

*Reflections on the Concept of "Prerequisites"  
of Modern Industrialization*

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THE concept of historical prerequisites of modern industrialization is a rather curious one. Certain major obstacles to industrialization *must* be removed and certain things propitious to it *must* be created before industrialization can begin. Both in its negative and its positive aspects, the concept seems to imply, if not the historical inevitability of industrialization, at least the notion that it must proceed in a certain manner; that is to say, through certain more or less discrete stages. Along with it goes the idea of the uniformity of industrial development in the sense that every industrialization necessarily must be based on the same set of preconditions. What is meant, of course, is not the common-sense notion that in order to start an industrial plant certain very concrete things are needed. The concept refers to long-run historical changes.

It would be easy to reject the concept out of hand as a classic example of historical determinism and to leave it at that. This, however, might be regrettable. To be sure, determinism, historical or other, is beyond the boundary line that circumscribes scientific endeavors. It is quite possible that complete knowledge of the world would reveal to us that every event has been inevitably preordained. It may not reveal that at all. How can we know what we would know if we knew? At the same time, however, we cannot approach historical reality except through a search of regularities and deviations from regularities, by conceiving events and sequences of events in terms of

constructs of our mind, of patterns, of models. There is an infinite variety of possible models, each one of them subject to change and rejection. And yet, as long as we think in terms of a given model, we are all determinists in the sense that we pose a certain interrelation, or sequence, of events and phenomena which is "inevitable." Within this "denaturalized" meaning all scholarly work is deterministic, except that we remain determinists subject to notice, as it were, in the never-ending process of constructing models and discarding them.

Therefore, it may be quite worthwhile to look more closely into the question of prerequisites of industrial development, however rigid the concept may appear on the face of it. It is precisely the purpose of the following pages to discuss the connotations of the concept and to see whether or not it can be divested of its dogmatic character and perhaps be placed within some broader and less stringent explanatory patterns.

## I

Although the concept of prerequisites seems to have rather firm connotations, the individual factors that have been considered prerequisites have been rather loosely defined. Very frequently, a rather curious procedure has been followed. One first takes a look at something like an "ideal type" of preindustrial economy, say, the medieval economy in Western Europe of the fourteenth century, and emphasizes a social framework within which the opportunities for growth were rather restricted. Thereupon, in a cinematographic shift, attention is moved to a modern industrial economy. The change in landscape naturally is striking. The inventory of economic progress is enormous: a large politically and economically unified territory; a legal system assuring the rights of the individual and satisfactory protection for property; a store of technological lore; increase in productivity in agriculture rendered possible by the elimination of the open-field system and distribution of common pastures; availability of labor supply of various skills; an entrepreneurial group willing and able to calculate and to innovate; availability of capital for long-term investment; nonexistence of guild restrictions; wide and absorptive markets; and so forth and so on.

Then, with a slight twist of the pen, all those basic traits of a

modern economy are declared to be "prerequisites" of industrial development. This, no doubt, has rather discouraging implications as far as development of backward countries is concerned. Have they really to create all those conditions *before* they can embark upon the process of industrialization? Obviously, some of the factors listed are not prerequisites at all, but rather something that developed in the course of industrial development. Moreover, what can be reasonably regarded as a prerequisite in some historical cases can be much more naturally seen as a product of industrialization in others. The line between what is a precondition of, and what is a response to industrial development seems to be a rather flexible one. It might be possible to indicate some regularities according to which the relevant phenomena might be found on the one or the other side of that line.

As was said before, the idea that there are some fundamental prerequisites of industrial development implies a view of that development characterized both by a high degree of generality and by specific discontinuities. Let us select from the rather hybrid listing of various prerequisites the one of "capital availability" and try, with the help of this example, to discuss at some length the nature, the validity, and the usefulness of the concept.

When availability of capital is turned into a prerequisite it assumes the form of "original accumulation of capital," a concept given currency in Marx's famous Chapter 24 in Volume One of *Das Kapital*. There, Adam Smith's concept of previous accumulation hitched to the period of production of the firm, so matter-of-fact and so short-run, was turned into a magnificent historical generalization. It referred to an accumulation of capital continuing over long historical periods — perhaps over several centuries — until one day the tocsin of the industrial revolution was to summon it to the battlefields of factory construction.

The concept found a considerable resonance in terms of a large body of literature. Perhaps its last faint echo, mainly designed "to amuse the curious," was Keynes's reference to Drake's booty as the fount and origin of England's foreign investment.<sup>1</sup> We are concerned here neither with the specific treatment of the problem by Marx nor with the further discussions and controversies in which Sombart's

<sup>1</sup> John M. Keynes, *A Treatise on Money* (London, 1930), II, 156-157.

somewhat grandiloquent and, alas, so thoroughly unsuccessful attempt to "solve the riddle of bourgeois wealth"<sup>2</sup> played such a large part. It matters little that Marx chose to connect his concept so intimately with the early land-enclosing movements in England, to place so much emphasis upon the redistribution of *existing* wealth, and to allow himself to be deflected into the question of preindustrial accumulation of labor. Modern research has cast a good deal of doubt on some of Marx's empirical findings, particularly on his evaluation of the English enclosures in the sixteenth century. The relative significance of the alleged sources of original accumulation — piracy and wars, exploitation of colonies, trade, enclosures, urban rents, influx of precious metals — is rather immaterial for our purpose, except of course for one basic fact: industrial profits could *not* be regarded as a source of original accumulation without negating the very nature of the concept. And this is indeed the problem.

If for the moment we consider original accumulation analytically rather than historically, and try to perceive the pattern of industrial development of which the concept is an integral part, the pertinent question is: why should development proceed in this fashion at all? Why should a long period of capital accumulation *precede* the period of rapid industrialization? Why is not the capital as it is being accumulated also invested in industrial ventures, so that industry grows *pari passu* with the accumulation of capital? To the extent that this happened, Marxian "originality" of accumulation would be reduced to the modest size of Smithian "previousness." In other words, nothing would remain of the specifically Marxian concept. Therefore, if one wishes to defend it one must exclude the contingency of a gradual industrialization and assume that, for one reason or another, industrialization either comes as a big spurt or does not come at all. There must be a certain specific discontinuity about the development which makes it possible to discern with reasonable clarity the beginning of the process.

In the light of the discussions in recent years, it is not difficult to think of conditions which would make for a "rapid spurt or nothing" situation. One can either argue technologically, as it were,

<sup>2</sup> Werner Sombart, *Der moderne Kapitalismus: Die vorkapitalistische Wirtschaft* (Munich-Leipzig, 1928), I:2, 381f.

from the point of view of the minimum capital needs of an industrializing economy, having in mind the technologically required minimum size of the individual industrial firm and the availability of technologically required inputs which represent outputs of other firms. These considerations of indivisibility *cum* complementarity appear on the supply side and were presented with particular clarity and ingenuity in Dahmén's concept of development blocks.<sup>3</sup> Alternatively, or conjointly, one can argue from the demand side, postulating an industrial development along a broad front as the necessary condition of successful industrialization; the new enterprises created in the process in different branches of the industrial economy sustain their growth by the mutual demand for each other's products. If industrialization comes as a spurt, it must demand considerable capital and is therefore predicated upon the existence of sizable "preindustrial" accumulations of capital. In the spurt these accumulations appear essentially as claims on current output and render possible a deflection of resources from consumption to investment which is sufficiently large to sustain the high rate of industrial growth. This is a rather self-contained view in which the prerequisite and the resulting industrialization are indeed logically connected.

On the other hand, the idea that a conjunction of many different factors is necessary for successful industrialization lies on a somewhat different, though obviously related, plane. It may make sense to say that industrialization cannot begin as long as, say, most of the population is held away from industrial employment by a rigid system of serfdom. The sudden abolition of the institution may indeed adumbrate the beginning of industrial development. Such a beginning may be marked clearly enough. But one could not on the basis of such a reasoning *alone* argue that the capital requirements of such an industrial development will be particularly high. One would have to introduce some additional considerations in order to make this plausible. The abolition of serfdom may have released some latent entrepreneurial talent, some pent-up demand, and the like. But discontinuities of this sort do not stem from the nature of the process of industrialization.

<sup>3</sup> Erik Dahmén, *Svensk industriell företagarversksamhet* (Stockholm, 1950), I, 70.

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One would look in vain in Marx's discussion for any explicit mention of the fundamental connection between preindustrial accumulation of capital and the subsequent industrialization. Curiously enough, the only explanation provided refers to the abolition of feudal restrictions, that is to say, to a rather incidental circumstance (incidental from the point of view of the concept). But this is of little interest. It cannot be gainsaid that the concept of original accumulation, if properly restated, has a rather modern touch. It testifies to the brilliance of Marx's intuition.

Moreover, the intuition is not just analytical. It is also historical. The more we learn about the nature of the industrialization process in a number of now advanced countries, the greater becomes the assurance with which we can assert that in very many cases the industrial development, after a certain period of preparation, assumed the form of a big spurt, during which for a fairly considerable length of time the development proceeded at an unusually rapid pace. Whether we look at the history of modern industrialism in England, France, Germany, Russia, or Italy, we can discern such upsurges in the growth of industrial output. Actual historical cases cannot, of course, conform with precision to the postulates of an analytical pattern. It is only with a grain of salt that those spurts of industrialization can be regarded as truly "initial." And still, bearing the necessary qualification in mind, it does make sense to say that most of the important industrializations in Europe started in the form of more or less violent industrial revolutions.

Perhaps a few words on that controversial term may be in order. The concept of the Industrial Revolution in England has been frequently criticized. What happened was very much in the nature of what Huizinga once called "inflation of historical concepts." Just as the concept of the Renaissance, originally securely anchored in the sixteenth century, was torn away from its moorings and allowed to drift backward into the preceding centuries, so also the start of the Industrial Revolution began to be shifted from the eighteenth to the seventeenth century, and further on into still earlier periods, the original meaning melting away in the process. All this was done in veneration of historical continuity which was, and perhaps still is, a fashionable concept with some writers. Now, historical continuity is

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used rather confusedly in at least three different senses. Continuity may mean that the historical roots of a given phenomenon reach very far back into the past. That, of course, is indubitably true as a general proposition and is, in fact, the basic justification of all historical work. Yet it says little about the actual course of historical processes, in particular whether such a course is revolutionary or evolutionary. To give an example from political history: Peter Struve, the great Russian economic historian, once remarked that the Russian political revolutions of this century occurred *because* Empress Anne, in 1730, had torn to shreds the draft of a constitution presented to her for signature by members of the high aristocracy.<sup>4</sup> This view may or may not be valid, but, assuming for a moment that it is, the fact that the roots of an event must be sought in a remote past does not necessarily make it evolutionary. As revolutions go, the Russian revolutions of 1905 and 1917 were revolutionary indeed. At the same time, continuity is used to indicate periodic recurrence of events on a broad historical scale. It is in this sense that one — again rightly or wrongly — operates with concepts like neomercantilism, particularly when, as in the case of Lipson,<sup>5</sup> it connotes the return to the "normalcy of planning," a fulfillment of a natural pattern in the course of which the wind returneth according to its circuits. Finally, continuity is also made to imply a very gradual change, the degree of which is hardly perceptible, in the sense of the motto, *natura non facit saltus*, Alfred Marshall chose for his *Principles*. Now, one may abhor revolutions and any rapid change; alternatively, one may find history without revolutions insufferably dull. The problem, however, is not one of personal likes and dislikes. Nor is it simply one of ascertaining the correct facts. In a sense, speed and changes in speed are arbitrary concepts. To the extent that we deal with measurable phenomena, they depend on the specific averaging techniques used in determining the rate of speed and acceleration. They depend on the length of the period chosen. These choices in turn must depend on the requirements of the problems under study. What is a revolution for one purpose may be seen as a very gradual change in another. A concept is as good as what can be

<sup>4</sup> *Sotsial'naya i ekonomicheskaya istoriya Rossii* (Social and Economic History of Russia) (Paris, 1952), p. 314.

<sup>5</sup> E. Lipson, *A Planned Economy or Free Enterprise* (London, 1946).

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discovered with its help. If by "revolution" we understand in the first instance nothing more than a sudden upward change in the rate of growth of industrial output and if, in addition, such accelerations in speed as we do ascertain can be regarded as an independent factor in the process of growth because important characteristics in the process of industrialization tend to vary significantly with changes in speed, then economic historians can ill afford to ignore the existence of industrial revolutions. And indeed the revolutions which stare out at the historian from many of the long-term indices of industrial output in Western Europe cannot be ignored precisely because so many important factors of industrial development are so peculiarly correlated with those big spurts of early industrialization.

So far so good. But perhaps not good enough as far as the concept of original accumulation is concerned. True, the existence of initial periods of rapid growth *prima facie* speaks in favor of the concept. If no such periods were ascertainable, the concept could have been dismissed out of hand. As it is, further discussion is in order. There is still the question of whether in actual fact original accumulation can be considered as having materially aided the countries concerned during the period of their rapid industrial growth.

## II

Before we touch on this crucial aspect of the problem, a few specific difficulties with the concept of original accumulation might be briefly mentioned. Also, this concept has been subject to "inflation," the beginnings of the process being shifted farther and farther back to the very start of the modern era and, with some writers, even farther back to the high noon of the Middle Ages.

A good deal of historical material assembled in support of the concept actually purports to show that in some earlier historical periods some people managed to become quite wealthy. But over long historical periods wealth is not only created but also destroyed. The Fuggers had acquired an amount of wealth that was unprecedented in the history of Europe. That wealth was largely acquired through connections with political powers but it was also destroyed by these connections. The South German wealth accumulated at the turn of the

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fifteenth and sixteenth centuries had written an important page in the story of European economic development. Export of technology and of modes of business organization from South Germany fertilized far-away areas. Those activities broke the period of deflationary pressures that had greatly contributed to the economic stagnation of Europe in the preceding period. But all this hardly fits any reasonably understood concept of original accumulation. The wealth of the Fuggers, dissipated in power politics and war finance, went up in the smoke of innumerable battlefields and was given the *coup de grâce* in the Spanish bankruptcies.

If we could assume for a rash moment that Sombart was right in his theory of urban rents as a source of medieval wealth, one still would have to ask: "What of it?" There would be still an obligation to follow through the history of that wealth up till the time of the great upsurge of German industrialization in the second half of the nineteenth century. Naturally, no one has attempted to do that, and one may be right in supposing that we know what the answer would be without too much investigating. In other words, the concept of original accumulation is not just a magnificent generalization; it is *too* magnificent a generalization, in the sense that in order to accept it one has to make abstraction from equally magnificent details, such as the economic impact of the Thirty Years' War upon Germany.

It is extremely doubtful, therefore, whether thinking in terms of very long historical periods of preparation for the industrial spurt makes good historical sense. On the other hand, when the period of original accumulation is foreshortened and reduced to a less extravagant length, other difficulties remain. It is easy to say that a wealthy country will find it easier to launch the period of rapid industrialization. As an abstract statement such a proposition is unexceptionable. In historical reality, however, simple availability of wealth will be helpful for industrialization only if it is assembled in the hands of the people who either will be willing to invest it in industrial ventures themselves or, alternatively, are willing and able to pass it on in one form or another to those who are immediately engaged in industrialization. In any case, it must be wealth in a form which either directly or through some financial transformation is capable of being so passed on. One can think of many historical cases where wealth, even though

potentially available and available in an appropriate form, will not in fact reach the industrial entrepreneurs. An inveterate tradition of hoarding may constitute an effective barrier. Apprehensions on the part of the landowning classes lest industrial development deprive them of their position of pre-eminence within the community may have similar effects. Merchants who have a good deal of liquid capital at their disposal may be quite unwilling to make their capital available for industrial ventures because such ventures would disrupt the putting-out system in which they may have direct and important interests. In short, there is no assurance at all that previously accumulated wealth will in fact be made available for industrial investment finance.

The problem, however, is not so much that "original accumulation" must be further qualified before it can serve as a historical prerequisite of modern industrialization. It is rather to find out under what special conditions the concept, even when duly qualified and deprived of its original magnificence, can be regarded as a true prerequisite of industrial development, and under what conditions it may be difficult, impossible, or unnecessary to attribute a great deal of significance to it. With this question we approach the second previously mentioned implication in the concept of prerequisites of industrial development: namely, the assumption of a uniform process of industrialization evolving in such a way that the industrialization, when it occurs anywhere on the globe, repeats in all essential characteristics a process of industrialization that had taken place previously in some other country or region. It would seem that such an assumption leads to a much too simplified view of industrial processes in general, and particularly in their initial phases.

This, of course, is not to raise once more the specter of the "unique and individual" in history. Enough has been said before to suggest that the point is not to reject broad patterns as such, but to select patterns appropriate to the problem. Moreover, up to a point, a uniform pattern of industrial development is quite reasonable. Industrialization everywhere means increase in the volume of fixed capital; it means changes in technology, economies of scale, transformation of agricultural laborers and small artisans into factory workers; it means appearance of men, willing and able to exercise the entrepreneurial function.

Time and again the industrial development of Europe has been described in terms of a general pattern constructed upon the empirical material gleaned from English economic history. Such an approach is not without merit. Precisely because there are common features in all industrializations, it possessed and still possesses some explanatory and even predictive value. To concentrate upon these general aspects of industrialization may be quite useful for some purposes. But it is equally true, as always when the level of generality is pitched very high, that as one moves deeper and deeper into the subject one is bound to come across things in one area or another that do not fit the general model. When that happens, the historian, after he has refused to ignore the uncomfortable irregularities, is faced with two alternatives. He may regard those things as exceptions and treat them as such. Or else he can attempt to systematize the deviations from the original pattern by bringing them into a new, although necessarily more complicated, pattern. This is not something peculiar to economic history; rather, it is the path along which all scientific progress must move. Perhaps the historian who deals with broad and important phenomena has reason to be particularly aware of the problem and to remember that in principle every historical event that takes place changes the course of all subsequent events. The Industrial Revolution in England, and for that matter in other countries, affected the course of all subsequent industrializations.

This writer has felt for some time that some additional insights and a more profound understanding of the processes of European industrializations can be obtained if, instead of working with an undifferentiated uniform pattern of industrialization, one would consider the processes of industrial development in relation to the degree of backwardness of the areas concerned on the eve of their great spurts of industrialization. Such a view has distinct advantages inasmuch as it makes it possible to regard crucial features in the industrial evolution of the individual areas not as specific peculiarities, idiosyncrasies, or exceptions to the norm, but as part and parcel of a system of gradations of backwardness. Such a view has a direct bearing on the question of preindustrial accumulation and the problem of prerequisites of industrial development in general.

It is not necessary to present here more than the briefest possible

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outline of this general conception, and the reader may find a fuller treatment elsewhere.<sup>6</sup> But two relevant points may precede such a summary. The question as to what is "an intelligible area of study" is faced in any attempt at interpretive history. Intelligibility, of course, must be defined in terms of the problem at hand. Simon Kuznets once detailed the reasons for which a country, taken as a political unit, should be regarded as a basic area of observation in studies of economic development. He referred to the fact that neither the subdivisions within the country nor blocs of several countries constituted more significant units; he mentioned that data are usually available in terms of "states," and he clinched his argument by saying that a country presented a compact "bundle of historical experience." All this is indubitably correct.

Yet it is equally true that one cannot understand the industrial development of any country, as long as it be considered in isolation. Backwardness, of course, is a relative term. It presupposes the existence of more advanced countries. Moreover, it is only by comparing industrialization processes in several countries at various levels of backwardness that one can hope to separate what is accidental in a given industrial evolution from what can be reasonably attributed to the historical lags in a country's development. And, finally, it is only because a backward country is part of a larger area which comprises more advanced countries that the historical lags are likely to be overcome in a specifically intelligible fashion.

The other point refers to the measurability of backwardness. Is it an operational term? If the levels of output or income per capita of the population could be regarded as a satisfactory measure of backwardness, one would not be too far away from a satisfactory solution. In fact, one would be just as far away as the availability and quality of the data *and* the index-number problem would allow. Even so, serious problems of measurement must be encountered. Projecting outputs of different countries against the screen of the price system of one given country may lead to a widely different ranking of countries as compared with the ranking that would result from the use of the price system of another country. In practice, only the price system of the most advanced country in the group could be chosen because of

<sup>6</sup> See Chapters 1, 4, 7, and 8 of this volume.

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the more limited range of output and accordingly of available price data in a more backward country.

But can a definition in terms of per-capita output suffice? Obviously, the level of per-capita output may be the result of unfavorable climatic conditions or of poor endowment with natural resources. While not impossible, it would be hazardous indeed to weigh the output data by the reciprocals of resource endowment and climatic propitiousness. Moreover, such conditions which make for high or low output in a preindustrial branch of the economy may, within limits, become more or less relevant after the big structural change has been ushered in and the industrialization launched.

Finally, it is not clear that output, however measured, is a fully satisfactory gauge of the degree of backwardness. One might want to define the degree of backwardness in more dynamic terms. And that would involve asking to what degree a country at a certain moment had developed the preconditions for subsequent economic development. Assume a country A where, say, per-capita output and resource endowment are equal to those of country B, but in the latter country a much larger percentage of the active population is illiterate, thus creating an obstacle to a rapid acquisition of industrial skills; or assume that in country B, for religious reasons, the people consider urban ways of life displeasing to the Lord and are deeply rooted in the soil, while such sentiments are quite alien to the inhabitants of country A, where there is a great and widespread willingness to respond to the call of pecuniary incentives. Would it not make good sense to include such factors, and many others of similar importance and bearing, in the concept of degree of backwardness? Obviously, this would be a hopeless enterprise. There is no precise system of weights by virtue of which disparate factors could be brought together over a common denominator; nor could we possibly determine the precise quantities of the pertinent factors to which those weights could be applied. One has to conclude, however reluctantly, that "degree of backwardness" defies exact measurement. But just how discouraging is a conclusion of this nature? It is important to have drawn it to prevent misleading notions and false hopes. On the other hand, it is far from clear that a high degree of precision is required for the purposes of historical analysis.



The purpose of such analysis is to associate certain differences in the historical process with the absence or presence of certain features in the economies concerned. If the cases with which we have to deal are sufficiently discrete and if, in addition, the individual factors on the whole tend to point in the same direction, then we may hope, without aspiring to any exact measurement, to be able to wield our material in such a fashion as to glean from it some meaningful and not altogether unimportant answers. And, indeed, as we look upon the economic scenery of nineteenth-century Europe, riveting our attention, say, to the midpoint of that century, few would disagree that Germany was more backward economically than France; that Austria was more backward than Germany; that Italy was more backward than Austria; and that Russia was more backward than any of the countries just mentioned. Similarly, few would deny England the position of the most advanced country of the time. Whether we think of levels of output, the degree of technological progress achieved, the skill of the population, the degree of its literacy, the standards of honesty and the time horizon of the entrepreneurs, or a number of other similar factors, we get roughly identical answers. In practice, we *can* rank the countries according to their backwardness and even discern groups of similar degree of backwardness.

The main proposition we can then make with regard to countries so ranked is that, the more delayed the industrial development of a country, the more explosive was the great spurt of its industrialization, if and when it came. Moreover, the higher degree of backwardness was associated with a stronger tendency toward larger scale of plant and enterprise and greater readiness to enter into monopolistic compacts of various degrees of intensity. Finally, the more backward a country, the more likely its industrialization was to proceed under some organized direction; depending on the degree of backwardness, the seat of such direction could be found in investment banks, in investment banks acting under the aegis of the state, or in bureaucratic controls. So viewed, the industrial history of Europe appears not as a series of mere repetitions of the "first" industrialization but as an orderly system of graduated deviations from that industrialization.

## III

To return at length to the main problem of this essay, we may ask what happens to the concept of uniform prerequisites of industrial development in a world that is far from being uniform. In particular, what happens to the concept of preindustrial accumulation of capital? We have seen that what makes preindustrial accumulation of capital potentially meaningful is the discontinuity of industrial development. We have suggested that, the higher the degree of backwardness, the more discontinuous the development is likely to be. Does this mean that, the more backward a country, the more important was the previously accumulated wealth? Could this conclusion be further strengthened if one considers that in nineteenth-century Europe the capital-output ratios tended upward and, accordingly, the later a country industrialized, the higher was the rate of growth during its big upsurge of industrialization and the greater were its capital requirements per one percent of increase in output?

There is little doubt that in reality the opposite seems to have taken place. The building of factories in England no doubt benefited considerably from the existence of manifold sources of private wealth. One of the characteristics of the English development was that, in conditions of considerable antecedent progress, there was much willingness on the part of individuals to invest in industrial pursuits. But, in the more backward countries on the European continent, neither the size of previous accumulations nor the sympathy with industrial development was consonant with the much greater capital requirements of a delayed industrialization. The focal role in capital provision in a country like Germany must be assigned not to any original capital accumulation but to the role of credit-creation policies on the part of the banking system. It is true that the banks also collected and passed on to entrepreneurs both current savings and some previously created assets that could be converted into claims on current output, but this is much less significant.

When one moves on to even more backward areas where the spurts of industrialization were even more delayed and even more violent, such as Russia in the last decade of the century, one again would find it difficult to attribute a crucial role to any preindustrial



accumulations of capital. There it was the budgetary policies of the state that must be considered as the strategic factor in capital supply. This is not to say that this was the only available source. Capital imports were considerable. Preindustrial wealth played some part. Plowed-back profits could not be denied all importance even in the early stages of the process. Much remains to be done in the study of capital formation in Russia in the nineteenth century. But this much seems clear: all the other sources do tend to pale into insignificance compared with the role of budgetary finance of the new and growing industrial enterprises. If a somewhat sweeping expression is permissible, one might say that original accumulation of capital was not a prerequisite of industrial development in major countries on the European continent.

It would appear, therefore, that not very much has remained of the concept of original accumulation of capital. First, it had to be reduced temporally by limiting the length of the periods to which it could be reasonably applied. Then, it had to be further reduced, this time spatially. One might want to conclude that there is no general set of prerequisites valid for all times and climes and that each case must be studied independently. Yet it would be unfortunate if this negative conclusion were taken as a renunciation of a comparative approach to the problem. The framework which has been sketched out in the preceding paragraphs would seem to open up different possibilities. As has been intimated before, one way of defining the degree of backwardness is precisely in terms of absence, in a more backward country, of factors which in a more advanced country served as prerequisites of industrial development. Accordingly, one of the ways of approaching the problem is by asking what substitutions and what patterns of substitutions for the lacking factors occurred in the process of industrialization in conditions of backwardness.

One thing is obvious. Illiteracy and low standards of education, and the resulting difficulty in training skilled labor and efficient engineers, can be overcome to some extent by immigration from more advanced countries and to some extent by using the training facilities of those countries. The same is true, even more importantly, of the lack of a store of technical knowledge. It can be imported from abroad. In this sense, however, one can say that in a backward country there

exists a "prerequisite" to industrial development which "the" advanced country did not have at its disposal, that is, the existence of the more advanced countries as sources of technical assistance, skilled labor, and capital goods. In addition, the existence of capital-abundant areas abroad has a bearing on the problem of original accumulation. To the extent that capital can be imported from abroad, the importance of previously created domestic wealth is *pro tanto* reduced. It is true, however, that the *tantum* never was excessively large. Even in Russia of the 1890s, according to this writer's computations, capital imports constituted but a relatively small portion of total capital made available for the purposes of industrialization; this is true even if very low capital-output ratios are assumed for calculating total capital formation during the period. On the other hand, capital import, unlike transformation of previously created wealth into titles on current output, implies the possibility to invest without lowering the rate of current consumption; similarly, the opportunities for imports of capital goods from abroad, if they are financed by such previous accumulations of bullion and plate as may exist in the backward country, also avoid reduction in levels of consumption. That is something which neither the credit-creating policies of banks nor the government policies of tax-financed expenditures can achieve. It is another question that a government engaged in the policy of vigorous industrialization, as was the Russian government in the 1890s, was in a position to tap otherwise inaccessible founts of credit.

Considerations of this sort, however, do not begin to exhaust the range of possible substitution patterns. The question as to why industrialization occurred under the aegis of the banks in the moderately backward areas in Central Europe and under that of the state in the more backward areas farther east can at least partly be answered in terms of absence or presence of certain prerequisites. What effectively prevented banks from engaging in industrial investment in Russia of the nineteenth century was *inter alia* the impossibility of building up an effective system of long-term bank credit in a country where the standards of commercial honesty had been so low and where economic, and particularly mercantile, activities and deceit were regarded as inseparably connected. "He who does not cheat does not sell," taught the economic wisdom of the folklore. Well-staged and repeated

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bankruptcies were regarded as almost normal steps on the road to wealth. In these circumstances, the government even felt impelled to issue specific injunctions against involvement of banks in long-term credit operations.

In a sense, in Russia the activities of the government effectively substituted for the lacking prerequisite of minimum acceptable standards of commercial honesty. The existence of the prerequisite in Central Europe made possible a different, much more decentralized type of industrialization finance. But one could go further and inquire into the reasons of the differences in standards of commercial honesty in, say, Germany and Russia. To be sure, many an answer to such a question could be found. For instance, the badly delayed emancipation of the Russian peasantry must have had a good deal to do with it. The institution of labor services bred mendacity and deception. The serf-entrepreneurs had many excellent reasons to deceive their owners. The legal uncertainty with regard to peasants' property rights was hardly designed to educate the mass of the population in the spirit of respect for contractual obligations. Yet probably no less important was the absence in Russia of a tradition of urban independence. A sociology of economic honesty still remains to be written, but there is little doubt that over large areas of Europe the historical experience of the craft guilds, with their attempts to increase and to maintain standards of quality and reliability, was of considerable importance in forming the business ethics of the community. One could argue, therefore, that in a country like Germany it was the historical training school of the craft guilds that served as a prerequisite to industrial development by making it possible to substitute the prerequisite of original accumulation by the more efficient banking policies rather than by the less efficient and more costly bureaucratic controls. When in the seventeenth century a keen foreign observer, Yuri Krizhanich, cogitated on the ways and means to reform the sloth and dishonesty of the Russian artisans and traders, the introduction of craft guilds suggested itself to his mind as the most natural remedy.<sup>7</sup> An attempt to create the guilds by government fiat, as was later tried by Peter the Great, could not yield the same positive results as did their

<sup>7</sup> *Russkoye gosudarstvo v polovine XVII veka* (The Russian State in the Middle of the Seventeenth Century) (Moscow, 1859), pp. 28f.

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spontaneous evolution in Western Europe. One might say, then, that in Russia the government's policies of industrialization also had to function as a substitute for the missing prerequisite of craft-guild experience.

To give another example: cause and effect are usually intermingled in the discussion of the relationship between the enclosure movement and the industrial progress in England. But it is clear that the latter was materially aided by the growth of productivity in English agriculture that took place during the eighteenth century. But here again government action may be regarded as a substitute, however unpleasant, for the prerequisite of increases in food supplies. To be sure, the transformation of virgin steppes in the south of Russia into arable widened the food basis somewhat. Still, the period of the rapid industrial spurt in Russia in the last decade of the century occurred in conditions of a grave crisis in agriculture. To some extent, the crisis was caused by the fact that industrialization was financed, and, among other things, food supplies to the cities and for export were made available, through confiscation of peasant income and to some extent even through capital depletion. It is true, of course, that all such processes were later dwarfed by the agrarian policies of the Soviet government and its incomparably more ruthless exploitation of the Russian peasantry. Yet the Soviet case is a very peculiar one, and for many reasons prerevolutionary Russia seems to provide a much more "normal" case for a discussion of specific patterns of substitution in the process of industrialization.

Along with increases in food supplies, the increase in supply of labor for the needs of the nascent industries is usually mentioned as the factor which imparts to agrarian reforms the character of a prerequisite. The deliberate preservation and even strengthening of the Russian village commune through the emancipation procedure of the 1860s and several subsequent measures certainly tended to inhibit the formation of an industrial labor force in Russia. Permanent renunciation of the right to land allotment involved considerable financial losses; a member of the village commune working in cities was subject to recall to the village; for decades, departures for work in towns required permissive action on the part of village authorities and family heads. All these were serious impediments to a movement

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which in any circumstances had to overcome a good deal of ingrained reluctance and inertia.

The finality which attended the move of a landless laborer from the East Elbian estates to the Ruhr Valley was more seldom reproduced in Russia. As a result, a labor force permanently committed to the factory increased much more slowly than might have been the case otherwise. But, to some extent, this deficiency was substituted for by specific entrepreneurial decisions with regard to the volume and character of capital investment in Russian factories. The difficulties in creating a reliable and steady labor force were at least partly compensated for by a choice of more labor-saving equipment in a number of industrial branches. At the same time, in other branches of industry the large labor-force turnover was met by the introduction of more modern machinery, simpler in operation, for which the necessary learning time was shorter and therefore more reasonably related to the prospective duration of employment. In this way, what might be called the basic propensity of a backward country to concentrate on the areas of most recent technological progress, and thus to utilize a specific advantage of backwardness, was further intensified.

#### IV

It has not been the purpose of the foregoing pages to present more than a few examples; nor has it been intended to qualify and elaborate the relationships touched upon. The purpose rather has been to point out the great elasticity and variability in the industrialization processes that are known from historical experience. It would seem that the lack of something that might be regarded as a *general* set of prerequisites of industrial development does not necessarily diminish the heuristic value of the concept of prerequisites. It is precisely by starting from that concept and by trying to understand how a given country managed to start its process of industrialization despite the lack of certain prerequisites that one can arrive at some differentiated and still coordinated view of industrialization in conditions of graduated backwardness. As we look at the later stages of the process, we find that what may have functioned as a prerequisite and, in a sense, as a "cause" of industrialization in one country appears as an effect of industrialization in another. This serves to reinforce and to complete

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the present approach to industrial development. This process of a belated "normalization" of the development is also likely to be understood more clearly if it is related to the degree of backwardness of the areas concerned.

On the other hand, there is, of course, no intention to infer that absence of certain "prerequisites" should be regarded in any way as "advantages of backwardness." It is largely the existence of such advantages that makes it possible to overcome the lack of preconditions for economic progress. But the process as a rule was a costly one. It would be a fruitful undertaking in research to explore and perhaps to measure and compare the difficulties, the strains, and the cost which were involved in the various processes of substitution which have been discussed in the preceding pages. The sovereign disregard for the human cost of such substitutions has been perhaps the most characteristic feature of Soviet industrialization over some three decades.

At the same time, however, it may be in order to suggest that past historical experience may justify a measure of optimism with regard to the general prospects of industrialization of backward countries. What is meant is not simply that past industrializations occurred in the face of considerable obstacles and deficiencies. In viewing the historical record one cannot fail to be impressed with the ingenuity, originality, and flexibility with which backward countries tried to solve the specific problems of their industrial development. There is no *a priori* reason to suppose that the underdeveloped countries which today stand on the threshold of their industrial revolutions will show less creative adaptation in compensating for the absence of factors which in more fortunate countries may be said to have "preconditioned" the initial spurts of rapid industrial growth. One can only hope that in drafting the maps of their own industrial progress they will be eager to select those paths along which they will be able to keep down the cost and to increase the yield in terms of human welfare and human happiness.