

9 August 1962
Pickering

[Paul Meddow]

ON THE INTERNATIONAL SOURCES OF SOCIALISM

TO SUM UP:

1. In spite of the hopes expressed at the end of the Second World War, the market organized international economy organized in the nineteenth century is continuing to disintegrate, in a setting made more dangerous by the

~~existence of the capitalist and the socialist halves of the West, and also by the emergence of new nations that introduce new claims to rights in the international sphere and also make more complex the problem of international communication. In this situation it is particularly urgent that the market-organized economies take radical measures that are directed at separating their external economies from their internal economic sphere. In particular only such a step will remove the threat created by the existence of foreign trade monopolies in the socialist countries to the continuity of private investments within their internal economic sphere. In addition the subordination of their external economies to the political sphere will provide to the political sphere the instruments that it needs in order to stabilize its imports of vital raw materials, to face the problems of peaceful co-existence, and to carry out programs of aid to the new nations in an effective way.~~

intrusion of revolutionary advances in technology into the ~~conflict~~ political conflict between the capitalist and the socialist halves of the West, and also by the emergences of new nations that introduce new claims to rights in the international sphere and ^{also} ~~make~~ more complex the problem of internaional communication. In this situation it is particulary urgent that the market-orga-nized economies take radical measures ~~ka~~ that are directed at separating ~~xxxx~~ their external economies from their internal economic sphere. In particular only such a step will remove the threat created by the existence of ~~xxxx~~ foreign trade monopolies in the socialist countries to the continuity of private investments within their internal economic sphere. In addition the ^{direct} ~~subordination~~ of ~~the~~ external economies to the political sphere will provide to the political sphere the instruments that it needs in order to stabilize its imports of vital raw materials, to face the problems of peaceful co-existence, and to ^{carry out} ~~xxxx~~ programs of aid to the new ~~xxxx~~ nations in an effective way.

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The study of non-market economies

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Introductory Statement

1. I would like to consider, in this paper, the way in which the economic historian might study non-industrial non-market economies, ^{which possess no market system} such as those ~~of Ancient Babylonia or of some of the early Negro empires.~~ ~~of~~ ~~some~~ ~~of~~ ~~the~~ ~~early~~ ~~Negro~~ ~~empires.~~ The specific problem that arises in that connection is similar to the one confronted by ~~economic anthropologists~~ ^{the traditional economists} ~~because the economies are not organized through a self-regulating system of markets, it is not possible to place in the center of attention the study of situations characterized by a scarcity of material means. Both in the primitive economies and in those of the archaic societies and early empires~~ other patterns of social relationships bring about the movements of material means that we associate with the economy. In addition such patterns as reciprocity, redistribution, and householding clearly depend on the presence of non-economic supporting structures for the creation of activity-inducing situations, and thus differ ~~fundamentally~~ from market-organized economies in this respect as well. Finally, ~~the presence~~ with regard to monetary phenomena, the presence of such non-market patterns alters fundamentally the principles that govern the determination of prices as well as the very functions that the use of monetary symbols are designed to serve. The task, accordingly, is to formulate methodological principles that will define those aspects of the ~~social structure~~ and of ~~the~~ activities that are of strategic importance for the economic process without excluding elements that at first sight may appear as non-economic, and without ascribing to monetary phenomena those functions and norms that attach to them in market-organized economies.

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8 August 1962

Pickering ON THE STUDY OF NON-MARKET ECONOMIES

With regard to the study of non-market economies we cannot look to traditional economic theory because it rests on a theory of society in which production ^{and distribution are} instituted through a system of markets. This refers to an economy that rests on behaviour induced by market situations and involving exchange as the universal social relationships. In our case we must study situations that are not associated with exchange. In particular I ~~am going to study~~ have studied ~~such~~ ^{of this kind} situations that related to trade, money, and markets, x.

9 Aug. 1962
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ON THE STUDY OF NON-MARKET ECONOMIES

TO SUM UP:

~~IN THE STUDY OF NON-MARKET ECONOMIES~~

with regard to the study of non-market economies we cannot look to

traditional economic theory because it rests on a theory of society in which

the movements of the material means i.e. production and distribution are instituted through a system of markets. This refers to an economy that rests on behaviour induced by market situations which is a universal pattern.

involving exchange as the universal social relationship. In non-market economies,

on the other hand, the instituting of the movement of material means may be

effected by such arrangements as reciprocity, redistribution, and householding,

rather than through exchange. In addition the economic process itself is ^{generally} subordina-

ted to the ~~economic~~ ^{non-economic} functions of a broader social structure. ~~Both~~ These features

are inevitably reflected in the types of situations that then bring about the

movement of material means. Accordingly ~~the methodological problems are~~

~~what are the situations that should be studied by the social sciences~~

~~and how do we study them?~~

the following methodological problem arises: ^{how do we} what are the principles that make

it possible to identify those ^{elements} ~~aspects~~ of the social structure that contribute to the instituting of the ^{movement of the material means} ~~material economic process~~?

A comprehensive formulation of these principles must await ~~the~~

a further development of economic sociology (with an orientation on the

instituting of the movement of material means, rather than on economizing).

Yet it is ^{also} possible to obtain an initial clarification of some important features

of non-market economies by studying those elements of the economic process that

have traditionally been studied in economies organized through exchange, -namely,

~~*(The advantages of this new position on methodology are: 1) it no longer depends on an opposition to the Hungarian emphasis on the 'economizing' function of economies; and 2) it does not exclude the possibility that scarcity situations also play an important role in instituting the economic process in some non-market economies.~~

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those that are ~~connected~~ connected with trade, with money uses, and with markets.

In doing this, however, it is necessary, first, to ~~strip~~ strip the ~~market~~ market associations ~~from~~ rediefine these elements in such a way as to strip these elements ~~of~~ of their market associations (i.e. from those that derive from their association with exchange as the organizing principle of the overall economic process).

In doing this it has been found that...

The significance of these findings may be summed up as follows:

- 1) Unlike in market-organized economies the ~~factors~~ ^{factors} ~~that~~ that determine prices are:
- 2) The wealth and civilization of Babylonia appears to have derived not from market exchange but from its very opposite...
- 3) With regard to ancient Greece...

On the study of non-industrial societies that possess no market system

title With regard to the range of ^{the disciplines} societal research suggested ^{required in research} by the ~~here~~ and the method of procedure ~~to be followed~~ some preliminary observations offer.

In the realm of the social sciences notable efforts have been made in the economic sub-disciplines of anthropology, history and sociology, that have resulted in considerable contributions.

However In the nature of things one can hardly look to ~~the traditional~~ traditional economics for methodological succour, since its main field have ~~been~~ been the societies that possess a market system. The behaviour of persons in market situations ~~is~~ ^{are basic} as created by institutions such as trade, money and price-making markets which again ~~have~~ ^{and to some extent, historically,} have proven ~~analytically~~ ^{analytically} reducible to exchange ~~as a~~ ^{as a} ~~number of relationships.~~

It is all the more remarkable that these economic sub-disciplines referred to above that are not under the handicap of ~~these~~ traditional economics have nevertheless hardly succeeded in ~~integrating~~ ^{integrating} their results in the matter of non-market economics.

Two reasons for this ~~unfortunate~~ are apparent: the leaving ^{indeed, highly civilized} aside of the non-primitive/economies of antiquity ~~with~~ that possessed no market system; the other and theoretically more significant cause may be the absence of any specific procedure adapted to the job.

On a market system

23 January 1961

THE TRANSFORMATION OF THE WORLD MARKET SYSTEM

IN THE 1960's

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(Draft No. 1)

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(describe the complex character of the responsibility of each author for the contents of the various parts of the book)

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- 11) The second failure of the gold standard
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- 14) China: the communes
- 15) The crisis in socialist thought: revisionism

*Summary
of
the
world
(only) 5 weeks*

c. Their significance

- 1) They make the transformation global, not Western
- 2) They create new and dangerous conflicts that may hamper the transformation and may destroy mankind
- 3) They affect differently various types of countries
- 4) They create a particularly intense situation in the sphere of international political and economic relations
- 5) They are likely to endow the fascist response with new forms

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IV f. The major problems

1. The first sub-^{task} accordingly, is to control the explosive (destructive) capacities of the new elements of conflict

~~i) the East West~~

~~ii) the creation of a new institutional basis for the international economy~~

~~iv) the social control of technological innovations~~

2. The next sub-^{task} is to revitalize the aspirations of socialism

~~i) The new forms of fascism~~

~~ii) The essence of socialism and its new forms (New Revisionism)~~

~~iii) The struggle against market liberalism~~

*drop
difficult
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VI. The institutional basis of national transformations: the instituting of conflicts in the light of social responsibilities

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VII. The safeguarding of personal freedom and of freedom of conscience in industrial civilizations

[Paul Meadow

CHAPTER III

THE INFLUENCES OF MACHINE PRODUCTION ON SOCIETY

Since this study will center on machine production, it is necessary, first, to define this concept in analytical terms. From an attempt at such a definition, however, it will appear that the term machine production is not an adequate one. The machine, at best, may be taken as merely a symbol that is easily visualized of the broader concept of the "mechanization of production."

In the light of Menger's concept of production ("the movement of goods from a position of a higher order to a position of a lower order") or better, of its Schumpeterian reformulation as the "combination of forces and things" in the light of technological and of economizing requirements, it is evident, upon closer attention to the concept of production in the technological sense alone, that its central element is the transformation of certain raw materials into want satisfying commodities, and that this transformation is brought about essentially by bringing one part of nature (energy and pressure) to bear on another (the "raw materials").*

If this is the essence of all production, then it is important to define the way in which "mechanized production" - the process that we associate with the machine - is distinct from other types of production. This distinction lies, I am suggesting, in the permanent character of the channels, in the case of mechanized production, for bringing the "conditions of transformation" to bear upon the raw materials. If these channels are not permanent, then one must have

* It may be inferred from this that science is the study of nature, applied science of "conditions of transformation" in nature, and technology - the study of channels for bringing nature to bear on raw materials.

human beings create, through their repetitive motions, and with the aid of implements, such channels. Because of the subjective aspect of the term "work", it may escape one's attention that to "work" on a raw material with hard instruments is merely to create channels that permit the flow, so to speak, of the "conditions of transformation" (especially energy and pressure) to the materials that are being transformed. It is true that frequently, in the case of hand labor, the energy that then flows - along these channels - also flows from one's body, rather than from nature, so that the character of physical labor is really a complex thing in which some energy is spent on the creation of channels along which additional energy then flows. Nevertheless at the level of functional relations it is precisely the establishing of channels and not the application of energy originating in the human body, I am suggesting, that above all distinguishes mechanized production from non-mechanized production. The establishment of permanent channels of this kind - which may occur in several ways, eliminates, if it is complete, the need for all motions on the part of human beings providing^{ed}, of course, that the "conditions of transformation" that are brought to bear on the materials being transformed now originate in nature. In order to make this ~~only~~ unambiguous it would be necessary to consider a case in which human energy had been used entirely, initially, for the creation of channels, and not for providing the "conditions of transformation," as for instance in the moving of water by pails into a reservoir that then permits gravity to turn a paddle-wheel drive. There, the energy driving the paddle wheel originates entirely in the effect of gravity on the water in the reservoir. The role of the laborer for its part, can best be seen by considering the function of a possible substitute - a pipe that would bring the necessary water to the reservoir of its own accord.*

*But the pipe would need the help of gravity once again, or of a pump. It looks as if a combination of a channel and energy must always be present.

pre-mechanized production

If the essence of ~~labor~~^{pre-mechanized production} is the creation, through repetitive motions and with the aid of implements, of permanent channels that bring the "conditions of transformation" in a given technological process to bear on the materials being transformed, then the essence of mechanized production lies in the establishment of permanent channels of this kind (and not, I am suggesting, in the use of "conditions of transformation," and especially energy and pressure originating in nature rather than in the human body.) This may be done by creating immovable conductors, in some cases, such as pipes or electrical wires. More frequently, however, these permanent channels must be created by causing a machine to create them through the repetitive motion of parts shaped in the proper way. This requires, of course, that something impart motion to these moving parts, and that again may be the human body (e.g. in the case of the sewing machine animated through pedals) or forces originating directly in nature (e.g. electricity originating in water power). The term "machine" would appear to be proper for the latter case, while the term "permanently established productive facility" would seem to be proper for the case of the non-moving conductors.*

The influence of machine production on society

The fundamental question, however, concerns the reason why the establishment of permanent channels, that characterize mechanized production, would also tend to create new problems in the institutionalization of society, - of its many functions, and not that of the economic process alone.

*To sum up the machine is a device that creates permanent channels through repetitive movements for the bringing to bear of the natural "conditions of transformation" on the materials being transformed into want-satisfying goods. If the channels are created through the repetitive movements of a person, aided with an instrument, one speaks of labor. If they are created through permanently established and unmoving channels (e.g. pipes in the chemical industry) then one uses the more general term: productive facility.

One should mention first, ~~I suppose~~ the fact that the establishment of such permanent channels tends to make the flow of energy etc. originating in nature very much more abundant than it could have been when this flow could not exceed the capacity of the slender channels created by the repetitive actions of human beings, and that this obvious fact alone has turned the attention of individuals concerned with the process of production to the study of possibilities for "tapping the forces of nature." But the essential thing, it would appear, is the resulting appearance (from the connection of permanently established channels with permanently operating forces of nature) of a ^{spontaneous (autonomous)} movement not originating in man, ^(or in living nature) to which not only man's own movements, in far as they are necessary must be adjusted, but social institutions as well, although only in so far as there is either a desire or a necessity to maintain the continuity of this process. The presumption that it is the movement of the resulting production process, rather than static aspects of the new facilities - their large size, ~~character~~, their locationally fixed ^{character,} their interdependence with other similar facilities in the course of industrial development (inter-industry relations), that is essential in mechanized productions is of considerable importance for the conclusions that will follow. In particular, at the level of human thinking and activity, in so far as there is some kind of commitment to the supporting of the continuity of the new technological movement - it imposes the need for objective rationality and of a technologically oriented utilitarianism. It is even more important, however, to emphasize the very obvious point that in the absence of such a commitment, mere existence of knowledge making possible the mechanization of production has by itself no power over with human minds or human activities and social institutions.*

*It may be of interest to contrast this view of the association of the machine processes with rationality with the one mentioned by W W Rostow. Rostow presumes that rationality came first, and then led to enterprise. I am suggesting the a commitment to the new "movement" comes first and that this tends to develop rationality.

The causes for basic commitments to mechanized production in the past

I suppose that a general cause for an observable tendency towards accepting such a commitment in new nations is the attraction of the element of objective rationality to minds already concerned with social secularization, that is broadly with the replacement of orientation ^{on} of traditionally accepted patterns of social relations and concepts of social justice by patterns that ^{are accepted on the} conform to rational ^{basis of rational mental processes} acceptance by the mind - whatever the prevailing criterion of rationality (end) may be.

The interest in that type of rationality, that is the process of social secularization itself, may stem, historically, from a variety of causes that all have, nevertheless one trait in common - that they tend to bring about the disorganization of ~~established~~ established social patterns and the cessation of blind belief in mythologically formulated ^{dogmas} enactments. This may come from a variety of causes; as a result of the impact of markets on economic arrangements resting on reciprocity or redistribution; as the result of the increasing activities ^{of} as a secularized state; as a result of the modernization (Westernization) of armies and of military doctrines; or merely as a result of science and rational Western philosophy.

In addition, however, the general situation of a non-industrialized country is likely to be such as to persuade its leaders, at least, that one may turn to the new movement of mechanized production as a means for the solution of a variety of urgent problems. There is, on the one hand, the need of new nations for military strength, preferably without dependence on outside suppliers of weapons. The movement of mechanized production may be counted upon to provide for this need. There is, too, the need for building modern cities, schools, hospitals, and means of transportation. The movement of mechanized production is equally indispensable for the realization of these aims. There is, also, the desire for greater ~~responsibility~~ social equality. By creating a need for professional skills, the movement of mechanized production promises to establish a new basis for social status, in which some upper status is available to all, even those not

talented in the military, religious, pedagogical, or artistic fields. There is, in addition, in the twentieth century, the desire for a "modern" way of life which is much more than a mere condition of satiety. The movement of mechanized production also promises to be the means for that end. Finally, with regard to any goods that must be obtained from a foreign country, the movement of mechanized production appears to provide the basic means for bringing about the necessary increase in the nation's own exporting capacity. It is not surprising, then, that the leaders of new nations, because of the very situation that initially confronts them, tend to accept a basic and long-term commitment to the machine, even though they may have, as well, certain reservations concerning them.

In the case of competitive market economies, however, and of other economies in which the ever-progressing mechanization of production has been institutionalized,—that is made automatic and continuous through the pressures on the individuals concerned with the relevant decision-making by certain institutional arrangements (that generally operate through the way in which monetary symbols are made to or permitted to circulate), the cause for a permanent commitment to the movement of mechanized production is still different. It is in such cases, too, that the continued progress of mechanized production is particularly dangerous, since it is not possible, for an individual, at least, to stop further technological progress even if he personally should wish to do so.

The essentially destructive assence of mechanized production

The extent to which a blind commitment to mechanized production, (which excludes, so long as it remains blind, the serious consideration of this process as a means to human and social ends rather than as an end in itself,) does prevail in the minds of most persons today may be inferred from the general character of

the conviction that machine production is a phenomenon outside the domain of ethics, and beyond this, from the readiness of very many persons, at least, to regard as acceptable certain destructive consequences of mechanized production that would be considered ^{as} grossly objectionable if they were brought about by the action of individuals. An objective view of mechanized production, on the other hand, reveals it immediately as an essentially destructive process.

It is true, of course, that destructiveness has been simply another aspect of production in most cases long before the advent of mechanized production. In order to make a wooden table by any method one must destroy a tree, and in order to wear leather shoes or a fur coat one must destroy animals. The ^{traditional} connection of this kind of destruction with the meeting of vital needs of the human organism, together with the apparent prevalence of destructive feeding among other species, has naturally tended to cause a simple acceptance of the need for such destructiveness as an inescapable need connected with the very sustenance of one's life. The mechanization of production, accordingly, might readily appear as merely an intensification of earlier destructive processes, that does not introduce any new problems of an ethical character.

It appears to be also true, ^{and generally accepted,} however, that while man's body may make a certain amount of utilitarianism and of destructiveness unavoidable, man's spiritual characteristics, whatever their origin, have always rebelled at unnecessary destructiveness, and that excessive destructiveness tends to cause the disintegration of inner life.

A consideration of the problem of destructiveness in the light of this minimizing principle, accordingly, would indicate that unnecessary destructiveness - whether in production, in military activity, or in medical practices does represent an event calling for ethical concern. The fact that this has ^{not} been so regarded in the case of destructiveness caused by the application of

science and technology to mechanized production indicates once again, therefore, the high degree of priority that the commitment of persons to the autonomous movement of mechanized production represents.

Concerning the institutionalization of machine production

The following general principles may be stated concerning the way in which the appearance of the machine throughout the economy tends to bring about institutional changes. I will be speaking of functional requirements.

1. At the technological level, the functioning of the machine may be either continuous or discontinuous. It must not be presumed that it must be continuous unless corresponding desires or institutional pressures exist.

2. The person or group assuming responsibility for the functioning of the machine may be responsible, at the level of social relations, to a variety of individuals and groups, (or institutionalized processes), and in a variety of ways). It need not follow from the presence of machine production that his social responsibility must be to individual consumers and to their wants, particularly if one considers the variety of goods produced by machines that are not consumed by individuals, but rather by groups and institutions. There may be, for example, a social responsibility to objectives of a central plan, ^{or} ~~as~~ to the needs of individual social institutions, such as hospitals, schools, or armies.

3. While the very nature of the machine is such that it requires a supply of labor services, and also of land in order to function, and hence a functional, or "rational" (means-end) utilitarian relationship to man and nature by those concerned with the functioning of the machine, it does not follow that utilitarianism or rationality must prevail in the actual relationships of workers and of nature to machines. That is to say that while such relationships much conform to the requirements of objective rationality vis a vis the machine,

they may, nevertheless not be rational or utilitarian social relationships. For example, the needed supply of labor and of land may be obtained by contracting with other institutions that are primarily concerned with other aspects of these resources.

4. The very complexity of machine production and of inter-industry relationships in an industrial economy requires the formulation of many relationships in quantitative terms, both technological and monetary. It does not follow, however, that the kind of monetary units that are required by the very functioning of a machine economy correspond to the kind of monetary units that are needed in any complex society for the distribution of goods.

①

3) Specific types of technological innovation

While in the presentation of his theory of economic development in its general form Schumpeter did not go beyond enumerating the five most basic types of innovations, it is possible to identify a number of specific types of innovations of the second type, that is in the methods of production, by considering the specific relationships on which production in the technological sense rests.

Ultimately, Schumpeter has noted, production in the technological sense consists in "observing the outcome of natural processes and making the most of them".¹ The various utility-creating relationships in this sphere include, therefore, "... all kinds of locational changes, and changes in mechanical, chemical, and other processes".² They all center, however, on the transformation of elements occurring in nature into specific utility-bearing forms. It is this ~~aspect~~ of the "combining of things and forces within our reach" which is most relevant to a functional classification of physical production processes.^{3.}

Given the physical characteristics of a final want-satisfying commodity, the possibilities for such transformations are established by the natural properties of the things and the natural forces themselves that are selected for processing.

1. J. Schumpeter, *The Theory of Economic Development*, p. 11

2. *Ibid.*, p. 12.

3. The analysis that follows refers only to the production of "material" goods in the common sense meaning of that term, and does not refer, accordingly, to those directly "consumable" human services that clearly originate from within another person rather than in external nature, such as the services of an entertainer, a teacher, a doctor, or a consultant on personal affairs. It should be noted, however, that it is not impossible, in principle, to view that kind of "production", too, as the result of transformation, - namely of a self-transformation (within limitations imposed by natural factors) of the person providing the service in accordance with the requirements of the given needs,

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In its strictest sense, therefore, the term "technology" refers only to the nature of these possibilities and of the natural conditions that they require. It is the natural properties of sealing wax, to take a simple example, that require certain conditions of temperature and pressure if the wax is to assume a given utility-creating form. The "technology" of creating wax seals, accordingly, refers only to this basic process of qualitative transformation.

While a given final product may be created, in principle, from a variety of raw materials and hence through a variety of technologies of transformation, a given transformation process may rest, in turn, on a variety of techniques for the artificial creation of the necessary transforming conditions. The source of heat in the case of the sealing wax, for example, might lie in the frictional effects of electrical current as well as in combustion, while the source of pressure might be a power-driven stamping device as well as the use of one's arm. The term "techniques" in this sense, accordingly, refers to operationally feasible methods for the creation of a regular and controllable supply of the "natural" conditions that a given transformation process requires. Their physical embodiment may then take the form of either muscle-powered instruments or of artificially powered machines.¹

1. It is necessary to distinguish between such "transforming" machines, whose function is to contribute to a process of technological transformation, from other machines such as movie projectors or phonographs, whose services are a direct source of final utility, and which may be called "performing" machines.

The distinction between technology and techniques reflects, in this way, the central polarity between ^{the} transforming elements and those being transformed. Techniques of transformation are implemented by labor and machines - the active transforming agents, while the process of transformation itself is experienced by the natural elements that are being processed. There is a sense, accordingly, in which certain types of inputs may never be substituted for each other. In building a brick house, for example, it is possible to use more labor or less labor; more machines, fewer machines, or no machines at all; but it is not possible to substitute the transforming agents - labor and machines - for the elements undergoing transformation, that is bricks, in the present case, or ultimately, for the clay from which the bricks are made. It is only possible, at best, to replace bricks with another type of raw material, such as cement, if the corresponding technology of transformation exists and is known. There is also a sense, for this reason, in which a final material good ready for consumption does not embody the labor, machines, and mechanical energy that have transformed it, but embodies only raw materials occurring in nature that the labor and machines have subsequently transformed.

The central position of the distinction between transforming agents and elements being transformed also suggests that at the functional level there is a basic identity between the two techniques-embodiyng transforming agents - labor and machines. While it is possible to regard machines as the equipment, so to speak, that extends the "reach" of the laborer's hands, and makes

④

possible, in this way, a variety of transformation processes that would otherwise be beyond his capacities, it is not possible to specify general functions which are specific to labor but not to machines. The most general function of both is the transforming of natural elements. The essential requirements of this function, in turn, are not difficult to perceive if one identifies them with the activities of labor: it is judgment concerning the coordination of various inputs in making the component connections; the ability to control the functioning of transforming agents, such as one's own arm, or the activities of other workers, or else those of a machine; and the expenditure of energy in order to actually exercise such control and then bring about the transforming connections and disconnections. It may be noted, however, that these sub-functions all center on the ultimate combination of technologically interrelated inputs in accordance with the requirements of the technology of transformation, and that there should therefore be no reason, in principle, why a specifically human element should be required. In principle, therefore, in all cases in which technological indivisibilities do not present serious obstacles, it may be expected that machines may be substituted for labor completely in providing the elements of judgment, control, and activity that are required by transforming techniques.

Automation, accordingly, appears as a major type of *direction*
14 technological innovation whose importance lies in the removal

⑤

of the obstacles to transformation processes presented by the natural indivisibilities of the human body.

The second important type of improvement in the relationships of technological production concerns the introduction of new machines, that is of improvements that extend the effectiveness, - the "reach", so to speak, of existing machines within a given process of transformation. The replacement of steam-driven locomotives by diesel^{el}-powered railroad engines may serve as an illustration of this. The transformation process in question - in this case the moving of passengers and of freight, may then be performed faster and perhaps with less effort, but the nature of the transformation process itself remains unchanged.

Frequently such improvements in the capacities of machines also bring, for the first time, new kinds of transformation processes within the reach of man. The resulting innovations then still center, nevertheless, on the consequent introduction of the new technology of transformation itself rather than on the introduction of the new machines. The development of engines sufficiently powerful to lift large freight-carrying aircraft from the ground may serve as an example. For it is from flying, in this case, in contrast to mere surface locomotion, that the basic improvement made possible by the use of more powerful engines is derived.

FIG. 1. THE BASIC ELEMENTS OF TECHNOLOGICAL TRANSFORMATION

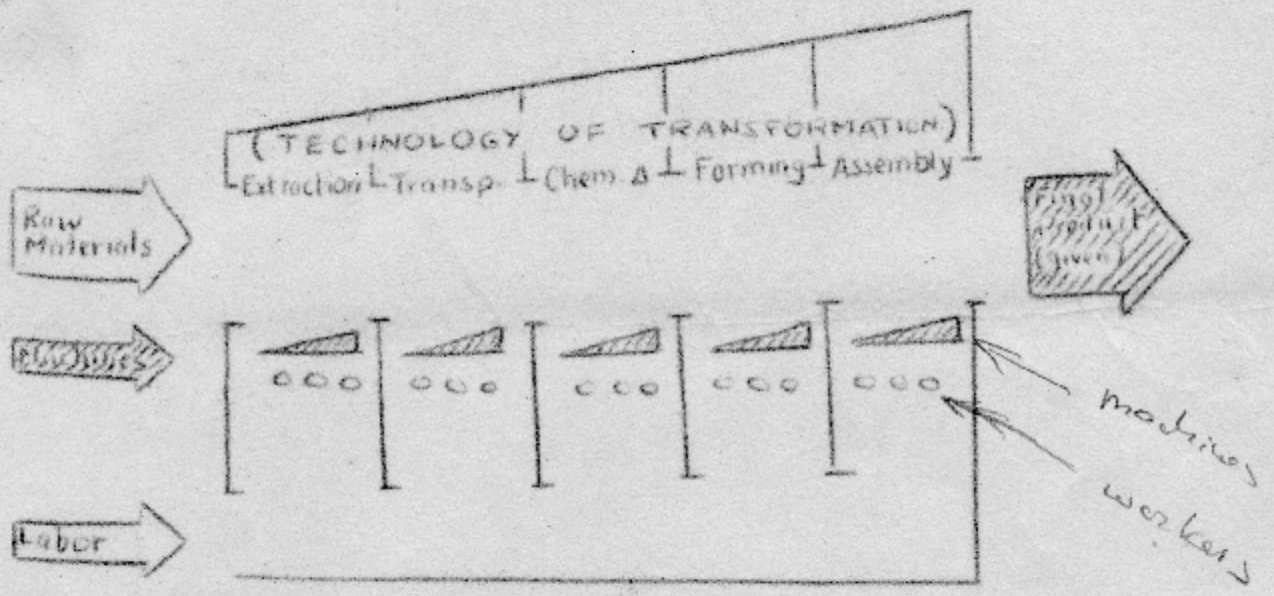
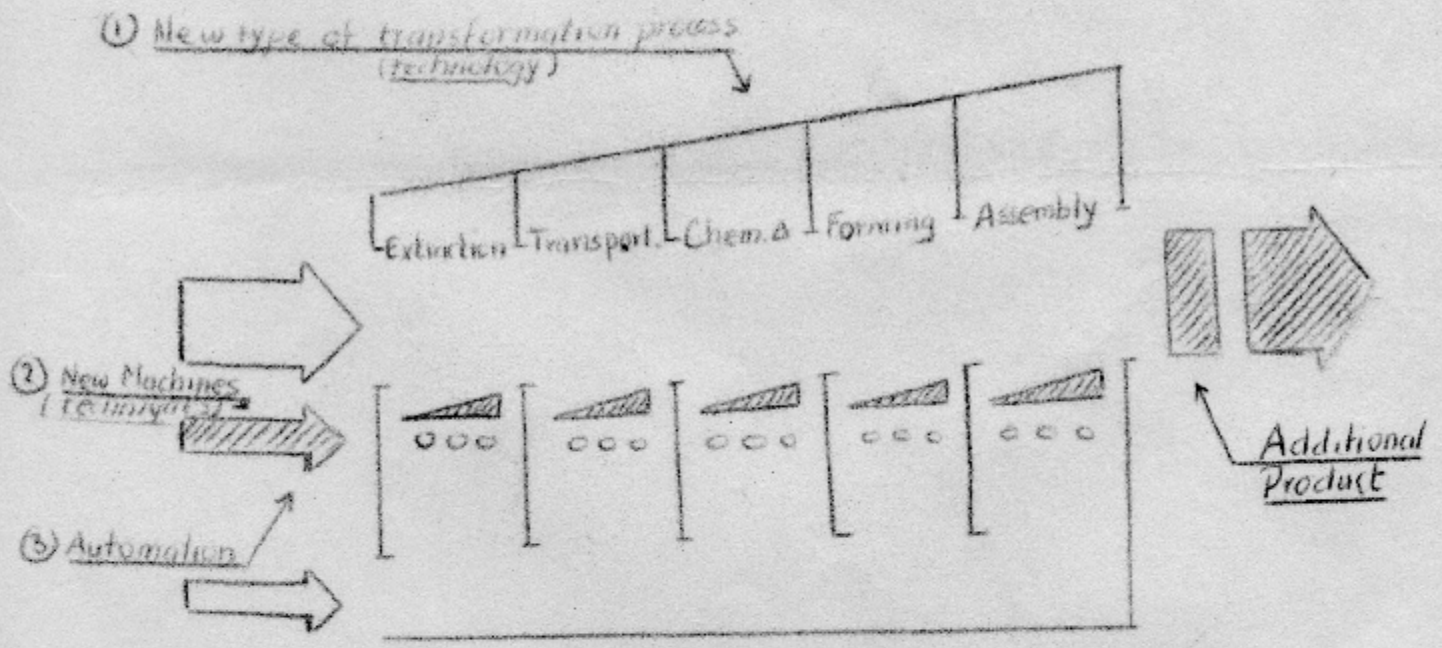


FIG. 2. THE THREE BASIC TYPES OF TECHNOLOGICAL INNOVATION



THE CRISIS OF INDUSTRIAL CULTURE
(MARXISM, NEO-SOCIALISM, AND NEO-LIBERALISM)

By B.P. Vysheslavtzeff
(in Russian)
(Chekhov Publishing House, New York, 1953)

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THE ETERNAL IN RUSSIAN PHILOSOPHY

By B. P. Vysheslavitzeff

(Chekhov Publishing House, New York, 1955)

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↑
unique. Contains references to Leibniz's monads

*

Short biography of B. P. Vysheslavtzeff

" The author of this book *, the now late professor Boris Petrovich Vysheslavtzeff, was born in Moscow in 1877 in the family of a barrister. In 1895 he entered the Faculty of Law of Moscow University, where he soon drew the attention of P. I. Novgorodtseff, the talented young professor of the Philosophy of Law, who became his "teacher".

After completing his university studies in 1899, B.P. at first practiced law. Already after three years, however, he was able to leave legal practice and devote himself to that which lay closest to his soul. Vysheslavtzeff turned entirely to scientific-philosophic work. His closest associate on this path was the late V.A. Savalskii, who later became professor at the University of Warsaw.

~~After completing his~~

Having passed his examination for the Master's degree with Professors Novgorodtsev, Alexeev, and Mr Kamarovskii, B.P. undertook a large study - The Ethics of Fichte, which was devoted to the problems of law and morality in a system of transcendental philosophy. This work was published in Moscow in 1914. After brilliantly defending The Ethics of Fichte as a dissertation for the Master's degree, Vysheslavtzeff became first assistant professor, and subsequently full professor at Moscow University.

as a thinker of the idealistic direction,

In 1922, Boris Petrovich, together with many other representatives of Russian ~~scientific~~ scientific thought and society who did not wish to adjust to the requirements of the Soviet government, was sent abroad and settled in Paris. There, aside from scientific and literary activities, he ~~became~~ became lecturer at the Russian Orthodox Theological Institute in Paris.

Of Vysheslavtzeff's published works let us note * The Ethics of Transformed Eros (YMCA Press, Paris, 1931) and The Crisis of Industrial Culture, published in New York in 1953 by our Publishing House.

B.P. Vysheslavtzeff died in Geneva in October, 1954. "

* Note from the publishers, p. 295 in The Eternal in Russian Philosophy (New York, Chekhov Publ. House, 1955)

Ch. IV The institutionalization of social responsibility
in industrial societies

Draft # 2

MEMORANDUM:

P. Medow

THE ECONOMIC PROBLEMS OF HUMANISTIC SOCIALISM IN INDUSTRIAL SOCIETIES AND THE NEED FOR A NON-MARKET ECONOMY

1. The dissociation of social power* from responsibility in secularized industrial nations.

The emergence of secularized national societies has created a new situation for individuals in which they are no longer able to assume the responsibilities~~es~~ that attach to the powers that they exercise over other persons while the subsequent development of industrial economies has vastly increased that power in a number of extremely dangerous ways. At the same time the awareness of no longer being responsible for the social power that one exercises and also of living in conditions created by non-socially-responsible activities of others over which one has no control, has tended to endanger the very sanity of man. The combined impact of these developments in the advanced industrial countries has acquired particular urgency at the present time because the scope of non-socially responsible power has come to extend even to the initiation of a world-wide war with weapons of mass destruction.

In view of the nature of the basic problem itself, its general solution must lie in 2 directions:

- (1) the establishing of institutional restraints on the exercise of socially dangerous power.
- (2) the establishment through the decentralization of decision-making and through other measures of institutional channels

*"Social power", refers to the power that one's capacity to act has over the human situation of others.

~~Of course it is true that some responsibilities of traditional societies (the functional ones) were negative in the humanistic sense.~~

that would make it possible for individuals or groups to exercise effectively the responsibilities that attach to their social power.

2. The basic objectives of social responsibility-inducing reforms.

The most urgent problems at the present time are: (1) the establishment of institutional restraints and of channels of responsibility over the power of some individuals and groups to initiate a nuclear war.

(2) the instituting of restraints and of channels of responsibility in the application of scientific and technological discoveries.

(3) the defence of and institutional support of the prerequisites of a "human situation" in each individual's personal environment, i.e. one in which man need no longer struggle at the expense of others for the basic needs of his organism (as well as for self-respect, an opportunity to participate in social life, and protection from enemies that threaten these elements). In addition the abundance of material production that has already been achieved in the industrialized countries presumably makes also possible the progressive development of the "humanistic ^{personal} situation", in which environmental conditions are also conducive to the progressive development of man's inherent capacity to be creative and spiritually alive, and permit him to discharge adequately the many commitments implicit in family and other personal relationships.

The social control of technological progress, in the first place, requires the creation of a centralized agency for the licensing and supervision of technological innovations,* and of professional associations that would assume responsibility for the employment of scientific and technological knowledge in their field. Unions, which

* As for the social control of persons in a position to initiate military attacks with nuclear weapons and other modern weapons (con't)

As for the progressive development of the humanistic situation, this calls for the creation of 1) local Social Councils, whose task it would be to establish the supporting institutional arrangements that such a situation requires outside of the sphere of production (e.g. parks, schools, theaters, medical facilities, sports facilities, public centers, etc.) and of 2) Humanizing Trade Unions, which would progressively alter the conditions of work in accordance with the requirements of the humanistic situation.

3. In a market-economy

In the absence of additional measures the establishment of a National Council on Technological Innovations would tend to affect the functioning of capitalist market economies adversely in two respects: a) it would tend to eliminate the profits of individual enterprises, in cases in which the innovations stem from centralized government research and in which they are disseminated openly to competing enterprises; this would make it impossible for innovating enterprises to borrow capital; b) it would tend to reduce the aggregate rate of investment expenditures in the economy of socially undesirable innovations, and

*(Con't) of mass destruction, the first step, in the absence of disarmament, must be an arrangement under which a) no orders to military personnel directing them to initiate a nuclear attack would be effective unless approved by a small commission of persons from neutral countries, and b) members of this commission would not grant approval except when clear evidence exists of enemy nuclear attack. While it is true that such an arrangement has no precedent, it is nevertheless a realistic one since one must assume that no major power wishes to initiate a nuclear war, and if one also considers the many dangers of an accidentally initiated attack.

this might result in a cumulative recession in cases in which this rate should fall below the fortuitously determined rate of private savings. The most direct way to deal with these obstacles to the instituting of social-responsibility including reforms would call, accordingly for measures that a) eliminate the need of enterprises to repay borrowed capital and hence to make profits; and b) either eliminate the general monetary responsibility of private savings or else compensate for them in some other way.

This could be achieved by establishing the kind of non-market economy that has been described by J. Schumpeter in his Capitalism, Socialism, and Democracy, and that he has called socialist. It is possible, however, to initiate the responsibility-inducing reforms and develop them to a considerable extent within the framework of a market economy.

In the first place the danger of a recession could be overcome by increased government research. ~~inasmuch as the state is not a profit-making enterprise~~ With regard to the resulting tendency towards the elimination of profits insofar as the proposed innovations that are approved by the National Council on Innovations originate in the private research activities of the enterprises concerned, they would continue to possess the temporary advantage over competing enterprises that makes profits and hence financing of investment through private funds possible. Also, profits from leadership in introducing non-technological innovations would continue to be a source of profits. In addition, in cases in which the new technical knowledge originates in research activities sponsored by the government, its dissemination could take place in such a way as to make private profits possible. This would require that some

enterprises receive the information ahead of others. (for example by drawing lots) By indicating the period after which all enterprises would receive that information, the size of the resulting profits would become known and this would make it possible for the innovation to be financed by private capital. At the same time a pressure would also be created for the information-receiving enterprises to seek additional innovations during the subsequent period. In such cases, however, a situation arises in which profits not earned by the internal activities of the selected enterprises are made available to their shareholders. A logical solution of this problem would provide through the centralization of all shares in a National Holding Company, from which the individual enterprises would borrow. In this way the profits of all enterprises would be distributed to the general public in proportion to the ownership of shares.

Once the principle is generally and ~~unreservedly~~^{unreservedly} accepted that "technological efficiency comes second" there would not be, even in a market economy, any fundamental obstacles to the functioning of the two humanizing institutions mentioned earlier: the local Social Council and the Humanising Trade Unions. This is essentially because the indicated roles of these two bodies represent merely a more clear definition of the natural functions of local governments and of trade unions in a developed industrial order, which are already being performed on an increasingly important scale.

The general and unreserved acceptance of the principle that technological efficiency comes second would necessarily result in a change in the relative status of industrial enterprises, on the one hand and of social agencies and of trade unions, on the other, since it would then be abundantly clear that the implementation of this new concept of progress cannot be entrusted to the individual enterprises

themselves, whose natural concern is with efficiency.

Aside from the financing of parks, schools, theaters, medical facilities, roads, public centers, etc..., the tasks of the local Social Councils should also include ^{to} ~~the~~ cause all enterprises in their region to pay for the social as well as the market costs of production. This would include such social costs as those resulting from the destruction of scenery, from the depletion of exhaustible natural resources, the pollution of water and air, and the creation of noisy overcrowded and unsanitary conditions. In order to make the control of the Social Councils over individual enterprises in their region effective it is desirable to entrust the supply of ^{all real estate and} such general services as electricity, telephone services, and transportation, as well as of labor, to agencies of the Social Council.

As for the functions of the trade unions they would have to emphasize increasingly the introduction of humanizing innovations rather than the bargaining for increased wages. They should be assisted, in this regard, by central research organizations that would supply them both with lists of humanistic innovations that could be introduced into specific industries, and estimates of their costs. Some of the activity-inducing mechanisms that come most readily to mind in this connection are the following.

1. Legislation that would require the introduction of humanizing innovations in a definite proportion to investments by enterprises in efficiency-increasing innovations.
2. In those industries in which work is particularly arduous or uninteresting and in which the necessary humanistic innovations would be much more expensive than the prevailing rate of efficiency-increasing investment would permit, such innovations would be financed from public

funds. A mechanism that then would induce enterprise actually introduce such innovations would be created, for instance, by legislation that would specify that a gradually increasing tax would be levied each year on lagging enterprises.

It should be noted, however, that in those cases in which innovations would stem from centralized government research and in which an artificial limitation is imposed by the National Council on Innovations on the time during which individual enterprises are permitted to make a monopolistic profit, the ability of enterprises to finance humanizing innovations would be dependent upon the government's policy with regard to such profits.

It may be noted that the cumulative effect of such reforms would be, first, a gradual increase in the establishment of cartels and other monopolistic arrangements; and secondly the gradual establishment of most of the institutional prerequisites of a socialist non-market economy. The decisive step, would be, of course, the complete replacement of the private financing of investments by public financing.

It is true that to the extent the activities of the Humanizing Trade Unions and of local Social Councils are uncoordinated and to the extent that natural differences would also exist in the natural endowments of individual regions, regional differences in the costs of production of individual products would tend to appear and to affect the competitive position of individual enterprises. This would make necessary arrangements for either compensating such effects or else for regulating competition. For example, in the case of regional differences tending to arise from the activities of individual trade unions this could be met through the creation of a central fund to which all enterprises in an industry would contribute in proportion to their investments in efficiency-increasing innovations.

4. The instituting of social-responsibility-inducing reforms in a non-market economy .

In such an economy the important obstacles to the functioning of the National Council on Innovations mentioned earlier (the elimination of profits and the possibility of an insufficient rate of investment expenditures) would cease to exist. A number of new institutional problems would appear, however, once market established process and the prospects of private profits would cease to provide the basic activity-inducing mechanisms and the criteria for operational decision-making. What would induce leaders of enterprises to continue to introduce some innovations in the absence of competitive pressures created by fluctuating prices? In making his decision, what would serve as leading criteria in the absence of market-established prices reflecting consumers preferences and alternative possibilities for the use of economic resources?

It may be presumed that as in the case of the large corporations today professionally trained salaried industrial leaders would continue to assume the responsibilities of maintaining and advancing the efficiency of individual enterprises as a matter of professional responsibility. It would then be logical to expect the establishment of formal professional associations of such leaders, who, like the other professional associations concerned with the application of scientific and technological knowledge in their fields, would not permit the employment of their members for socially irresponsible purposes. As in the case of competition, however, their activity might be supported by the establishment of other, artificially created activity-inducing mechanisms.

As in the case of a market economy efficiency prices that reflect the channels of maximum efficiency in resource-utilization would have to continue to exist if for no other reason than in order to make it possible to ascertain the costs of efficiency-decreasing humanistic innovations. Accordingly there would be two sets of prices. The first would reflect the maximum productivity of any resource or person in their most effective employment, while the other would reflect, in addition, the social and human costs that the utilization of persons and of nature for utilitarian purposes entails.

The efficiency process of resources would also make possible the determination of the total amount of annual income available for redistribution on the basis of some social principles. After a centralized decision had been taken concerning the share of this wealth to be reallocated, in each planning period, to the introducing of both efficiency-increasing and humanizing innovations, it would then be the function of an Income Distributing Board to allot to individuals, - on some social basis - the remaining share of the wages, rents, and profits (in the functional rather than in the social sense of these terms).

The ability of individuals as consumers to choose freely among the socially approved alternatives (and at socially established prices) would presumably not be constrained. In the presence of many socially determined controls in the use of human and natural resources, however, a central control agency for insuring continuing adherence to such restrictions would also be required. This would logically take the form of a Central Bank for Social Control, through which all funds for expenditures on resources would have to be channeled, and which

would effect transfer payments to the accounts of the supplying enterprises, only when such expenditures conform to socially approved purposes. The channels for the flows of money created in this way within this banking system would thus replace the channels originally established by markets.

Part I: The History of Modern Economic Doctrines

A. Social doctrines in tradition-directed societies:

Why the idea of socialism could not appear in tradition-directed societies

- a. in primitive societies
- b. in the early civilizations

B. The appearance of rational thinking about society in Greece:

- a. Aristotle on communities
- b. Plato's socialist republic

C. The conflict between Greek rationalism and Judeo-Christian ethics in early Christian doctrines:

- a. St. Augustine
- b. Aquinas

D. Social doctrines following the appearance in Europe of secular national states:

The new problems of social and economic organization posed by the appearance of the secular national State (the State; the economy; the individual; the nation)

Greek rationalism and the new social doctrines concerning the State, and the economy (Machiavelli, the Mercantilists)

Greek rationalism and the new social doctrines concerning the individual (the French rationalists)

Romanticism and the new doctrines concerning the nation (the German Romantics)

E. The influence of technological production on the new social doctrines

The influence on social doctrines of the idea of a self-regulating market system
(liberalism; anti-nationalism; individualism)

The resurrection of the idea of socialism

a. Owen

b. Marx

1) the influence of Hegel

2) the influence of Ricardo

F. The influence on Western social doctrines of nationalist revolutions in Europe and Asia and of neo-mercantilism

The nationalist revolutions and neo-mercantilism

Their influence on the idea of a self-regulating market system

Their influence on the idea of socialism

a. The revisions of Marxist doctrines in Germany, Russia, and China

b. Non-Marxian socialist doctrines in India, Indonesia, and Egypt

G. The influence on nineteenth-century social doctrines of the breakdown of the self-regulating market system in the West

The breakdown of the self-regulating market system

The transformation of the idea of socialism into the idea of fascism

- a. the burden of freedom in a secular society and the attempt to escape into traditional ties
- b. the burden of freedom in a secular society and the attempt to escape into submission to a "rational" authority
- c. the appeal of modern nationalism
- d. the idea of fascism

The transformation of the idea of the self-regulating market system into the idea of the Welfare State

H. The influence on modern social doctrines of advanced technology and of the emergence of corporations:

Advanced technology and the emergence of corporations

The idea of "People's Capitalism" and of "Super-Capitalism"

The decline of the Marxian program for socialism in Western countries

The idea of a market-regulated socialism

I. The influence on modern social doctrines of the emergence of the basic problems of a technological civilization

The basic problems of a technological civilization (technology, organization)

The new knowledge about the relation of man to society (Fromm, Cassirer, Polanyi, Schumpeter)

Some new social doctrines

Meadow

The Economics of the

THE ECONOMIC COSTING OF SOCIAL REFORM

abe's term

? ?

I. THE ECONOMIC CONSEQUENCES OF RESTORING SOCIETY

II. THE ~~ECONOMIC~~ COSTING OF SOCIAL REFORMS: PRINCIPLES

III. THE ~~ECONOMIC~~ COSTING OF SOCIAL REFORMS: INSTITUTIONS

FIRST LECTURE

A. In The Great Transformation it was noted that the basic social problems created by the appearance of a self-regulated market system resulted from the conflicts between the requirements of the market system, on the one hand, and of society on the other.

It was noted there that in earlier economies, the principle of subordinating the economy to the requirements of society was generally made to prevail by reliance on a variety of non-market arrangements to bring about the movement of goods from one group of persons to another.

This should not be taken to imply, however, that ~~what is~~ even as a social ~~arrangement~~ structure ^{self-regulating} the market system is not superior in some ways to earlier forms of social organization. ~~The new possibilities for~~ ~~individuality~~ In particular the new possibilities for individuality that it creates must not be treated lightly.

Neither should this be taken to imply that the economic advantages of a self-regulating market economy are not of enormous significance in the long run. Above all ~~it is~~ the revolutionary technological innovations that have occurred ~~in the last one hundred fifty years~~ would not have occurred in its absence. But then, it must be added, while technological progress is progress up to a point, it must not ^{completely} be identified with progress in a more general sense, nor must one be blind to ~~the negative aspects~~ certain negative aspects of any socially uncontrolled technological progress at almost any time....

FIRST LECTURE

THE ~~ECONOMIC~~ CONSEQUENCES OF RESTORING SOCIETY

A. Although the appearance of a self-regulating market system did bring about a subordination of ~~the~~ society to the economy, in contrast to earlier economies, this is not altogether a negative thing; and in any case it cannot be reversed.

B. At the same time it did bring about an order in which the relationship of economic institutions to social ones must now be inevitably different from what this has been in the past (in non-market societies).

C. ~~Skills~~ The first problem is to make clear what social elements are characteristic of society, in any order, as distinct from the economic elements. But even if no satisfactory agreement can be reached on this point, it is sufficient to note that such ~~functions~~ important functions as those of the politician, the soldier, the judge, the priest, ^{the teacher,} ~~the doctor,~~ the writer, and the artist are not economic ones, and that there is ~~not~~ objection to calling them social roles, and to identify society, ~~as~~ in a first approximation, with the availability of these functions to all ^{or some} ~~members~~ in a group.*

D. ~~Because these functions are not economic and~~ Because of their ^{evident} importance for both the lives of individuals and the continuation and development of a culture, ^{these functions have} ~~these functions have~~ traditionally been given a priority over economic ones, and economic arrangements prevailing in any society were institutionalized in such a way as not to conflict ^{on the one hand} ~~with the performance~~ of these social functions beyond a certain point; and on the other so as to provide for the economic needs of the individuals ~~and~~ and social classes serving in ~~this~~ such roles.

* It occurs to me that society in this sense may well be the social basis of national culture and of its development.

~~ExzKellwiazgzihszappexxzszsz~~

E. Because of the special character of the market as an economic institution, however, the appearance of an economic order based on market relations has led to the gradual erosion of the ~~the~~ institutional bases of these social functions. It is true that the cold facts of reality, concerning the actual non-commodity nature of labor, land, and monetary symbols, have brought into existence arrangements for the protection of society from market relations at certain points. This is particularly true of the ~~the~~ protection of labor. But it is also true that these elements of self-protection until now have been minimal, and that many other elements of self-protection (such as those of professional ~~the~~ organizations for lawyers and doctors) have often rested on ^{elements of} traditions that are not able to withstand the increasing pressures of market relations.

Above all there have only been isolated efforts ~~the~~ by individual groups to protect one or another element of "society". There has not yet been a conscious and coordinated effort to restore all the elements of society and to do this in a form that can permanently withstand the pressures of the market elements on which the economy is based.

F. This is explained in large measure by the identification of progress with economic progress in modern times. And also by the awareness that social reforms may present a serious threat to the economy as a whole.

G. In recent times, however, it has become clear that ^{even further} economic progress ~~the~~ cannot occur without active participation by "society". "Society" is needed both to undertake the production of certain services that cannot be produced for private consumption by their very nature. And it is also needed to control or at least to mitigate the effect of ~~the~~ recessions on incomes. At the same time, near-satiety with regard to material consumption has increased the importance ~~the~~ to individuals of those "services" ~~the~~ and opportunities for service that only "society" can provide.

H. Yet the objection of businessmen and of economists that social reforms are destructive ~~of~~ from the point of view of ~~the~~ the economic order, ~~the~~ ^{XXXXXXXXXX} ~~the~~ whose enormous importance is realized by all, and whose continuous development is also accepted as a condition for avoiding a recession continues to retain its essential validity. Certainly the zealous social reformer who is ready to sacrifice market relations to the ideals ~~of~~ of humanity and of social justice as a matter of general principle is ~~the~~ ^{XXXXXXXXXX} ~~the~~ as much a threat today, if not more, as in earlier times.

I. It is in this connection that it is most important to distinguish between two ~~kind~~ fundamentally different methods of instituting social reforms in ~~an~~ an economy resting on market relations.

On the one hand it is possible to supplant market relations by administrative and redistributive ones in certain cases. The social and economic disadvantages of this have already received enough adverse comment.

On the other hand, ~~however~~, it is also possible to affect not the market structure itself, but the "data" that this order processes. It is possible to increase artificially the scarcity of the basic "inputs", such as labor, that are fed into the market mechanism. This would affect the economy no more, in principle, than would the partial exhaustion of some natural resource - a process that occurs all the time. It would decrease the overall productivity of the economy, and also stimulate a search for ~~substitutes~~ substitutes. But it would not affect the basic propensity of a market structure to function efficiently.

~~Particularly in the case of the restoration of "society" is now seen to mean an artificial increase in the scarcity of some of the "resources" in the name of some priority that is higher than mere productivity, the basic objection of the economist that the very basis of economic efficiency is no longer valid. The objection of the economist concerned with the possibility that overzealous social reformers will then proceed to deprive the economy of some of its inputs to a point where production may suffer seriously continues to be valid, however. Since social reforms may be introduced only at a cost in terms of economic alternatives foregone, the possibility inevitably exists that social reforms of relatively minor significance may bring about, in some instances, catastrophic increases in the cost of producing important items.~~

J. ^{from the point of view of the economy} If ^{the restoration of "society" is} ~~the restoration of "society" is~~ now seen to mean ^{essentially no more than} an artificial increase in the scarcity of some of the "resources" in the name of some priority that is ^{taken to rank} higher than mere productivity, the basic objection of the ^{theoretical} economist that ^{social reforms affect} the very basis of economic efficiency is no longer valid. The objection of the economist concerned with the possibility that ~~overzealous~~ overzealous social reformers will then proceed to deprive the economy ~~of~~ of some of its ~~inputs~~ inputs to a point where production may suffer ~~seriously~~ seriously continues to be ~~valid~~ valid, however. ~~Since~~ Since social reforms may be introduced only at a cost in terms of economic alternatives foregone, the possibility ~~inevitably~~ inevitably exists that ^{some} social reforms of relatively minor significance may bring about, ~~in some instances,~~ in some instances, catastrophic increases in ~~the cost of producing~~ the cost of producing ^{important} items.

^{But} The remedy that occurs immediately in this connection is one that is most familiar to the ^{theoretical} economist: if one can only measure the precise ~~cost~~ cost in terms of economic possibilities foregone of a proposed social reform, then a basis exists for deciding whether ^{or not} the reform should ~~actually~~ actually be carried out. It may be that in some cases important social reforms will be found to "cost" almost ~~nothing~~ nothing. In others, ~~the~~ the indications of a very large ~~cost~~ cost would ~~prevent~~ prevent in terms of economic consequences would prevent their implementation.

K. The general principle of costing ~~social reforms~~ ^{social reforms} may well be a clear one. Yet its implementation presents important difficulties.

~~In the case of~~

It is true that in cases in which ~~proposed~~ ^{important} social reforms will be found to entail ~~low~~ ^{very} economic costs, the firm knowledge that ~~these social reforms~~ ^{they} will not ~~seriously~~ affect the economy will serve ~~to~~ to remove all inhibitions in ~~actually~~ introducing them.

In the case of ~~social reforms~~ ^{relatively unimportant} whose economic ~~costs~~ ^{"costs"} are found to be very high it is also clear that the mere measurement of economic costs is a sufficient basis for the making ~~of~~ ^{the relevant} decisions.

This is not ~~so~~ ^{so} however, in what will presumably be a large number of cases. Where important social reforms are found to have a ~~considerable~~ considerable economic cost, strong feelings are certain to follow concerning the advisability of actually carrying out the reform. For such cases, therefore, it is particularly important to establish arrangements that will allow the final consumers of products, and not the producers, decide whether they value the social reform more than the loss in consumption that it entails.

It is important to ~~consider~~ examine the general requirements of such an arrangement ~~in~~ somewhat more closely.

SECOND LECTURE

THE ECONOMIC COSTING OF SOCIAL REFORMS: PRINCIPLES

THIRD LECTURE

THE ECONOMIC COSTING OF SOCIAL REFORMS/ INSTITUTIONS

(Summary: ex ante

In this lecture there would be first a brief discussion of ~~the actual~~ some of the actual social reforms that have become urgent or feasible: your notion of conscientious objection, of extending the right ~~of~~ of habeas corpus, of not coming to work on occasions, etc..

Then the general implications of each/^(or some) of them ~~should be considered~~ for a decreased economic efficiency should be considered briefly.

Finally you might consider briefly ~~the~~ and essentially in a suggestive rather than a definitive way the character of the institutional arrangements that would permit the consumers-members of society to make a rational choice for or against social reform and that would also bring about an implementation of these decisions by ~~the~~ social ~~reformers~~ reformers, on the one hand, and producers and ~~the~~ innovators, on the other.)

* One might speak of a "free society", or of "freedom and technology" at this point, before examining the actual reforms that this suggests.

RUTGERS UNIVERSITY
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COLLEGE OF ARTS AND SCIENCES

note
[Paul
Meador]

DEPARTMENT OF ECONOMICS

Meyer
14 V 58

NEW BRUNSWICK, NEW JERSEY

* * *

You have mentioned that you attach greater importance now to the need for a mature character in a technological society. As I understand it, this means that in addition to a mental acceptance of the reality of society man must also develop the ability to orient himself independently of irrational authorities in the complex world in which he now has to function, and to take responsibility for his own fate. This is no less than the creation of a new center of reference in speaking of reorganizing society. The first attempt to consider the implications of such a new criterion for social organization is that of Fromm in The Sane Society.

Until now you have approached the problem of reorganizing society from the side of the economy and of economic institutions. Now you are starting from the other side, so to speak, and moving in the direction of a linkage with what you have already learned about the economy.

Fromm was not able to move very far in that direction. He noted that the development of an ability to love was indispensable for man once he is freed from the restraints of a tradition-directed society, and then noted that community life in some not very clearly defined sense was indispensable for such a development. He called for a movement that might be called "communitarian socialism". But in this part of the book he ceases to rely on logic, I think, and merely describes various aspects of community life. And that part, as a result, attractive as it is, is the most unconvincing one.

If you accept the notion of a community, you inevitably accept the division of social relations into "internal" and "external" ones, each subject to a different "ethic". Formality and functionality and even competitiveness are not improper in "external" relations. But "ethics" and informality must prevail internally, if there is to be a human setting for the individual at all. This thought is present in Kropotkin's book on cooperation in the animal world: he said that the higher species cooperate among themselves, and compete only with other species; in the case of man he emphasizes the importance of this arrangement in guilds.

This, I think, too, the proper reaction to the recognition of the reality of society. Man must exclude conflicts deliberately within primary groups and relegate the inevitable conflicts to "external" relations, to inter-group relations. But there, they must be limited in some way, so as not to be destructive of the primary groups. The concept of modus vivendi is relevant here.

Fromm's position, on the other hand, is that if you cannot love the stranger you cannot love at all. This is correct, of course, but ignores the "reality of society", and suggests misleading conclusions. Universalism is a principle relevant to the spiritual plane, not the one of material relations.

The institutional basis for the conflict between the leaders of
the Soviet Government and B. Pasternak

Tues. 29 Oct. 58

The ~~essence~~ essential element in the dispute between Pasternak and the writers ~~who~~ who support the ideological position of the government may be viewed as a basic conflict over the problems of institutionalization and perhaps, too, over the need to accept the reality of society.

Pasternak's hero is said to undergo a process of moral disintegration because the new institutional setting following the initiation of the many Bolshevik programs did not provide any room for the needs of a cultured person, highly conscious of the existential nature of the ultimate problems of man, and of the need for ~~each~~ each man to cope individually with his own existential problems in the course of his short life. Not only did the new institutional setting not provide the needed opportunities for such individuals, but ~~some~~ some of the old institutions, which had been positive ones from this point of view, were mercilessly condemned and destroyed.

The moral would seem to be that one should have more respect for established institutions than is fashionable among revolutionaries, that the real significance of some of them may be more subtle and far more vital than might at first appear, and that in any event it is disastrously wrong to appraise the value of institutions solely from the point of view of their interest to the economy, or to society, or to the state, or national defence, or in fact any single function that is more narrow than the existential needs of men, as they are manifested at various levels of individual development.

All of this applies very much to the religious institutions of old Russia, for example. Viewed from the point of view of the new pattern of social relations that the government was seeking to establish, they presented seriously negative aspects. Viewed from the position of participating individuals, however, they presented vital positive aspects as well.

As for the position of the Soviet government today, with regard to Pasternak and other writers, it senses as serious threat to the present pattern of institutionalization of vital economic and political institutions. Anarchy is impermissible, and that is what would follow at a most dangerous time if the present convictions and attitudes ~~of~~ of the population, on which the stability of the vital institutions depends, should weaken. Yet they are weakening, and as a second alternative to them the government has reorganized its institutions somewhat in order to rely on ~~materialistic~~ materialistic market attitudes where ideological convictions are not present. But in this step which is a vital one for the very existence of the basic political institutions and of the economy in the Soviet Union, there is a betrayal of the aspirations of the revolutionaries in the country, who were inspired by a vision of a society in which man would express his dignity in freedom, and not one in which ~~the~~ diligent mercenaries would receive the greatest ~~material~~ material reward. That could be tolerated as a concession to weak individuals, but when raised to respectability by the leaders in the government, a betrayal of revolutionary principles is clearly sensed.

Accordingly the problem confronting the Soviet government today ~~is~~ concerns above all the finding of a third basis for institutionalizing vital functions, in which neither short lived revolutionary ~~loyalties~~ and patriotic loyalties, nor the materialistic market attitudes would be the principal basis. It appears evident to me that this requires a separation of institutions into at least two categories -- those that clearly call for merely routine service ~~on~~ the one hand, and those that do really call for inspired ~~motivations~~ motivations. But beyond this there should also be a recognition of the fundamental primacy of the other hours in the calendar, so to speak, the ones during which people do not serve and do not battle, ~~of~~ ~~the~~ ~~ones~~ ~~during~~ ~~which~~ ~~people~~ ~~do~~ ~~not~~ ~~serve~~ ~~and~~ ~~do~~ ~~not~~ ~~battle~~. It seems to me that it is only when a meaningful understanding concerning this part of life will be present among the population, that it will be possible for the government to approach realistically the problem of ideologies needed by its own institutions.

F. Madans

1. Underlying the transformation of the firm that Schumpeter has discussed is a process of technological development, which brings large administered firms into existence, and together with them, administered personnel and professional attitudes.

Polanyi, on the other hand, approaches the process of transformation from the very opposite side of the process - not from the side of the economic process, but from the side of Society.

This largely undefined concept of Society is central to the analysis in The Great Transformation. It appears as the entity in which the economy is embedded in non-market societies. It is threatened by the appearance of a self-regulating market economy with its fictitious commodities (labor, land, money). And it re-asserts itself in an industrial economy, and transforms the economy ("The Great Transformation") through subordinating its requirements to its own at important points.

It would appear that this concept of Society refers to the active recognition of certain rights for a (limited) group of persons with which one feels united through this very recognition. These rights may be defense from aggression, assistance in the procuring of food, defence against social injustice, the right to education, the right to support in old age, the right to advancement on the basis of effort, or other rights. The active recognition of such rights results in the creation of corresponding social institutions and frequently to the acceptance of duties or the limitation of one's own rights. The possibility of rendering the recognition of such rights active, effective, is vital to the creation of a society, as well as the initial consciousness of the need for such rights and awareness of the identity of the persons or groups involved.

The very operation of the self-regulating market system, it is Polanyi's thesis, through its effects on the "fictitious commodities," creates situations that stimulate the active recognition of old and new rights, and re-creates society, at least partially. The problem of the nature of rights and duties in a national society continues to remain.

The very creation of a technological civilization, however, it is Polanyi's thesis, creates a new situation in which man cannot through any reform free himself from the "reality of society," that is from situations in which he may do great personal harm to others and hence suffer damnation in the Christian sense through the repercussions of his everyday actions that are carried by the technological relationships of the economy.

2. Galbraith centers his attention on the way in which the emergence of monopolistic producers leads to the creation of similar monopolistic groupings on the part of labor and of consumers (retailing firms). This is required in order to be in a position to bargain.

This has important implications with regard to the further development of consumers' procurement institutions. As the technological complexity of services and goods increases, the consumer finds it increasingly necessary to delegate his right to choose to professional persons who are in a position to choose rationally.

This is true today for example of book clubs, record clubs, insurance brokers, etc. The possible amalgamation of such groups in the future may lead to another important transformation of the economy.

3. The psychological transformation that has occurred in modern times has been considered by Fromm in the Sane Society. This refers to new attitudes towards authority, and more basically, the transition from an exploitative to a marketing character structure.

2 March 1960

1. Fromm considers the transformation in man's character structure in the United States in the last several decades, and only incidentally some the consequences of this on social and economic organization. He attributes it to the replacement of orientation on the Protestant concept of God in the nineteenth century to orientation on an anonymous concept of authority in modern times, which, is, in practice, the market.
2. The basic determinants of man's character structure, which is viewed as an entity with its own constantly operating propensities (but also possibilities for breakdown), is, in Fromm's view, the search of the individuated person for a frame of orientation in meeting his existential problems, which center on the need to reestablish a self-centered harmony in one's relations to the universe and to others. Following the destruction of "primary" bonds, which are associated with childhood attachments to parental authorities, and which were maintained artificially in medieval society, the person now conscious of the individuality of his fate, of the tragic character of its ultimate end, and possibly of the opportunities that may be missed in the course of his life, seeks a new frame of reference, which is a basic need for orientation with regard to action. This may be, in principle, a fully independent and realistic frame of orientation, as in the case of the state of "true birth" on which the major monotheistic religions center. Or a state of harmony may be artificially reestablished through orientation on new authorities.
3. Following the initial individuation of man during the Renaissance and the Reformation, in the case of Europe, men oriented themselves on a new concept of God, to which they could also relate themselves through the experience of "faith." In social relations, however, the anxiety generated by the concept of the inherent sinfulness of man and in predestination caused individuals to disengage from direct social commitments, to honor contractual commitments, to work hard, to seek success, and to refrain from unnecessary personal expenditures.
4. In modern times, however, the vanishing of personal relationships and their replacement by impersonal market relationships has caused the concept of guiding authority to be projected onto anonymous markets. Anonymous authority had replaced personalized authority. This results in a new character structure, because the requirements and rewards of a market are different from those of a personal concept of authority.
5. The market situation requires people to act as commodities, that is provide characteristics functions, and semblances, demanded by a market situation. This demand is impersonal in the sense that the capacity of the person to provide these requirements is not considered. Also certain elements of his behaviour, such as a general friendliness, may be demanded by a market situation even though they are not functionally a part of the commodity that is marketed.
Furthermore this demand is a variable, and in some cases changes frequently. This makes it necessary for persons to be able to adapt themselves quickly to changes of this kind. This in turn makes it impossible to develop lasting commitments that might conflict with changing market requirements.

5. The corresponding rewards that are dispensed by the market as an anonymous authority, can only be material rewards. Hence consumption appears as a natural phenomenon, and thrift as unnatural. This basic readiness to consume is made even stronger however, by modern advertising, which derives from the need to create stable markets, especially for new products, and which rests in practice largely on appeals to irrational tendencies in men rather than to rational ones.
6. The general change has thus been from an emphasis on thrift hard work, and the priority of contractual commitments, to a disengagement from firm commitments, responsiveness to markets, situations, and uninhibited consumption.
7. The unstable character of market situations, however, as well as the impossibility that it creates for firm commitments of any kind (to one's conscience and to others) and the emphasis on the materiality of rewards for human and social activity, create serious internal conflicts that tend to result in insanity. This is aggravated by the anonymous character of the market as an authority, which makes it impossible to identify it as the source of misguidance and to rebel.

(relevant to the New West position)

1. The innovations of the third Kondratieff wave presented a serious challenge to the complementarity pattern of Great Britain on which her balance of trade rested. It responded to the appearance of new products and new resources, and of competing industrial economies, however, by investing in various countries of the empire in the development of those resources that became important for the production of the new products and the new economies. This is copper, tin, bauxite, petroleum, rubber. By developing production facilities for these products within the Empire (outside of Great Britain proper), Great Britain was able not only to provide its own industries with these new resources, but to provide the industries of the other industrial countries that lacked these resources as well, and to earn, in this way, foreign exchange that permitted it to draw on the industrial products of those countries, too. Empire-produced petroleum, rubber, tin, and copper, moved, in this way, to Germany, France, the United States, and Japan, as well as to Great Britain proper, and this made it possible for Britain to import industrial goods from these countries without increasing domestic production to any important extent.

2. But the foreign exchange derived in this way from other industrial countries was used in a still other way to procure food and raw materials for Britain. That is some of it was surrendered to Canada, Australia, Argentina, and Brazil in return for food, who wanted it in order to import industrial commodities from the United States, Germany, France, Japan, etc.,

3. In this way Britain was able to maintain her trade balance by relying on a vast international pattern of complementarity. This pattern deteriorated, however, during the 1930's, and this forced England off the gold standard.

4. After the Second World War Britain and the United States agreed to re-establish the principle of free trade under a gold standard. Initially, however, it was conceded, countries would be permitted to continue to adjust imports to exports through commercial restrictions (tariffs, quotas, discrimination) and subsidies, although later it was established by the rules of the International Monetary Fund and the International Bank excess imports should be paid in gold, and not artificially reduced, if they appeared to stem from temporary phenomena. In such cases, additional gold reserves might be borrowed from the International Monetary Fund if existing ones were insufficient.

In cases in which the cause of disequilibrium appeared to be permanent, however, funds could be borrowed from the International Bank for investment in new exports-increasing industries.

5. This method of creating reserves and of changing the structure of complementarity through investments in exports-increasing industries, however, is unlikely to work if the basic changes in the pattern of complementarity in world trade continues to be determined by other factors that induce investments (such as innovations or national plans of economic development). In such cases two other types of solution naturally suggest themselves: 1)

1) the formation of regional trade blocks on the basis of actual patterns of complementarity in trade. Trade among blocks, then would be artificially restricted in such a way as to balance block imports from block exports.

2) maintain equilibrium through changing prices (cartel-established) in appropriate ways. This would require an international super-cartel, aiming at maintaining stability.

This second solution might be applied to inter-block trade, while price fluctuations might occur more freely within a trade block.

6. The establishment of a new framework of this kind for maintaining stability in international trade is increasingly important for British, because her present method of adjustment through exporting capital equipment to industrializing countries may easily suffer from competition in this field by the United States, Germany, Japan, and Russia. Competition, in short, is becoming a threatening factor, for this temporary (third) basic pattern of complementarity on which the movements of the world economy rest.

(A) Toward the Development of a System of Measuring Technological Change

I. We are interested in undertaking an inquiry which may make possible a system for measuring technological change. If this is not feasible, given the present state of our knowledge regarding technological change, because of the limitations of the analytic tools at our command or, more generally, owing to the nature of technological change, then this knowledge in itself would be valuable. It might suggest that our efforts be directed toward formulating techniques for quantitatively describing technological change rather than to the task of precise measurement. Moreover, our efforts, if not directly productive of the desired end, might make available a part of the knowledge and insight which could contribute to the success of other undertakings in this direction.

II. The Need for a System of Measuring Technological Change

While this need is of importance for various aspects of the study of economics, it is of particular importance as it relates to the study of business fluctuations. The notion that technological change is an important factor in explaining the nature of business fluctuations in the capitalist economy is reflected in the writings of Marx, Spiethoff, Wicksell and D. H. Robertson. This viewpoint received its classic treatment in the hands of Schumpeter who makes technological change the principal real and therefore theoretic factor in accounting for fluctuations in the general level of economic activity. In our view this position is of sufficient importance such that a general theory of economic growth and fluctuations should be made to revolve around it. However, to render a theoretic framework of this type amenable to empirical treatment so that it may yield useful results, it is necessary to first precisely define what we mean by technological change. That is to say, it is necessary that we be able to measure technological change. So long as we do not possess such a system of measurement or a general technique of quantitatively describing technological change which, operationally viewed, may yield comparable results, the viewpoint

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which attributes business fluctuations to technological change must principally remain a high level generalization capable only of limited effectiveness. And what, in our view, is a powerful concept for purposes of furthering research and the level of our comprehension in the field of business cycle theory, can never move much beyond its pure theoretic starting point.

III. The Nature of Measurement and Technological Change

The concept of measurement which we shall provisionally employ herein is suggested to us by Professors von Neuman and Morgenstern: Measurement is representation by mathematic symbols such that there is a correspondence between symbol and measured object and such that the mathematic relations and operations among the symbols correspond to the physical relations and operations among members of the object class (i.e., among the data that is being measured). Viewed in the most general terms, measurement may be simple or complex. The former is representation by single dimensional real numbers; the latter involves more than one number or a multidimensional symbol to represent a single object. The distinguishing feature of measurement is that the symbolic representation of a property exhaustively defines the property.

Now if measurement is viewed as an exhaustive definition of the property being measured then a system of measurement to be developed requires: 1. that the phenomenon or object being measured is subject to no changes in its structure; and/or 2. that the object has been thoroughly described in that its most significant properties have been specified, such that on the basis of our knowledge of its properties any changes therein are calculable and thus predictable.

Systems of measurement in the physical sciences, for example, can be constructed because they satisfy either or both of these conditions. And generally they are able to do this because they assume the operation of a principle of conservation (or invariance): the specific properties and relationships characterizing a body or object in its present state will

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tend to be repeated in any future state.

Similarly, if a system of measurement is to be developed that can measure technological change it must presuppose the existence of certain invariate relationships among its natural data. This brings us to the need to define what we mean by technological change. Clearly we cannot at this stage precisely define technological change. If we could the essential phase of our problem would be complete for the quest for a method of measurement is virtually synonymous with the attempt to find an exact definition. At this point let us suggest that the principal criterion determining our ultimate selection of any definition must be that it exhaustively defines the subject matter of our inquiry and that it is appropriate to the subject matter.

For the present it will be sufficient to employ a loose definition which can serve to delineate our field of investigation. By technological change we mean changes in inputs and outputs as well as changes in production functions which have characteristically accompanied the former. These changes usually involve new consumers goods, new forms of producers' equipment, new industrial materials and new categories of skill. These changes might also be said to be frequently associated with the opening up of a new market and the carrying out of the new organization of any industry, like the creation of a monopoly position. The list of circumstances characterizing technological change could be broadened or narrowed. The significance of either practice, however, would depend upon the extent it made the definition we chose to employ correspond to empiric phenomena and amenable to empiric confirmation.

Given the diverse nature of the factors we have subsumed under the term technological change, if a system of measurement is to be forthcoming in this regard, it must be based upon the existence of certain regularities in these factors. To determine whether these regularities can be found will require an investigation into the broad area of industrial techniques

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and changes therein, into the nature of production trends in the U.S. economy, etc. While we intend to examine the process of innovation as it has occurred in certain industries, where investigations have already proceeded and a literature is now available, it may also be necessary to study certain relationships between inventions and innovation.

By way of hypothesis, let us suggest that if the regularities prerequisite to a system of measurement cannot be found for the national economy, aggregatively viewed, through time then it is possible that such relationships may be discovered by examining the national economy in distinct time periods. ^{For example} ~~that~~ it is conceivable that regularities characterize the pattern of technological change at certain time intervals, (say) the period ~~in~~ which a long cycle or Kondratieff is assumed to cover, ^{and} that after this span of time the regularities ^{which} previously ~~assumed to exist~~ ^{ceased} change and new regularities appear, etc., etc.

Our principal efforts will be directed toward a thoroughgoing examination of the substantive factors underlying and characterizing technological change. Such an approach we consider desirable in that if it leads to a precise definition of technological change the likelihood is that the system of measurement this gives rise to will find a significant counterpart in the subject matter of technological change.

As our undertaking is now envisaged it will make use of the following materials:

Production Trends in the U.S. since 1870, A. F. Burns
Secular Movements in Production and Prices, S. Kuznets
 Materials made available by the Conference on Quantitative Description of Technological Change

"The Process of Technological Innovation: Launching of a New Scientific Industry," ADB, March 1950

"Invention, Innovation and Imitation," Papers and Proceedings, ADB, May 1951

Problems in the Study of Economic Growth, Universities-National Bureau Committee on Economic Research

A History of Mechanical Inventions, A. P. Usher

Any "complete" enumeration of the materials we intend to employ in our work would of course be premature at this point.

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As our program of study proceeds, at appropriate times it will be our plan to consult with Professor A. J. Coale at Princeton, Professor S. C. Gilfillan and others elsewhere who have already done work on the measurement of technological change. It is also quite likely that Professor W. Laontief's Studies in the Structure of the American Economy will prove helpful to the formulation of technical measures of change as they relate to the behavior of production data through time.

Our project if approved will be principally conducted at Princeton University. It is hoped that it may proceed under the guidance of Professors Morgenstern, Viner, Baumol and Coale. Furthermore, it is my plan to be free from other duties during the fellowship term.

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[by Paul Meadows]

Your derivation of sociological parameters from the concept of materiality in production is clearly correct in its essentials as a new methodological approach based on deduction and is also evidently fruitful. Your inferences, however, could easily be improved on some points, in my view, and also carried further. Furthermore, it may not be necessary to reject the concept of utility in order to avoid the problem posed by services.

Although in one aspect utility has been viewed as a subjective unit of measurement that precludes any investigation of other (physical) aspects of the utility-creating good or service, it may also be viewed as a relationship between a final good, ready to be consumed, and the specific want that it can satisfy. This is the aspect of utility that both Menger and Schumpeter have used in their analyses. What you call "materiality" may then be derived precisely from such a view of utility, if you observe that the production of specific utilities in this sense generally calls for production both in the technological and in the economizing sense, and then that production in the economizing sense is subsidiary to production in the technological sense. (I mean that it is technological relations of complementarity among producers goods that establish the basic channels in which resources may produce utility, and that economizing may then only increase the overall utility thus produced by reallocating resources from low utility channels to high utility channels of complementarity). Production in the technological sense, of course, can only refer to the production of "material" goods, that is of transformed particles of non-human nature, not of services which are derived directly from persons.

It might be useful, in this connection, to classify specific types of wants, instead of referring to merely the satisfaction of wants generally. This would show that in most imaginable and "interesting" cases, by far, whether they derive from physiology or imagination, wants can be satisfied only by material goods, not persons.

Incidentally your final remarks concerning the "fee^d-back" effect of consumption on the economy is nothing but a relating of your concept of materiality to the concept of utility.

You do achieve the important point by noting that labor services are a derivative to the production of material goods. It seems to me that the general title for this section should be "functional aspects of production." Among its (not very important) shortcomings in its present form are first, the not very rigorous way in which you derive the necessity for labor; secondly, the absence of machines as a distinct element in your description of production; and finally the identification of technology with knowledge about procedures. In my own view the correct point of departure should be, here, not the materiality of the goods but the transformation of goods on which production centers. The functional derivatives of this bi-polar phenomenon, which involves both goods being transformed and transforming agents, would then be technology, which refers to the natural possibilities for transformation inherent in the natural resources themselves, and which requires, of course, knowledge about such possibilities; and techniques, which refer to (various) methods for creating the (natural) conditions that bring about such transformations. Since techniques of transformation call for elements of ~~judgments~~ coordination, and hence "judgment" ~~is called for~~ on the part of the transforming agents, however, as well as of mechanical energy and of control, these are

and mechanical energy on the part of the transforming agents, these are *all associated with labor.* the aspects of production that ~~call for labor.~~ But the very same functions may be performed by machines, either in part, or entirely. It is possible, in this way, not merely to say that production calls for human activity, but to indicate which specific aspects of human activity are relevant to production.

Your continuity-producing sociological parameters do not include, I see, arrangements that create activity-inducing situations, ~~that is activity inducing situations,~~ that is activity-inducing mechanisms. Yet that is basic in preserving our emphasis on institutions, on arrangements, rather than on "values." I have had quite a fight concerning this in connection with the significance attached by most Schumpeterians to "entrepreneurial" values.

Finally, I think you should not disregard the opportunity presented by the position of rights, in the appropriational sphere, for discussing the significance of reciprocity and redistributive arrangements. They would appear to be activity inducing mechanism deriving from the association of duties with specific rights, on the one hand, and also from the recognition for others (within a given group) of the same rights that one claims for one's self (this appears to underly redistribution). There seems to be a clue, here too, concerning the origin of the embeddedness of non-market economies: if rights are a social phenomenon, and duties derive from rights, then productive activities induced by notions of duty are essentially social activities, and are also limited in duration and direction precisely by the limitations that exist on rights.

The most significant points for further exploration, however, seem to me to be these: 1. It can now be shown that secularized ("modern," individualistic) societies are those in which the human activity required by the economy is not induced through concepts of duties corresponding to rights. This still allows a variety of institutional activity-inducing arrangements besides markets and contracts. And their comparative study in terms of their conduciveness to personal freedom and to relations based on "philia" may then be the proper task for those concerned with socialism, and with ethics generally. 2. Neo-Classical economic analysis may be easily integrated with your analysis of the functional aspects of production by simply noting that the multiplicity of uses to which individual resources might be put, particularly in technologically advanced economies, creates a need for an additional institutional parameter- namely for arrangements that will channel resources away from low utility channels and into high utility channels. Finally institutional parameters may be derived from the nature of conceivable improvements in the process of production (innovations). They are innovation-inducing mechanisms, "entrepreneurial" values, capital-providing arrangements, and possibly revenue-stabilizing arrangements. This is the method, too, that I have emphasized in my thesis, but I am afraid that it is also exactly the method applied by Schumpeter to the empirical features of nineteenth century capitalism.