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ECONOMIC GROWTH CENTER

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CENTER DISCUSSION PAPER NO. 60

ECONOMIC DEVELOPMENT IN HISTORICAL PERSPECTIVE

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Gustav Ranis

November 12, 1968

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Economic Development in Historical Perspective

J. C. H. Fei

G. Ranis*

It is the purpose of the present paper to discuss the process of economic growth in long run historical perspective. The very notion of "history" carries two senses, namely the recording of the events themselves and the meaningful interpretation of these events. It is therefore an apt subject matter for both economic historians whose main focus has traditionally been institutional and for economic theorists who have a long standing interest in the resources aspects of growth. It is the purpose of this paper to help illuminate the state of our present understanding of growth and development via the appraisal of the evolution of crucial economic institutions and significant growth theoretic ideas.

In order to carry out this purpose, we must, first of all, decide on the relevant time span attached to our notion of recorded history. Admittedly this should be a relatively long period, but just how long? Should we be concerned only with the last 50-60 years, (i.e., 20th-century growth), or the last 200 years (coinciding with the rise of industrial capitalism), or the last 500 years back to the days of the emergence from agrarian feudalism? As we are concerned in part with the evolution of economic ideas about growth, the history of economic thought immediately suggests an answer, namely, that the time span of our inquiry should stretch back to at least the 16th century. For it is in respect to this period that economists have

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expressed themselves in an organized body of thought (i.e., the mercantilists, the physiocrats, the English classical writers, the Marxians, the Austrians and the contemporary writers), either explicitly directed to the phenomenon of growth or in ways which can be construed (i.e., interpreted) to have major growth-theoretic implications. An examination of the broad outline of the evolution of these ideas is one of the major building blocks of this paper.

Since growth in long run perspective is admittedly a complicated, many-faceted phenomenon,--a "seamless web"--we must also decide on a particular framework of approach to the problem. Growth can be interpreted strictly narrowly as a pure resources augmentation phenomenon (as is prone to be true for the case of the modern "planning school" of thought) or, broadly, as a cultural evolution (emphasized by those with institutional or anthropological inclinations). We have found it instructive to adopt a view-point which lies somewhere in between these extremes, i.e., by concentrating on a broadly defined notion of capital, and selecting those phenomena for closer examination which bear essentially on the capital accumulation process over time.

It is a major premise of our paper that such a broad unveiling of "capital accumulation" over time constitutes an unifying theme for a set of far from homogeneous phenomena and thus represents a useful characterization of growth in historical perspective. To be sure, the productive significance of capital, a la Harrod-Domar, has remained important; but the capital stock is also an instrument of control and, in any case, intimately related to the organizational features of an economy. If we take a sweeping

view of the growth accomplishments of the Western World over the last five centuries (from 1500 on), we cannot help but be impressed by the drastic changes, not only in productive capacity but also in the mode of social organization. Thus, in discussing the growth phenomenon in an historical context, reference must continuously be made to both these aspects of capital accumulation.

This paper does not attempt a philosophical survey of the intrinsic "nature" of capital in the Frank Knight tradition. Partly as a result of more recent growth theoretic developments, modern readers have a right to demand a more "model-like" approach to the search for a meaningful definition of capital accumulation in various detectable growth epochs of the past. It is our belief that a fuller understanding of the operational significance of capital during any specific epoch can be achieved with the aid of a schema--first employed by the Physiocrats in their *Tableau Economique* and developed more fully in recent years with the aid of modern national income accounting techniques--depicting the outline of the method of operation of the entire economy. We shall employ such a device depicting the mode of operation of an economy as it relates to both its resource and organizational dimensions.

A growth epoch, as Professor Kuznets has taught us¹, can be defined in terms of certain characteristic rules of growth or modes of operation of the whole economy² over a rather long (at least 50-100 years) stretch of time.

¹See S. Kuznets, Modern Economic Growth, Yale University Press, 1966.

²For example, population growth rate, productivity increase, structure of production, etc. We are not concerned with these quantitative performance indicators in this paper.

The epochs we shall be dealing with are, first, the pre-modern epoch of agrarian feudalism during the period from approximately 1500 to 1750. This is followed by what Kuznets has identified as the epoch of modern growth. We shall further subdivide this epoch of modern growth into 19th century industrial capitalism (1750-1914) and 20th century technocratic capitalism (1918-present). These four discernable growth epochs will be treated in sections II-III of our paper. For each epoch, we shall try to depict the special relevant meaning of "capital accumulation". This in turn involves an understanding of the changing meaning of "capital", the changing mode of operation of the economy in respect to capital accumulation, and the changing organizational structure of the economy. We shall also survey the relevant growth theoretic ideas of each epoch in the light of this account of the real world growth phenomenon. The focal point of our analysis will thus be on the contrast between the various growth epochs as well as on the significance of the sequential ordering outlined, namely, in what sense the growth accomplishment of one epoch paves the way for the next. This, in essence, is what we mean by viewing growth in historical perspective.

The contemporary less developed world is trying to imitate Western European experience with growth over the last four centuries--both in terms of its productive and its organizational aspects. The developing countries are clearly hopeful that it will take them considerably less time to accomplish the same task--due to the natural late-comer advantages Veblen referred to. They are, moreover, encouraged in this hope by the experience of such countries as Japan. The resistance that a contemporary underdeveloped country is likely to encounter in a similar attempt to telescope the British experience has practical historical as well as policy significance. These

implications for the development of the contemporary underdeveloped world will be explored in Section IV.

Section I. Capital Accumulation

Capital is generally defined as a stock which represents a produced means of production. Three essential attributes (and only three) can be deduced from this, namely that the accumulation of capital requires social effort (i.e., it is "produced"), that it is an immutable and durable stock,¹ and that it contributes to production. The economic growth significance of capital accumulation follows precisely from these attributes, namely, it deals with that portion of total economic endeavor which is preserved in one period of time for positive contribution to the productive capacity of future generations. Thus capital accumulation, broadly defined, can be said to be virtually coextensive with economic growth. This definition permits a broad interpretation of what may be included in the capital stock, i.e., (i) inventories, (ii) fixed capital (e.g., plant and productive equipment), (iii) overhead capital (roads, wharves, water supply, schools, sewage systems, dwellings), and (iv) special quality characteristics of human agents above the unskilled level (i.e., the physical and mental attributes of labor, entrepreneurial ability etc.).² As we shall see, this broad interpretation of what may be included under capital facilitates our analysis of the growth

¹We shall neglect the technical problem of depreciation which can be safely omitted in a discussion of the long run growth problem.

²We draw this distinction between "labor" and the "attributes of labor" since we regard the latter as capital according to our definition while the former is not--at least in a non-slavery economy.

phenomenon in the various epochs under discussion. As the mode of operation of the economy changes over time the content of "capital", within the above broad definition, undergoes a corresponding evolution.

The above definition emphasizing the productive aspects of capital is quite independent of the mode of social organization of a particular system (i.e., it is applicable to capitalism, feudalism, communism). In the economics literature developed in the western world, there has, however, arisen something of a tradition by which the term is restricted to profit-seeking private capital in a capitalistic society. This (to us) special usage of the term serves to emphasize the fact that "capital", besides constituting an instrument for raising productivity, is also an instrument of control in a particular type of society, e.g., capitalism, namely, in such a society, the owners (or, more precisely, the managers) of capital goods, are, in fact, the managers of the economic affairs of the system as a whole.

This "special" usage of "capital" was rooted in the Classical tradition and may serve quite well to explain the growth-promoting forces of industrial capital that prevailed in that particular historical stretch of time, i.e., from 1750-1914. It was in this phase that economic individualism found its fullest expression and its operational significance in the accumulation and management of the most characteristic form of capital (i.e., fixed capital) vital for the growth of the industrial economy. We should not let this blind us, however, to the realization that, given a longer historical time perspective, such usage remains rather special. For in contrast to economic individualism, collectivism may have had a more essential guiding role in the management of economic affairs at other times, i.e., before 1750 or after 1914. In such epochs, in other words, profit-seeking private

capital may have been less important in terms of economic growth than a collective form of capital management and accumulation.

Both the production and the organizational significance of capital come together in terms of its direct involvement with labor. The production significance of capital is due mainly to the "contribution" which it makes to labor productivity; and the social or organizational significance of capital cannot be assessed independently of what happens to the collaborative human agents in the society. There are clearly many ways that capital can be "involved" with labor. In fact, as the economy moves from one growth epoch to another, the mode of operation of the economy (in any given epoch) is defined mainly in terms of these changing operational relations between labor and capital.¹ In each epoch of growth the center of the stage is held by certain special types of capital goods, and certain characteristic modes of productive as well as organizational relationships which are evolved to facilitate the accumulation process. We believe that to really understand growth in historical perspective is to understand these characteristics and the contrast offered by various growth epochs. For only when these features are understood can we proceed to answer the central question of "how growth came about", i.e., to identify the growth promoting forces which pushed the economy forward in the course of the capital accumulation process. It is the operation of these growth promoting forces, (often facilitated by certain

¹This view of capital as inextricably intertwined with the special growth phenomenon of an epoch is, by no means, shared by all who concern themselves with capital theory. The Austrian economists, for example, whose technical contribution to the "nature of capital" was very significant, paid little attention to the specific nature of capital in the context of a particular mode of organization of the system.

exogenous historical events,) which not only help give the economy its epoch-specific characteristics but also gradually usher in certain inevitable sequential changes leading us to the next epoch.

In summary, each epoch will have to be understood in terms of the specific productive and organizational relationships linking capital and labor, and dominating the mode of operation of the system. Only then can the basic growth promoting forces determining the quantity and quality of accumulation be rigorously identified.

Section II. From Simple Agrarianism to Mercantile Agrarianism (1500-1750)

Before 1500 Western Europe was characterized by local self-sufficiency in agricultural production, a system which may be labelled simple agrarianism. The 250 year time span from approximately 1500 to 1750 witnessed the gradual transition of this system to a less primitive trade-related agrarianism which we may call mercantile agrarianism. Mercantile agrarianism in turn paved the way for the epoch of industrial capitalism (1750-1914) which followed. Thus, in terms of our attempt at achieving long run historical perspective, mercantile agrarianism may be regarded as a long phase of transition leading from simple agrarianism "inevitably" to industrial capitalism.

Simple Agrarianism

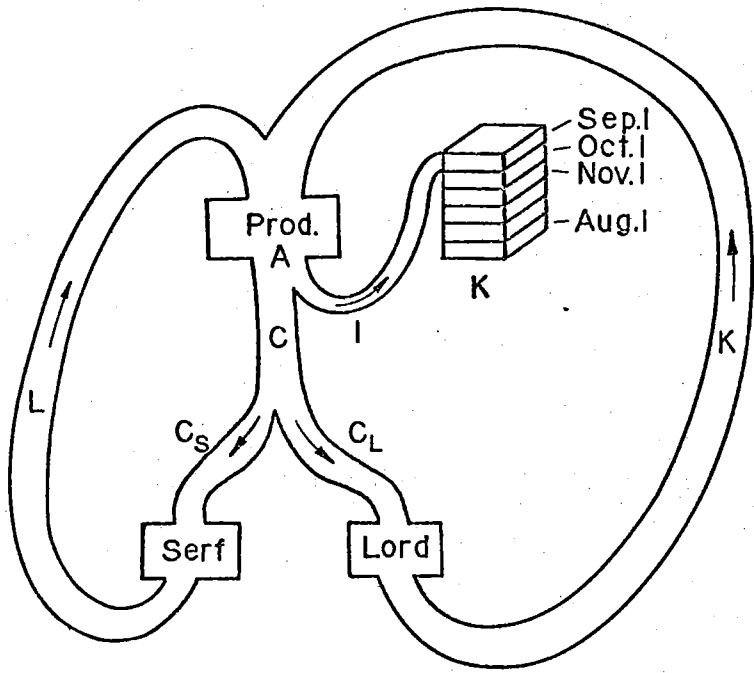
The simple agrarian society is characterized by the dominance of settled (non-nomadic) agricultural production to the virtual exclusion of other forms of economic activity and with relatively little trade beyond the local community in evidence. A simple agrarian society is essentially

locally self-sufficient and should not be associated with the notion of an integrated national or regional economic system.¹ The political structure associated with such a routinized inward-looking economic way of life may be characterized as local separation stabilized by a feudal set of social relations as between hereditary ruling and serf classes. The well-known manorial system of medieval Europe and of the (less well-known) Chou dynasty in ancient China (100 to 200 B.C.) may be viewed as representative.

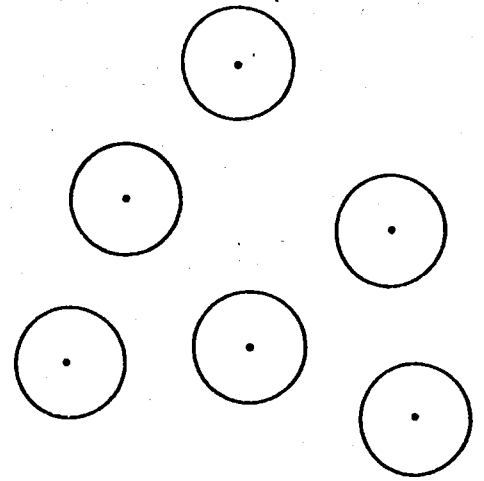
The nature of the capital stock in simple agrarianism represents the purest form of "wages fund", namely, the stock amounts to an inventory of agricultural goods (mainly food) to bridge the gap arising from the noncoincidence of production and consumption periods in agriculture. On the one hand, the seasonality of agricultural production leads to the emergence of the required food supplies during one or two specific (harvest) months of the year. On the other hand, the consumption demand for food is continuous and evenly spread throughout the year. Thus all the food needed between harvests must be stocked up and a method of social organization must be designed to see to it that such stocks will be apportioned and again replenished in an orderly fashion. This, in essence, is the meaning of capital stock--and the only possible meaning--from the production standpoint in the simple agrarian society.

The mode of economic life in simple agrarianism may be depicted with the aid of diagram 1a in the form of one production sector and two household sectors, i.e., the serfs and the nobility. Total output A is used either as

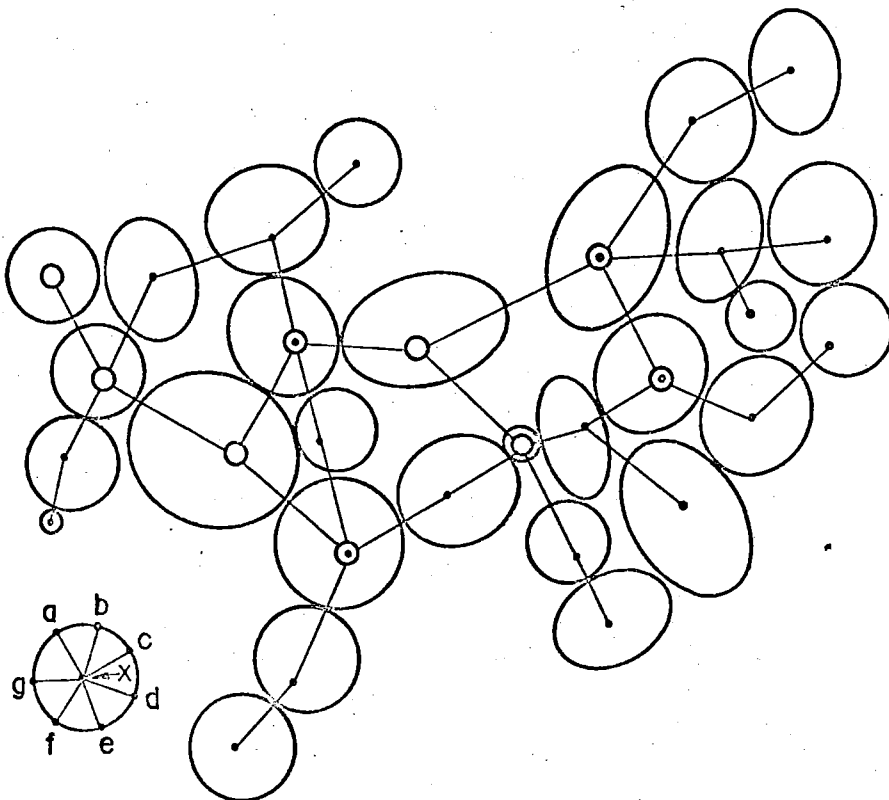
¹It is, by no means, necessarily a primitive form of society, however. Many centuries of cultural development may be required to move a society from a nomadic to a settled form of agrarianism.



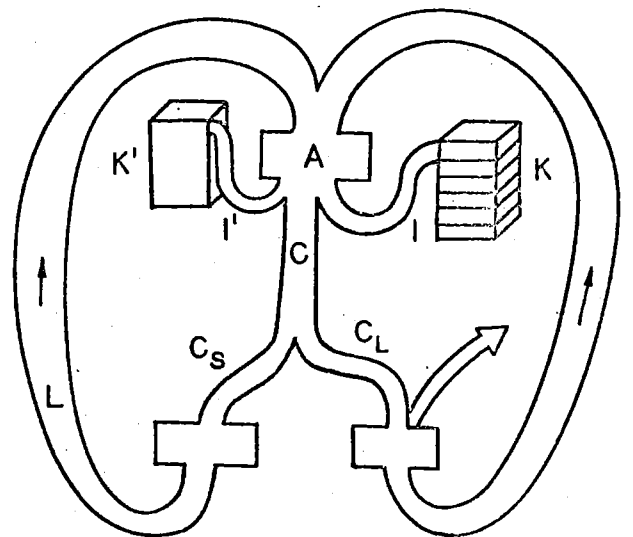
Dia. 1a



Dia. 1b



Dia. 2a



Dia. 2b

consumption (for the serfs C_s and for the lords C_L) or as investment (I) leading to capital accumulation. The stock of capital K is seen to be divided into 12 parts--corresponding to the evenly distributed consumption demand during each of the 12 months of the year--to remind us of the basic wage fund characteristic. While the serfs supply the necessary agricultural labor force (L), the lords supply their services in respect to the management of the capital stock K, as a wages fund.¹ The right of the lords to management is maintained and perpetuated partly by ideology (e.g., religious or feudal), partly by brute force, but mainly by the necessity for all to accept some form of social organization to ensure law and order. In fact, the *raison d'etre* of simple agrarianism, which contributes to its long run stability, often rests on the ground that the cultural life of the lords is taken by most as the very end purpose of the existence of society. This was the picture presented by Quesnay and the Physiocrats.

The nature of the involvement of capital with labor in simple agrarianism is suggested by the very term "wages fund"--namely its function is to feed the workers in anticipation of the next harvest. This also explains the central fact that the capital stock (K) is proportional to the population (L) where the proportionality factor θ in $K=\theta L$ depends upon and is positively related to the "degree" of divergence between the production and consumption periods.² It follows that investment per head (I/L) in such a society must

¹The lords have the right to exact services and payments in kind and are in charge of settling disputes, maintaining justice, granting loans, etc.

²For example, if there are two crops a year instead of one the needed capital stock is halved. The determination of the magnitude of " θ " is analogous to that of the modern transaction velocity of money.

be proportional to the population growth rate with the same proportionality factor, i.e.,

$$(1) \quad I/L = \frac{dK}{dt} / L = \theta \eta_L).$$

For example, in case the population growth rate is constant (i.e., $\eta_L = .003$) the investment per head is also constant. Thus with population constituting the major investment demand, growth can be said to be population pushed.

Where land supply is not a constraint the tasks associated with "savings" are automatic and performed routinely and almost subconsciously. Any sense of economic progress beyond this simple sideward motion is not only foreign but basically repugnant. For the society is mainly a traditional society with per capita consumption maintained at constant levels and economic growth controlled by population growth.¹ In short, simple agrarianism represents that long epoch of stagnation which persisted for many centuries in medieval Western Europe. This presents the essential outlines of the workings of simple agrarianism; let us now turn to an examination of mercantile agrarianism into which simple agrarianism evolved.

Mercantile Agrarianism

Change and progress in the agrarian society can be closely identified with the increasing impact of mercantile activities--i.e., interregional and international economic arbitrage carried out for the sake of profits. It is the growth in the volume of trade and its geographic spread which constitutes the central growth phenomenon of mercantile agrarianism (approximately

¹When land scarcity is a factor some slow improvement of crop practices or innovation must occur to offset diminishing returns. The authors deal with this situation in their "Agrarianism, Dualism and Economic Development" in The Theory and Design of Economic Development, edited by I. Adelman and E. Thorbecke, The Johns Hopkins Press, 1966.

1500-1750). To be sure, the major form of economic production--measured in terms of value added or population involved--continued to be agricultural. However, it was the penetration of this agrarian system by mercantile activities dedicated to interregional trade that gradually transformed the latter--gradually ridding it of the local self-sufficiency attributes and substituting in its place an integrated economic system covering a larger space, ultimately the entire national economy. What sharply differentiates mercantile agrarianism from simple agrarianism is the newly erected social infra-structure pertinent to this particular type of trade-related space economics. The structure in evidence by the end of the mercantile agrarian epoch in the middle of the eighteenth century can be depicted symbolically by a tree-star structure,¹ as depicted in diagram 2a. There are two sets of ideas which we intend to convey by this abstract tree-star structure. One set of ideas refers to the nodes or vertices (as represented by θ , o, • and the edges (as represented by link segments) connecting the nodes. While the nodes stand for communities of human settlement--" θ " for city, "o" for town and "•" for village.--the edges stand for transportation and communication links connecting these communities. The second set of ideas refers to the stars, represented by the circles in diagram 2a surrounding the nodes, which may be construed to represent a geographic area of agrarian activity from the production standpoint. In these areas economic activities are

¹Both these terms are borrowed from linear graph theory and are used in a heuristic and non-rigorous fashion here. A rigorous definition of a tree is a linear graph which is connected and circle free (i.e., free of loops) and signifies that there is one and only one path between any two nodes. Thus rigorously a tree corresponds to a primitive transportation system linking all the cities. Rigorously a star is a number of nodes (e.g., a.b.c.d.e.f.g. in diagram 2a which are connected by one edge each to a vertex (e.g., X) which is the center of the star. Thus the nodes (abcde) of the stars correspond to rural families and the center (X) is the village which is the focal point of activity of a number of rural families.

carried out around the center of gravity at the node or the center of the star. Thus while the trees (i.e., the nodes and the edges) signify the existence of a significant interregional pattern of connectivity, it is the stars that carry the spacial significance with respect to given geographic areas. The means of transportation can be assumed to be fairly primitive, and hence the maximum distance between the center of the star and any point inside the star is such that it takes at most a day to complete a round trip by walking. In a densely populated country the inhabitable land space can be considered as covered by stars.

It is hoped that this tree-star structure will facilitate our attempt to describe the mode of operation of the mercantile agrarian economy. In order to contrast this mercantile agrarian system sharply with simple agrarianism, we also present in diagram 1b a graphic description of the latter. In this diagram there are only stars; the absence of a meaningful tree structure is intended to convey the locally self-sufficient nature of the agrarian economy.¹ Thus, it is the establishment of the trees--i.e., the trading routes--which transforms the simple agrarian economy into a regionally or nationally integrated economy.

Mode of Operation of Mercantile Agrarianism

The basic structural characteristic of mercantile agrarianism is that the economy now moves away from its monolithic emphasis on agricultural production. Instead it is the coexistence of agricultural and non-agricultural ways of life which now becomes its basic structural characteristic. For

¹This use of stars to describe a simple agrarian society emphasizes not only its relative backwardness but also its rather advanced state relative to really primitive nomadic societies where even such geographic focal points for permanent community activity do not exist.

simplicity, in relation to our tree/star structure, we may think of the cities and the towns as corresponding to the trade sector, as it emerges out of increasingly regularized regional agricultural markets and trade fairs, with the small villages, which constitute the center of the stars, representing the purely agricultural communities. In conformity with this emerging new trade sector is the emergence of a new capital concept which now includes inventories of food (K), which serve as a wages fund, and inventories of agricultural produce, possibly semi-processed, (K'), which together make up what may be called the commercial capital stock.

Given the infrastructure of a tree-star network, the mode of operation of the mercantile agrarian economy at any given time can now be described in diagram 2b, a slight modification of diagram 1a. Total agricultural output A is now seen to be divided into 3 parts: consumption C, investment in the wages fund I, and investment in commercial capital I'. These two types of investment lead to the augmentation of the wages fund K and the commercial capital stock K'.

The wages fund (K), continues to bridge the gap between the production and the consumption periods in agricultural output, as in simple agrarianism. The appearance now of a need for commercial capital (K') is due to two factors, namely the non-coincidence of production and consumption periods among producing areas and the time consumed in transport. Given these basic factors the demand for this form of capital (K') is proportional to the volume of trade (T), (i.e., $K' = \theta' T$).¹ Let us assume that the volume of interregional

¹Where θ' is the factor of proportionality. For example, other things being equal, the demand for commercial capital decreases when the needed transport time decreases or another region with more complementary production pattern enters into the trading orbit. Both of these events would be reflected in a decline of θ' .

trade (T) in such an economy is mainly a function of the size of the "trade margin", i.e., that portion of total output which is not self-consumed. Then $T=Lq$ where L is total population and q is the per capita "trade margin". Let us approximate q by $q = p - c$ where p is the average labor productivity and c is the per capita consumption of self-consumed goods. Then $K' = \theta' L(p-c)$. From this we can see that per capita investment in commercial capital $I'/L = \theta'(p-c) \eta_L$ where η_L is the population growth rate. If we add the traditional demand for capital as a wages fund to this (see 1), the total commercial investment per head required becomes

$$2) \quad I/L = (\theta + \theta'(p-c)) \eta_L$$

Simple as this formula might be it does serve to emphasize two distinct ideas related to the growth promoting forces in mercantile agrarianism. In the first place, growth is population pulled, i.e., investment per head is proportional to the growth rate of the population (η_L) as in the case of simple agrarianism.¹ But, in the second place, the growth promoting forces are now also determined by--i.e., proportional to--the size of the agricultural trade margin $(p-c)$.² Thus it would appear that in a mercantile agrarian system economic growth is both population pulled, as before, and agricultural productivity pushed.

¹As long as there continues to be no problem of diminishing returns on the land.

²In a predominantly self-sufficient economy $p-c$ is close to zero. As agricultural productivity increases, the trade margin is likely to increase, not only absolutely but also as a fraction of p with consumer preferences becoming more diversified with higher income levels. Thus $(p-c)/p$ is an increasing function of p (or c/p is a decreasing function of p). In the formulation in the next section we shall approximate this phenomenon by the assumption that c is approximately constant as p increases through time.

Cumulative Growth Under Mercantile Agrarianism

At this point let us advance the hypothesis that there is interaction between I' and p , i.e., that the accumulation of commercial capital in turn contributes to the increase of agricultural productivity. Under this hypothesis, commercial capital accumulation will in turn result in an increase of the trade margin $(p-c)$.¹ This increase will in turn lead to a faster rate of capital accumulation and thus reinforce the p -raising process. In this way we can depict a process of cumulative growth in the mercantile agrarian system. It should be emphasized that these forces making for continuous increases in agricultural productivity are new to the agrarian economy and contrast sharply with the picture of long run stagnation gripping the simple agrarian system. To provide a slightly more rigorous formulation of this argument, let us assume that the increase of agricultural productivity is proportional to the change in the commercial capital stock per head, with j , the factor of proportionality, defined as the productivity enhancement coefficient:

3) $dp/dt = j I/L$ implying, by (2) that

4) a) $\frac{dp}{dt} = A + Bp$

where $A = j(\theta - \theta'c) \eta_L$

and $B = j\theta' \eta_L$

b) $\eta_p = A/p + B$

c) $\eta_p = B$ (for $p \rightarrow \infty$)

¹Especially with c constant as we have assumed (if c should rise somewhat, it will surely rise less than p).

Thus in the long run the rate of increase of agricultural productivity will always take on a positive value $B = j\theta' \eta_L$. Furthermore the long run rate of progress is seen to be directly proportional to "j", the enhancement coefficient, which describes the extent to which the accumulation of commercial capital serves to stimulate agricultural productivity. We also see that a higher population growth rate continues to be beneficial in stimulating agricultural productivity in the mercantile agrarian system. This characterization surely is not far from the truth for pre-industrial growth in which population growth and the agricultural productivity-raising effect of markets represent the two primary growth-promoting forces.

The above may be regarded as our central hypothesis on the historical significance of the epoch of mercantile agrarianism, namely that it was mainly through the expansion of trade that agricultural productivity was raised and the tendency to stagnation reversed. This stimulation was, in fact, so strong that, given the benefit of historical hindsight, it rendered the Classical pessimism, based on the shortage of land and diminishing returns, quite irrelevant and artificial. Empirically, we have, in fact, witnessed an agricultural revolution during the period of mercantile agrarianism (1500-1750) which preceded the industrial revolution. Our line of argument in attempting to interpret this real world phenomenon depends, of course, on the strength of the behavioral assumption related to "j", namely on how effectively commercial activities can, in fact, stimulate agricultural productivity. It is to this problem that we will now turn.

Trade and Agricultural Productivity

As we pointed out earlier, when simple agrarianism is compared with mercantile agrarianism the most striking difference is the construction of the trade-related social and institutional infrastructure relevant to the latter,--i.e., the tree-star structure. Operating within the framework of such an infra-structure, the accumulation of commercial capital and of infra-structure serves to link up local economies as part of an integrated regional and, ultimately, national economic system. The immediate tangible effect of such an integration process is that agricultural productivity is stimulated. The causal chain dominating this phenomenon is, however, far from simple since it entails changes in production, in institutional structure, in education, and possibly in ideology. To facilitate this discussion, let us deal with four main factors contributing to the size of j , i.e., to the explanation of how commercial activity stimulates agricultural productivity.

1) The Smithian Division of Labor--The most forceful and well-known factor relevant here is that offered by Adam Smith. In essence his argument can be summarized in three logical steps. First, farm productivity is enhanced by an increased division of labor; second an increased division of labor is rendered possible through greater exchange and trade, i.e., the expansion of the market; and, finally, increased trade results from the accumulation of commercial capital. Referring to diagram (2a) we can readily see the significance of our tree-star structure as a catalyst in facilitating this interregional flow of commodities. The construction of roads, turnpikes and communication links constitute the tree branches through which trade flows, and the provision of social overheads at the center, e.g., warehouses, financial facilities and other necessary urban amenities make the star system

possible. It is through such a system that particular regions can become specialized in the production of those commodities in which they have a comparative advantage.

We believe that the Smithian body of thought (and the old Classical system in general) was directed precisely to a description of this mercantile agrarian society. The Classicists were primarily concerned with depicting an economy prior to the industrial revolution, still heavily agrarian, in which progress--or lack of it--is primarily related to what happens to agricultural production.¹ Their "capital" was basically a synthesis of a wages fund and commercial capital, with the common purpose of expanding the division of labor through trade. Finally, Smith and the Classical School in general were concerned with the limits of the potential advance in agricultural productivity over time. In retrospect we may say that their fundamental pessimism stems from the very fact that the sources of productivity increase are traceable solely to the "division of labor", making it inevitable that diminishing returns, coupled with the shortage of land, could sooner or later be expected to win out.

2) Changes in the Method of Organization--If, for purposes of contrast, we accept feudalism as the modal form of social-economic organization in simple agrarianism, the stability of that society is ensured by the hereditary rights of one class of economic agents (i.e., the nobility) to control another (i.e., the serfs). With respect to the totality of social relations

¹While Smith certainly considered fixed industrial capital, this does not loom large in his analytical explanatory apparatus. As Schumpeter put it: "The manufacturing industry that economists beheld and reasoned about was all along the industry of the artisan." (History of Economic Analysis, New York, 1954, p. 386.)

in such a system, the privilege to own and manage capital goods--i.e., the agrarian wage fund--is merely a "symptom", or manifestation in the economic sphere, of those more fundamental hereditary rights safeguarded by the feudalistic ideology. The coming of mercantile agrarianism, however, heralded a new method of organization namely, a capitalistic approach. While this new system at first coexisted side by side with the old, it gradually replaced it and, as it proved its superior economic efficiency in terms of raising productivity, became the dominant mode of socio-economic organization.

This thesis of the evolution of economic institutions, to which Marx made a major contribution, belongs properly to the domain of the modern theory of organization dealing with matters of incentives, coordination, authority and information. With the emergence of mercantile agrarianism the very right to organize and control the economic affairs of the nation comes to rest increasingly in the hands of those who own and control the commercial capital stock--rather than those of the landed aristocracy. The distinguishing organizational feature of the new system resides in its basic "task-oriented" approach according to which, clearly, sharply defined economic tasks--e.g., production, management, bookkeeping, shipping--are assigned to various groups of economic agents. When such assignments are made on objective grounds independent of any other social obligations which divert the attention of all classes in the feudal system, the performance of the task itself becomes much easier to assess and evaluate; and, in fact, performance based on a task-specific division of labor becomes the sole criterion for reward. The built-in combined incentive and coordinating devices of capitalism are highly conducive to economic progress, partly because of the encouragement given to individual initiative and partly because of the reinforcement provided by the

social prestige attached to the ownership of capital and the power to control which it conveys. Society no longer revolves around the cultural life of the nobility and its needs. Instead, the prominent organizational features of the society now favor individualistic capital accumulation as its main, if not sole, social purpose.

This new "bourgeois" method of organization was first tried and experimented with in connection with the incipient growth of trade and commercial activities. However, with the increasing tendency for these activities to concentrate in settled towns and cities, i.e., with the emergence of the tree and star constellation, the method spread to agricultural production. The well-known tripartite division of labor, a la Smith, in fact depicts this as the dominant model of British rural economic organization with capitalist farmers renting land from the nobility and hiring free labor. In view of the fact that upward of 80% of the population was engaged in agriculture by the end of the mercantile agrarian epoch, this acceptance of the commercial capitalistic form of organization in agriculture may be viewed as among the most remarkable growth accomplishments of the period--contributing immeasurably to the growth of agricultural productivity.

3) Learning by Contact--The Smithian type argument concerning the division of labor and the Marxian-type argument concerning a change in the method of economic organization are complementary and mutually reinforcing. They carry us a large part of the way in explaining why the penetration of the agrarian economy by mercantile activity served to stimulate agricultural productivity. One ensures the increasing production specialization of each locality in each region (i.e., the stars); the second renders specialized

production more rationally efficient and accumulation oriented. But this transformation of the traditional mode of agricultural production into an increasingly modern one was also facilitated by at least two other dimensions of the star-tree structure we have referred to.

The star structure of mercantile agrarianism denotes a pattern of rural life revolving increasingly about the nucleus of the community, i.e., the villages or small market towns which comprise the center of the stars. Such village centers offer, on the one hand, the opportunity for an exchange of products and of ideas through growing human contacts; and on the other, the ever expanding vision of alternative ways of economic and cultural life. It is through these contacts and these ideas that new agricultural practices are devised and new combinations of traditional and non-traditional inputs are tested. Via a first-hand demonstration of viable production alternatives, and the broadening horizons of access to new goods, the farmer behaves increasingly in a profit maximizing, market responsive fashion, i.e., he begins to economize and to accumulate in the fashion of the British capitalist farmer described by the Classical School.

The tree structure implied in mercantile agrarianism not only serves to link the various regions via a transportation network which facilitates the movement of goods, but also by a communications network which facilitates the movement of ideas. The significance of the latter in explaining the agricultural revolution is that it is not only essential for that contact among men which induces inventions but also for the spread of the resulting innovations across land space. The significance of this process is underlined by

students of both Western European development¹ and of Tokugawa Japan.² Historically, an agricultural revolution is usually achieved more via the transmission of best technology, i.e., narrowing the gap between average and best within a country, rather than by the continuing improvement of best technology. The logical force of this argument rests on the grounds that inventions by their very nature are likely to occur in isolated pockets of progress,³ and that a spreading and dissemination process is essential if a revolution of the agricultural economy is to be accomplished. The same infrastructure which serves the expansion of trade among regions, given a state of the arts, also ensures this vital transmission of knowledge affording a change in the state of the arts.

Thus the local star structure, connected regionally and then nationally by a tree structure, is, we believe, indispensable for sustained agricultural development. In other words, agricultural progress is heavily dependent on the extent to which the agricultural sector is linked up and involved with the trading activities outside of that sector.

The star-tree structure offers the individual households stimulation and contacts--on both the consumption and production sides--quite in addition to the directly--and needed--trade-related social overheads, the assured source of supply of agricultural inputs (seeds and fertilizer) and the assured market for agricultural outputs. The more closely knit the economy becomes,

¹.. Cole, W.A., British Economic Growth, 1688-1959, (with Phyllis Deane) Cambridge University Press, 1962.

²T. C. Smith, Agrarian Origins of Modern Japan, Stanford, Cal.: Stanford University Press, 1959.

³Either as a consequence of purely private or social (government) research effort.

i.e., the greater the degree of contact and the flow of goods and ideas through the capillary system of the economy, the greater the mutually reinforcing effects of trade expansion and agricultural productivity growth.

4) Emergence of a National Economy--A final set of factors strongly contributing to the strength of "j" is comprised of what may loosely be called the first wave of incipient nationalism. As feudalism weakened, serfdom disappeared and urban centers gained strength, new nation-states, governed by royalty, began to displace the regionally-oriented nobility. This new spirit of national identity, fed by an enhanced emphasis on the this-worldliness of the Reformation had a number of relevant consequences in the economic sphere.

For one, increasing class mobility tied in with the beginnings of an egalitarian spirit, strengthened the forces of national trade expansion and commercialization emanating from the local level. The related well-documented rise of the Protestant Ethic gave social approbation for the first time to individualistic commercial pursuits. For another, the emergence of the first real national consciousness in replacement of local and regional loyalties provided the necessary ideological cement for commerce following the new-found flag.

But beyond that it also helped provide the physical cement to tie disparate spatial pieces together. This period saw local trade barriers progressively lowered, commercial codes adopted, the sanctity of contract and of private property recognized. It saw national transport and communication networks constructed, a national currency and national financial institutions created. In other words, a viable tree structure was fashioned from a combination of physical overheads and legal-cum-institutional change.

This continuing movement away from self-sufficient and inward-looking simple agrarianism and towards an interdependent outward-looking mercantile agrarianism did not, of course, stop at the boundaries of the newly emerging nation-states. There was trade among the countries of Western Europe; and beyond that the discoveries in the New World and the resulting inflow of species accelerated competition for trade and territory and gave a further substantial fillip to the forces of Western European commercialism. While it is too much to say that a fully articulated network of international trade linking all the national tree structures existed at this point, the vision of extending the Smithian division of labor concepts in time and space led to substantial overhead construction in port facilities, specialized banking and the forging of other linkages between each nation-state and the rest of the world. The previously cited set of relationships between the spreading tree/star structure and agricultural productivity within each country were further strengthened by the advent of new consumption and production possibilities from abroad.

In summary, it was this increasing spread of commercial activity which marked the gradual transition from simple to mercantile agrarianism. The growing importance of commercial capital, occasioned by the requirements of expanded trade and an enhanced division of labor in turn levered agricultural productivity increases and thus capital formation at its source. Moreover, these cumulative ever-expanding forces inevitably led the system towards transition to full-fledged industrial capitalism. We shall turn to this subject in the next section.

Section III. From Mercantile Agrarianism to Industrial Capitalism

The change in the Western European economy from mercantile agrarianism to industrial capitalism occurred in the course of the 18th and 19th centuries. This transition marks a most important landmark in human history, for it indicates the end of an agrarian age which stretched all the way back to the beginnings of civilization when the domestication of vegetables and animals first became a predominant mode of economic production. With the industrial revolution the epoch of modern growth was launched, characterized by rapid structural change and unprecedented, sustained increases of labor productivity and per capita income--far exceeding any achieved or even dreamed of before.

This dramatic change, however, was far from sudden. For the development of mercantile agrarianism had prepared the way and planted the seeds for the new epoch which followed. Z goods production¹ and textile industries existed long before the industrial revolution took hold; and the nature of capital was undergoing subtle changes even in the 16th and 17th centuries. But all we can hope to do here is try to capture the essence of major changes in the mainstream of a society in transition. Let us first return then, in a somewhat more precise and analytical fashion, to the nature of this transformation to industrial capitalism, and then proceed to a discussion of the intrinsic nature of capital, of the method of organization, and of the nature of the growth promoting forces characteristic of that epoch.

Establishment of Dualism

The most striking change in the economic landscape with the arrival of modern industrial growth is the establishment of a form of economic

¹Stephen Hymer and Stephen Resnick, "A Model of An Agrarian Economy Including Non-agricultural Activities", (to be published in the American Economic Review, June 1969).

dualism, i.e., a differentiation of economic life at a higher order of complexity. While the production and living patterns of mercantile agrarianism are far from homogeneous (i.e., a far cry from the monolithic production structure of simple agrarianism) that "dualism" was characterized by the contrast between agrarian production and commercial activity. In contrast, the new dualism which made its marked appearance in the 18th century is characterized by the coexistence of agricultural and industrial production activities each following decidedly different rules of the game.

There are two basic differences between the agrarian-trade "dualism" (of mercantile agrarianism) and the modern industrial-agricultural dualism. The first is that under industrial capitalism we have in existence for the first time a large class of peasants freed from feudalistic bondage and constituting an urban labor force. The second aspect is the existence of industrial fixed capital--plant and equipment--which takes on a productive significance far exceeding that of "mobilizing labor"--the trade mark of commercial capital. The combination and the collaboration (in the production sense) of the newly formed urban proletariat with the fixed capital stock usher in a new mode of production as well as a new mode of economic life in general. Capital, instead of accommodating or, in the main, supporting labor now begins to be in a position to displace labor and to enhance the productivity of the employed labor force. Fixed capital permits capital deepening to supplement the capital widening characteristic of commercial capital.

The contrast in the economic life of rural agriculture and urban industrial production is, in the first place, a contrast in space economics. Referring to the tree-star structure of diagram (2a), agricultural activities are carried out in the areas of the stars, while industrial activities are

centered at the nodes (i.e., the cities). There thus exists a striking contrast between the two production sectors in terms of the relation between population density and the implied frequency of human contact. In industrial production the shaking off of the dependence on land space implies that production in the city is increasingly free from the constraint of seasonality and the uncertainties of weather, and becomes more and more a matter of human endeavor and ingenuity. The extent of the feasible division of labor in agriculture is restricted by nature which renders the simultaneous execution of a large number of diverse production processes less practicable. In industry, on the other hand, production efficiency is limited only by the human ingenuity embodied in the fixed capital designed to cooperate with the labor force--or in changes in the quality of that labor force achieved through education or more informal learning processes. The efficient scale of operations may increase with improvements in human capacity, i.e., increasing rather than diminishing returns are more likely. In short, an urban civilization involving a growing proportion of the total population and contrasting sharply in its economic behavior with the traditional ways of rural life is establishing itself in the cities.

This new dualism came as a natural outgrowth of mercantile agrarianism. The emergence of the new proletariat class resulted in large part from the "push" of expanding agricultural productivity which permitted a declining (rural) fraction of the total population to supply the growing urban class with its physical sustenance. Thus, there emerged for the first time in any really major sense the phenomenon of an agricultural surplus, i.e., food and

raw materials delivered to another sector to sustain its activities.¹ It was this rapid expansion of agricultural productivity and resulting accommodation of an increasing fraction of the total labor force in industrial pursuits that lies at the heart of the transition from mercantile agrarianism to industrial capitalism.

Side by side with the "push" of agricultural productivity increase is the "pull" emanating from the cities without which the new urban working class would not have emerged. In the first place, the very existence of the cities (and the roads leading to them) holds out the promise of a new physical environment and a new way of life to the rural population. In the second place, arrangements must be made to channelize the agricultural surplus so that it will reach this new urban class. Not infrequently these arrangements may be non-market (or institutional) in nature including forced procurement, kinship donation, private charity or public and church relief--conforming to the residuals of medieval mentality. However, more and more such non-economic arrangements are replaced by the transfer--through the market or the government's fiscal power--of the agricultural surplus for productive purposes, i.e., as wage goods for the newly employed urban workers. The new employment opportunities were, in fact, provided by the growth of a fixed capital stock which pulled labor into the cities. Thus the reallocation of labor, the channelization of the agricultural surplus to the industrial sector and the accumulation of industrial fixed capital stock together constitute the basic phenomena in the operation of industrial capitalism.

¹We are distinguishing in this fashion between the "trade margin" of commercial agrarianism and the "surplus" of industrial capitalism. In fact, the distinction becomes somewhat blurred in historical reality when we recall the use of physiocratic "surplus" to support the sterile classes of agrarianism (see the authors' "Agrarianism, Dualism and Economic Development" in Adelman-Thorbecke, op. cit.).

In addition to the "push" of the agricultural surplus and the "pull" of industrial capital accumulation within the domestic economy, the rapid growth of international trade greatly facilitated the process of change in industrial capitalism. The development of foreign trade, which could be viewed as part of a curled tree structure linking the major nodes (or cities) in the domestic tree-star structure to their equivalents in other countries, provided a further major stimulant to domestic real capital formation and industrial employment. By "sending out" one type of agricultural and manufactured good and "bringing in" other goods, and species, a number of direct as well as indirect forces are set in motion which substantially contribute to the vigorous growth of industrial capitalism. For one thing, there is the direct contribution to the accumulation process. The inflow of foreign exchange, a prime policy objective in the early days of industrial capitalism, had inflationary consequences which contributed to the maintenance of a low real wage cum high profit and accumulation pattern domestically.¹ The extension of the tree-star structure to the international arena, moreover, has an important impact on productive efficiency, via the substantial further division of labor made possible. New goods enter consumer horizons and new techniques producer horizons. As transportation and communication arteries thicken and extend, the impact back on domestic agricultural productivity and industrial capital formation is likely to be pronounced. Foreign trade contributes

¹The teachings of mercantilism might be reassessed in the light of this long run development perspective. The mercantilists concentrated their analysis on the emerging industrial sector and advocated a policy favorable to the development of that sector. They may have erred in presenting a partial and perhaps overly journalistic view by emphasizing the sensational aspects of industry and foreign trade and neglecting (or at least not bringing formally into their body of thinking) still dominant agricultural activities. The strong physiocratic reaction to the mercantilists was, in fact, elicited by this unbalanced treatment.

to the pace of monetization and commercialization by increasing incentives as well as providing new and more efficient options to domestic decision-makers.

Nature of Capital in Industrial Capitalism

As mercantile agrarianism gives way to industrial capitalism the preponderant nature of capital changes, with fixed capital becoming increasingly important. The other component is circulating capital which now includes industrial inventories and goods in process as well as retaining its wages fund and commercial capital characteristics. While circulating capital owes its existence to by now familiar reasons, fixed capital provides employment opportunities and, at the same time, serves to augment worker productivity by substituting for labor and serving as a vehicle for the embodiment of new technology.

Given long run historical perspective we can, moreover, note that the weight of social and production significance shifts gradually away from circulating and toward fixed capital. We can gain some idea of the rapidity of this shift on the intellectual plane by recalling that while commercial capital still dominated the Classical System (1780-1830) the situation had practically reversed itself by the time of Marx in the late nineteenth century. Although Marx made a valiant effort to incorporate both types of capital in his analysis of circular flows and growth--and was practically the first economist of any stature to do so--Marxist analysis proper was very much more concerned with fixed capital. This shift in analytic emphasis can be said to have been the very product of the Industrial Revolution. The expansion of

trade--domestic and foreign--and the resulting gains from the broadened division of labor can, after all, have only limited impact on labor productivity in the absence of new capital goods and new knowledge. It must, in time, give way to another more permanent and dependable source of productivity gain, namely that associated with changes in the quality and quantity of the cooperating material agents.

We can afford to be quite brief in describing the evolving method of organization which characterizes industrial capitalism. The owners of the capital stock possess the physical means to control and organize the production process--at least at the beginning of the period. Workers sell their services to those who own the industrial capital equipment and in this fashion become a wage earning class. As Marx points out, capitalists are free to organize and control their workers in such a way as to explore the full production potential offered by the vehicle of fixed capital.

However, Marx did not correctly anticipate the evolution of the capitalist system over time, including the growth of unionism and the increasing separation of the ownership and control of capital goods. Rigid class distinctions between capitalists and workers tend to break down as workers begin to save in substantial volume. Moreover, the trend toward increased government participation in decision-making, occasioned by the sheer size and weight of the public sector and the growing importance of social legislation, was to fundamentally affect the nature of capitalism. Thirdly, there has been the increasingly conscious allocation of resources to investment in human capital, so that we now count many educational expenditures as developmental and are not very far from treating education expenditures as a cost for income tax purposes. Finally--and perhaps most importantly--there have been

other unanticipated changes in the productive significance of capital, e.g., the advent of mammoth institutionalized research expenditures, both public and private, which have left an indelible mark on the nature of capitalism.

What we have been witnessing, in fact, is a transition from industrial capitalism to what may be called technocratic capitalism in which capital stock becomes a function of quality rather than quantity change. Material accumulation retains importance mainly as a vehicle for the accumulation of new knowledge, with the productive significance of the old capital stock fading away rather quickly. We can anticipate the day when the brute act of saving receives less and less credit and reward while the returns to produced knowledge, innovation and education, are continuously enhanced. While this transition to a technocratic capitalism characterized by the expectations of routinized change in the Western world is itself not a major concern of this paper, to view the growth phenomenon in this context can be seen to be of considerable significance for the developing world.

Section IV. Relevance to the Less Developed World

What light, if any, does this account of historical events in Western Europe shed on the conceptual problems of growth, or stagnation, in the developing world? Certainly, as Kuznets has pointed out,¹ there are striking differences in terms of cultural and social heritage as well as the pattern of economic life as between the now developed western countries and the contemporary developing non-western world. But it must also be recognized

¹S. Kuznets, "Developed and Underdeveloped Countries: Some Problems of Comparative Analysis", Zeitschrift für die gesamte Staatswissenschaft, 1968, 124(1).

that, while certain historical events were transpiring on the central European stage, these very events had an important, if less obvious, historical impact on the third world, and consequently on the evolutionary pattern followed by that third world to the present day. Secondly, the historical view serves to enrich our ability to properly conceptualize the problems of present-day underdevelopment and thus hopefully to be more effective in doing something about them.

Parallel Development

The Western European experience with growth indicates the existence of major defineable historical epochs as the system moves from simple to mercantile agrarianism and from there to industrial (and ultimately technological) capitalism. What is clearly needed to fully explain Western growth, therefore, is a theory which deals not only with the rules of behavior within each epoch but also with the necessary and sufficient conditions for transition from one to the next. The implications of this view for the contemporary developing countries are fairly clear. While the epochal view of growth is equally relevant here, we are dealing with a different situation, i.e., with a case of parallel development interrupted by the exogenous forces of colonialism thus leading to a different epochal sequence. We must remember, for example, that the period of mercantile agrarianism in Western Europe, characterized by the expansion of regional economic integration, also coincides with the beginnings of the colonial period in the overseas territories. The opening up of new trade routes and territories helped fuel the expansion

of Western European commercial interests and contributed substantially to the mutually reinforcing agricultural/commercial growth pattern previously described. Colonialism can thus be viewed as the foreign graft on European mercantile agrarianism. Moreover, even after Europe had transitioned to industrial capitalism, this transition remained only partially relevant to the overseas possessions which essentially retained their position as agrarian appendages to the mainstream of dualistic development in Western Europe.

This is not to say that substantial overhead capital formation in the overseas territories did not take place during this period, (e.g., the British in India, the French in Egypt and Turkey). But it is also true that these investments, largely in ports and railroads, were directed mainly to facilitating the outward flow of minerals and raw materials and had relatively little impact on the bulk of the domestic agrarian economy. The enclave commercial sector which was typically created, responding to profit incentives at home, restricted itself to acquiring a cheap labor force from the agrarian hinterland, extracting the exportable primary materials, selling same, and utilizing the proceeds for the accumulation of more commercial capital, including the overheads required for the continued expansion of that enclave.¹ Tracing the full impact of colonialism on the less developed world is too involved for any simple verdict, but it is clear that the creation of externally oriented enclaves under alien control, next to stagnant and relatively untouched agrarian hinterlands, represents a fairly accurate summary

¹For a fuller description of the typical colonial mechanism at work, see the authors' "Agriculture in the Open Economy", paper presented to the Universities-National Bureau of Economic Research Conference on the Role of Agriculture in Economic Development, Princeton, N. J. (to be published).

of the general state of affairs. One can thus say that colonialism intervened to prevent the occurrence of a parallel transition to industrial capitalism. The Industrial Revolution in Western Europe, in fact, added the major motive of raw materials procurement to the earlier missionary, bullion and other, political objectives of colonialism. The colonial interregnum, in short, imposed a different sequence of epochal growth and brought with it a number of handicaps for the task of post-independence development.

The most important of these handicaps is that the social overhead capital formation which had taken place in Western Europe, gradually and unobtrusively over several centuries, did not really come into being in the less developed world. The feeder roads, highways and communication systems which constitute the tree structure--and the fair sites, sewer systems and urban amenities which make the star system possible--were considered almost a natural by-product of Western civilization. Resulting from a large number of decentralized private decisions, such overhead investment was virtually taken for granted by the Physiocrats, the Classicists and Marx, all of whom accorded it a very minor role, if any, in their analytical framework. Yet, while its annual incremental growth was never very spectacular, spread over nearly three centuries (1500-1750), it could make a very substantial difference to the development of Western Europe.

In the overseas territories, on the other hand, colonial policy, which controlled private and public capital, was directed towards the elimination of only such barriers as might interfere with the satisfactory hook-up of the colonial enclave with the economy of the mother country. Internal trade barriers were of no concern to the colonial authorities and were, in fact, even encouraged at times, depending on the size of the labor reservoir in the

agrarian hinterland and the needs of political stability. Colonial policy often found it practical to accentuate rather than reduce regional and tribal differences. As John Stuart Mill put it, these enclaves were viewed as places "where England finds it convenient to carry on the production of sugar, coffee, and a few other tropical commodities", and not as "countries with a productive capital of their own".¹ In fact, such small-scale industry as sometimes did exist prior to colonization was often swept away by the "competitive" (i.e., favored) inflow of goods from the mother country. Early 17th century India, for instance, was generally considered to be more industrialized than Western Europe; but most of this industry was destroyed by the impact of the Industrial Revolution working through the colonial system. In similar fashion, the Japanese colonial effort effectively destroyed Korean handicraft and small industries.

Diversity in the Less Developed World

While we have thus tried to state the phenomenon of parallel development in general terms, it must be emphasized that there exists considerable diversity among individual groups of LDC's with respect to their contemporary preparedness for post-colonial growth. It may be useful to differentiate between two types of diversity. The first, indigenous (or pre-colonial) diversity, encompasses structural, geographic or cultural features which have their origins in the distant pre-colonial past and which continue to play an important role today. It emphasizes the differential state of general cultural and economic preparedness to even begin the task of adequate star/tree

¹J. S. Mill, Principles of Political Economy, London, 1929, pp. 685-6.

construction and should help to keep us from easy generalizations and pointed towards a typological approach to development.

We must recognize, for example, that the Confucian mandarin tradition in China, its emphasis on scholarship in government and education for the elite, proved to be of importance to the ability to resist the physical and intellectual impact of the West. And, as in culturally akin Japan and Korea, the historical continuity of development in China was marked by collective efforts including the construction of a substantial tree/star structure. One needs only contrast this with the tribal semi-nomadic mode of life in pre-colonial sub-Saharan Africa to capture the essence of the point. The relative abundance of good land meant that the establishment of human settlements focussing on the narrow issue of securing an adequate food supply could be downgraded. Slash and burn agriculture with agricultural practices and productivity change virtually unaltered over the centuries could continue even to this day. Under these circumstances little small-scale domestic industry based on the putting-out system and closely tied in with commercial activities even put in an appearance. The post-independence big push for industrialization thus could not count on any of the indigenous regenerative forces which have been cited. In South Asia, we have, typically, an intermediate position: a fairly well-developed local village structure but never linked into a regional or national network. In other words, the stars existed but there was no tree structure in which they could be implanted and from which they would be nourished through time. In South-East Asia, on the other hand, even the village structure is considerably less cohesive; Malaysia, for example, was dotted through the centuries with so-called individual "long houses", with families operating near self-sufficiency and the absence of

collective action for the creation of even minimal social or economic infrastructure. Latin America, near the other end of the spectrum, while blessed with a considerable diversity of its own, is characterized generally by the presence of open lands, rich material resources and sizeable numbers of educated European immigrants. In much of this region, attempts were made to install a full blown industrial sector financed largely from abroad and without much attention to the tree/star structure in the interior. Perhaps partly as a consequence, in spite of the lack of exposure to the most virulent kind of colonialism, even the relatively rich countries of Latin America must still be considered underdeveloped.

Indigenous or pre-colonial diversity is, of course, a very complicated subject on which we can't even hope to adequately scratch the surface. But we know, or think we know, that the star structure helps to indicate the quality of a civilization and the tree structure the extent to which we can talk about a truly regional or national system. It is, therefore, important, in spite of the flimsiness of our evidence, to acknowledge the fact that different societies found themselves in very different states when colonialism intervened and that this can have important consequences for a useful typology of development.

A second, and equally important, manifestation of diversity is constituted by differences within the colonial package itself. We can quickly recognize the aforementioned importance of a distinction between colonial relations achieved by outright military conquest and accompanied by the completely unilateral assignment of specified economic tasks suiting the design of the mother country (e.g., Asia and Africa), and a colonialism which works its will through a combination of predominant economic power and diplomatic

influence (e.g., Latin America). But there are also other, more subtle, dimensions of colonial diversity which need to be recognized. These include differences in methods of resource exploitation and, not independently, colonial policy affecting both the nature of the enclave and its relations with the rest of the economy. The nature of the major colonial export commodity, for example, may be most significant for the way in which the colonial period itself evolves and for the state of the economy's readiness at its conclusion.¹ Colonial policy, in most oil or mineral rich territories has been characterized by relatively little effort to involve much of the local population or effect any major change in the traditional feudal scene. A food or raw material export crop, on the other hand, depending on the extent of the use of local labor, demands some minimal concern for social development, including education and a wider road network. The differences in the state of post-World War II preparation for development in "rich" Saudi Arabia and "poor" India are revealing from this point of view. Colonial policy makers sometimes preferred to import cheap labor from abroad, e.g., Indians to Ceylon, Chinese to South-East Asia, rather than let the growing export enclave impact the domestic hinterland too severely and thus risk instability for the system as a whole. In addition, a closer examination of the colonial policies of various mother countries will probably lead us to the conclusion that, regardless of resource endowment and other aspects of indigenous diversity, colonial powers differed in their attitude towards the quantity and quality of education, and the relative importance of cultural, religious and

¹For a stimulating analysis of such differences, especially with respect to technological diffusion, see R. Baldwin, Economic Development and Export Growth, Berkeley, University of California Press, 1968.

economic relationships with their colonies. We cannot undertake such an examination in the context of this paper. We do, however, believe that such considerations can be shown to add another significant dimension to the diversity within the post-colonial developing world; and that indigenous and colonial diversity, together, provide the basis for a typological approach to contemporary problems of development. Colonialism interrupted the transition from mercantile agrarianism to industrial capitalism in most of the developing world, but progress was arrested at different points and such changes as did occur moved the society in different directions during the colonial period. In this way both the nature and size of the development effort required in the post-war era were profoundly affected.

The Time Dimension

In spite of all this diversity, one more feature which most contemporary developing countries share must be added to our list of handicaps-- namely the well-known problem of impatience. Not only are we confronted with an absence, to a larger or smaller degree, of the necessary tree/star scaffolding patiently built-up over the centuries in Western Europe, but we are faced with the attempt to telescope Western European experience into a few decades. This is partly a function of the famous tide of rising aspirations but also of the demonstrated feasibility of successful moves from mercantile agrarianism to industrial capitalism. No contemporary LDC feels it can wait for the gradual emergence of a tree-star structure resulting, in so many unconscious ways, from the extension of the rural household in Western Europe. The private sector customarily has neither the technical experience nor the required capital market depth to provide the railroads, the highways

and the canals which make up the tree structure. Consequently only conscious collective action can even begin to fashion the kind of a tree/star structure needed to underpin any "quickie" development effort. But while governments may have the desire they clearly do not in most instances have the social organization. Colonial civil services have not been known for the quality of the people sent out from Europe or for attempting to create more than an aptitude for law and order among their indigenous counterparts. Local political leadership and developmental talents were, if anything, purposefully neglected--and national linkages discouraged--all part of the effort to avoid any rocking of the colonial boat. As a consequence, the possibilities of collective action to fill the gap over any acceptably short period of time were severely circumscribed. After all, the infusion of a spirit of routinized change as part of a society's value system is difficult to telescope under the best of circumstances.

Finally, it should be noted that while population growth was probably helpful to Western Europe's transition to industrial capitalism in the manner we have already noted, this is not the case for the higher density contemporary LDC's, experiencing substantially stronger population pressures. In Western Europe the productivity-enhancing interaction between the agrarian and non-agrarian sectors depended on the growth of human contact over an expanding living space--providing increasing returns via incentives and learning processes far stronger than the Ricardian diminishing returns to which we have been exposed in the less developed world. The rapid decline of the death rate in the last two decades, welcome as it has been, does not render the telescoping effort any easier.

The example of Japan may usefully be cited here as a late-comer nation which did not, however, face many of the difficulties we have just been dwelling on. Japan did succeed in telescoping 250 years of Western European experience into 50. But if we accept the notion that the pre-industrial star/tree structure indicates much about the quality of a civilization--at least from the point of view of potential economic progress--Japan was well prepared at the time of the Meiji Restoration. Her village structure was far advanced, her population homogeneous and securely linked by a well-articulated semi-religious, semi-cultural kinship system under one Emperor. There was relative freedom from colonialism, certainly of the direct and even of the indirect type, and a strong sense of national purpose in achieving quick economic growth as a means of maintaining that independence. What resulted was a transition from mercantile agrarianism to vigorous growth under industrial capitalism, all in the space of less than five decades. As Lockwood put it, "probably the most substantial addition to real national income.....grew out of general improvement in agriculture, handicraft and internal commerce following the removal of feudal restrictions and the unification of the country under a strong central government. Freedom of movement and occupation, the abolition of clan, tariff barriers and tolls.....better transportation..... brought an expansion of the internal market and a rise in productivity."¹

This vigorous interaction between agricultural productivity change and first, commercial, later, industrial growth in non-agriculture has been extensively documented.² In the absence of a colonial interregnum Japan

¹W. W. Lockwood, The Economic Development of Japan, Princeton, N.J.: Princeton University Press, 1954, pp. 17-18.

²See Thomas Smith, Agrarian Origins of Modern Japan, Stanford, California: Stanford University Press, 1959. See also related work on the Southern United States by Nicholls and Tang, Economic Development in the South Piedmont, 1860-1950: Its Importance for Agriculture, Nashville, 1958.

transited successfully--and rather quickly--from commercial agrarianism to industrial capitalism. She was no doubt also very much assisted by the geographic concentration of her population and what must be considered exceptionally low population growth rates, permitting her to avoid the extremes of diminishing returns in agriculture and enabling a rather rapid shift of the economy's center of gravity in the dualistic context.¹ For Japan, Gerschenkron's dictum that the more delayed development "the more explosive the great spurt... if and when it comes"² has applicability. But for the bulk of the contemporary less developed world these aspirations are not matched by the same state of preparation for the task.

Conclusions

We are painfully aware of the danger of attempting to sweep cavalierly across a vast landscape of recorded history. Our only defense against the charge of dilettantism--or worse--is that we mean to do little more within the scope of the present paper than to probe and stimulate. It is our conviction that further exploration of the historical laboratory can substantially enrich our understanding of the process of economic development--as a minimum to serve as a useful guide for future research efforts.

One of the conclusions we believe especially worth recalling is the importance of developing a growth-theoretic typology sensitive not only to major differences in contemporary resource endowment, size, openness and the

¹See Fei and Ranis, Development of the Labor Surplus Economy: Theory and Policy, Homewood, Ill.: Richard D. Irwin, Inc., 1964.

²A. Gerschenkron, Economic Backwardness in Historical Perspective, 1962, p. 44.

like--but also to indigenous historical diversity and subsequent differential colonial experience. While no specific proposals are made within the confines of this paper regarding a suitable framework for such theorizing, we are more convinced than ever that a viable general theory of development will have to be approached via a number of such half-way houses.

Secondly, in fashioning a testable typology those factors which make up the differential hurdles in the way of the transition to industrial capitalism must be carefully weighed. For example, the importance of the tree-star structure for mutually reinforcing growth is based on a recognition that inter-sectoral connectedness is essential for the generation and efficient allocation of an adequate agricultural surplus at each point in time. Once a minimum tree/star structure exists, in addition to the flow of commodities, the flow of saving through relatively "near" or familiar financial intermediaries, and the flow of human resources in search of higher productivity employment, can take place. Where, for one reason or another, say, the intervention of colonialism, this infra-structure is not created, the chances for achieving vigorous dualistic growth suffer appreciably.

The contemporary LDC, of course, faces a very difficult task in its attempt to create the necessary structure overnight. Public sector action seems to be indicated, but not only resources but also the ability of civil servants to make the "right" decisions, in a hurry, is limited. Developing countries cannot wait for the gradual evolution from feudal to individualistic and ultimately individualist/collectivist mixes in the way resources are organized. Instead, the attempt to quickly restructure the post-colonial economy has led many of them into a rather frantic type of public sector

interventionism. Only in very recent years is the bankruptcy of that policy becoming evident and have the lessons of history been taken to heart. While the modernization impulse may well have to come from outside agriculture, without the mobilization of that sector and its full interaction with the rest of the economy via an ever-broadening net of human and market participation, development is difficult to sustain. Nor are the foreign resources needed to continue the costly "big push" industrialization policies of the past likely to continue to be available.

Finally, the advent of technocratic capitalism in the developed countries may have other important implications for the achievement of successful growth in the less developed world. As the new technology embodied in the latest vintage increasingly swamps the importance of physical capital accumulation proper, in the mature economy, the technological gap between rich and poor continues to widen. Consequently the pattern of technological borrowing by the developing countries is increasingly divorced from their endowment in resources and ingenuity, and the burden on innovational adaptation and diffusion within the LDC's rises. What we consequently observe in the less developed world anxious to make the transition to vigorous dualistic growth is low, and declining, employment elasticities of output. Given higher than historical population growth, the resulting rising unemployment--whether rural or urban, disguised or open--represents both current output lost and future opportunities missed in terms of the dynamics of domestic growth--not to speak of the social and political tensions induced. We know all too little about the methods of bridging this gap between galloping technocratic

capitalism and stagnant post-colonial systems, anxious to telescope Western European history into a few decades. But surely it involves some choice between investment in formal education and learning by doing, and between attempting to create an intermediate technology and assisting the adaptation and diffusion processes via policies of increased popular participation. In making these choices in the course of this current (second) effort at post-colonial restructuring the developing economy cannot afford to continue to neglect the lessons of history.