumption also tends to go up, contributing to a general advance of individuality and personal sensibility by way of "taste". In contrast to the present article which puts the focus on the relationship between "*qualitative* development of production forces" of which "skills", "machines" and "softwares" are the examples, and the relations of production, I tried to explain "*quantitative* development of productive forces" in terms of development of market, individuality and personal sensibility. In this sense, "development of productive forces", according to my view, occurs both in quality and in quantity.

However, we have to keep in mind that what contributes to development of "quality" such as softwares and entrepreneurial ability is the "development of quantity". Either of them stimulate

9) These concepts are derived from the work of Satoru Nakamura, *Doreisei, Nodosei no Riron* (Theory of Slavery and Serfdom System), Tokyo University Press, 1977.

growth of the other, and this “interaction” is the key to understand the law of development in Marx’s dialectics.¹⁰⁾

In fact, the “quantitative” aspect is extremely important, if we recall that the major bottleneck for capitalistic development in Russia and Eastern Europe was the lack of entrepreneurs, that Chinese internal struggle occurred by the divergent appraisal of people’s initiatives as the prime mover of agricultural development, and that importance of “softwares” is growing dramatically in the advanced economies. These three examples show that creativity and activeness in the domain of “human productiveness” are functioning as the driving force of jump to new mode of production and its development.

We should not forget that in this mechanism where “quantity” of productive forces promotes development of human ability, improvement of standard of living and availability of leisure are essential. For this purpose, in a capitalistic society, workers must fight as individuals and as a group to demand higher wages and shorter workhours. Otherwise, the logic: “wage-cut and longer workhours expand productive forces under mechanized industry” becomes a plain truth, and this will prevent growth of “soft” type human talent which alone can realize the jump to the next stage of productive forces.¹¹⁾ Or repression on consumption under feudalism prevented the growth of entrepreneurial spirit which is essential to capitalism. In this sense, history is full of contradictions.

To put it in different terms, we may say that although the logic of “quantitative” growth (higher wage and shorter workhours) which prepares for the next mode of production and the logic which aims to maximize production within the frame work of existing industry (wage-cut and longer workhours) stand in direct opposition, we see that these two are actually inter-dependent. This conflict appears as the struggle between bourgeois ideology and proletarian ideology under capitalism, or simply and more generally as the ideological struggle between ruling class and workers’ class. In my opinion, Marx’s historical materialism is standing out of the conflicts and offers a theoretical frame-work to understand the conflicts on an objective ground.

Conclusion

Main points of my arguments in this article are the following :

- (1) “Productive forces” have historical (qualitative) characters.
- (2) Historical characters of a specific productive forces are accompanied by certain “relations of production” specific to it, and the relations determine modes of production.
- (3) The historical characters of each productive forces include “natural conditions” and

10) As for the “law of development” according to Marx’s dialectics, see Shigeru Suzuki, “Yuibutsuron-teki Category Kaishaku no Doguma” (Dogma on Interpretation of Materialistic Category), in the Japan Scientist Association, Kyoto Branch, Department of Philosophy, Dialectics Study Group, *Gendai to Yuibutsuron* (Materialism Today), No. 3, 1976, and Hiroshi Ohnishi, *Seisaku Kagaku to Tokeiteki Ninshiktron* (Policy Science and Statistical Epistemology), Showado, 1989, Chapter 5, addendum G.

11) This constitutes the historical role of labour movement.

“human conditions”. Apart from the advantages offered by cooperative work or division of labour, “creativity”, “activeness” as well as individuality and personal sensibility (which have been neglected so far), constitute important elements of the latter (human productiveness).

Arguments over historical characters of “productive forces” have a long past going back to prewar days. Review of this issue requires new viewpoint, of which this article is an example. The task must be done in a separate paper.