

RIVAL VIEWS
of
MARKET SOCIETY
and Other Recent Essays

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VIKING

3. Linkages in Economic Development

I originally defined a linkage (or linkage effect) as a characteristic, more or less compelling sequence of investment decisions occurring in the course of industrialization and, more generally, of economic development. In putting forward the concept in *The Strategy of Economic Development*, I implicitly criticized the then dominant Harrod-Domar growth model in which growth depends only on the capital-output ratio and on the availability of capital as determined by the propensity to save and the inflow of capital from abroad. More generally, the concept arose from a perspective contesting the conventional representation of an economy where natural resources, factors of production, and entrepreneurship are all unequivocally available in given, if scarce, amounts and need only be efficiently allocated to various activities for best results. Instead I contended that "development depends not so much on finding optimal combinations for given resources and factors of production as on calling forth and enlisting for development purposes resources and abilities that are hidden, scattered, or badly utilized." This view led me to search for various inducing and mobilizing mechanisms. The resulting "strategy of unbalanced growth" values investment decisions not only because of their immediate contribution to output, but because of the larger or smaller impulse such decisions are likely to impart to further investment, that is, because of their linkages. The strategy has important implications for investment planning: it

proposes that dynamic considerations, based on the linkages, should be allowed to complement the criterion of static efficiency.

BACKWARD AND FORWARD LINKAGES

For countries undertaking to industrialize in the second half of the twentieth century, two sequences held promise for generating this sort of extra pressure toward investment. First, an existing industrial operation—relying initially on imports not only for its equipment and machinery, but also for many of its material inputs—would make for some pressure toward the domestic manufacture of these inputs and eventually would also provide a market for a domestic capital goods industry. This dynamic I called *backward linkage*, since the direction of the stimulus toward further investment flows from the finished article back to the semiprocessed or raw materials from which it is made or to the machines which help make it.

Another stimulus toward additional investment points in the other direction and I therefore called it *forward linkage*: the existence of a given product line A, which is a final demand good or is used as an input in line B, acts as stimulant to the establishment of another line C which can also use A as an input.

The stimuli toward further investment are rather different for backward and forward linkages. The pressures toward backward linkage investments arise in part from normal entrepreneurial behavior, given the newly available market for intermediate goods. But there may also be resistance against such investments on the part of established industrialists, who prefer to continue relying on imported inputs for price and quality reasons. At the same time, state policies often favor backward linkage investments (which hold out the promise of foreign-exchange savings and of a more "integrated" industrial structure) through the promise of tariff protection and through various preferential foreign-exchange and credit allocations, particularly in periods of foreign-

exchange stringency. The pressures toward forward linkage investments come primarily from the efforts of existing producers to increase and diversify the market for their products. In contrast to backward linkage, official development policy is not likely to be much concerned with promoting them, but wholehearted support will come from existing domestic producers—that is, from those who produce inputs for the to-be-linked industries.

The linkage dynamic made it possible to visualize the industrialization process in terms of an input-output matrix, most of whose cells would be empty to start with, but would progressively fill up in large part because of backward and forward linkage effects. This close connection with Leontief's input-output model, which was being given its first practical applications through the computation of input-output tables for various national economies in the 1950s, contributed to its favorable reception and probably gave it a certain advantage over related attempts at describing the dynamic of industrialization, such as Rostow's "leading sector," Perroux's "propulsive industry," or Dahmén's "development block." On the other hand, this connection sometimes made for too mechanistic a concept of the linkage dynamic, which is strongly influenced, as just noted, by state policies and other institutional factors.¹

The connection with the input-output model made it appear that measurement of backward and forward linkages would be easy, but this was largely an illusion. Input-output analysis is by nature synchronic, whereas linkage effects need time to unfold. In a country setting out to industrialize, existing input-output tables cannot reveal which additional industrial branches are likely to be *created* in the wake of industrial investment in a given product line. The input-output framework is even less suited to tracing backward linkage effects toward the machinery and equipment industries. Nevertheless, once a developing country has a fairly broad industrial base, so that the expansion of a given industry or the coming on stream of a new one leads primarily to the *expansion* rather than to the *creation* of other industries,

¹See Raj, "Linkages in Industrialization and Development Strategy."

the measurement of linkage effects through statistical devices based on input-output tables becomes more meaningful.

The technical problems of measurement of backward and forward linkages have been widely debated.² The most elaborate attempt at measurement has been carried out by a group of economists at the Employment Program for Latin America of the International Labor Office (PREALC) in Santiago, Chile, whose primary interest was in the direct and indirect effects of investments in a given industry on employment, rather than on industrial expansion in terms of output.³ Employment (as well as output) linkages, based on the backward linkage concept, were calculated for six Latin American countries (Mexico, Brazil, Chile, Colombia, Peru, Guatemala) with the help of available input-output tables for one or two years of the 1970s. One of the more interesting findings concerned the distinction between large and small firms. Since small firms are comparatively labor-intensive, investment is generally thought to be more employment creating when it is directed to them rather than to large-scale industry. This was indeed the case for the less industrialized countries included in the study. But for the more advanced Latin American countries with a broad industrial structure, the difference virtually disappeared: because of the interdependence among large and small firms, an expansion of large-scale industry created as much employment—once the linkages, that is, indirect effects, are taken into account—as investment in small-scale industry. This counterintuitive result has implications for industrial and employment policy.

Given the difficulties of measurement, the linkage concept has been more influential as a general way of thinking about development strategy than as a precise, practical tool in project analysis or planning. In addition, it has contributed to the understanding of the growth process. It clarified the political economy of late industrialization and shed light on the earlier phase,

²See in particular *Quarterly Journal of Economics*, May 1976.

³See García and Marfán, *Estructuras industriales y eslabonamientos de empleo*.

during which the countries of the periphery were integrated into the world economy as exporters of primary products. I shall discuss these two areas of application in turn.

LINKAGES AND INDUSTRIALIZATION

The backward linkage dynamic is particularly important for the newly industrializing countries of the twentieth century because their industrialization has often started with the imparting of "last touches" to a host of imported inputs and then worked itself backward, in contrast to the process in the older industrial countries which of necessity had to proceed in a more "balanced" way, that is, with all industrial stages—finished, semiprocessed goods and machinery—being created more or less in tandem.⁴ For the late industrializers of the twentieth century, vigorous pursuit of the backward linkage dynamic was therefore essential for achieving an industrial structure of any depth. Industrialization following this sequential, staged path became widely known as Import-Substituting Industrialization (ISI).

The centrality of backward linkage in the ISI process had important and somewhat contradictory social and political consequences. On the one hand, the original entrepreneurs of the process (those who started it through "last touches" industries) were often erstwhile importers who, in periods of foreign-exchange shortage, found it profitable to manufacture from imported inputs the finished articles they no longer could procure from abroad. Hence the importance of traders, frequently recent immigrants, and of foreign firms in the process and among the entrepreneurial groups. The often noted comparative weakness of the "national bourgeoisie" in the late industrializing countries may in this manner be related to the pattern of industrialization.

⁴See my "The Political Economy of Import-Substituting Industrialization in Latin America," *Quarterly Journal of Economics*, February 1968; reprinted in *A Bias for Hope*.

But the sequential unfolding of ISI was also responsible for a rather different characteristic: a good part of the newly emerging industrial establishment is likely to be tightly held by a few large-scale, vertically integrated family firms or "groups."⁵ As long as industries were first established to occupy the last stage of manufacturing, with major inputs being imported, the firms operating in that stage would often be anxious, if only for reasons of quality control, to own the upstream factories that would be founded later to supply those inputs; and they would have the means to do so (with some help from financial institutions, of course) precisely because, between setting up one stage of manufacturing and the next, considerable time would elapse permitting accumulation of investible funds.

The resulting concentration of part of industrial production in a few vertically integrated "groups" sometimes coexists with the preeminent role played by immigrant minorities or foreigners. These two characteristic aspects of ISI have made for a third: in many countries the state-promoted public enterprises that were meant to counteract or to preempt excessive domination over the industrial establishment either by foreigners and immigrants or by a few powerful private monopolistic groups.⁶ Another reason for direct state intervention was that private industrialists frequently preferred to continue to rely on foreign suppliers of semi-processed and capital goods—this occasional resistance to backward linkage is yet another characteristic of ISI.

In the 1960s, the ISI process began to be faulted on two opposite counts: for running out of steam before accomplishing a great deal, and for being pushed to unreasonable and uneconomic lengths. Both critiques, originating of course in different camps, have sometimes been made simultaneously, with varying justifications. One group of critics posited an early stage of ISI, which was alleged to be "easy" in comparison to a later stage, when the easy stage is "exhausted" and further progress in pushing backward linkage—toward the more "basic" intermediate or

⁵See Leff.

⁶See Jones, ed., chapter 2.

capital-goods industries—runs into various obstacles: the size of the market is too small, the capital needed is too large to be raised locally, and the technology is controlled by transnational corporations. If these obstacles effectively stop further progress, industrialization is denounced as “stunted” and as “lacking integration”; alternatively, if it proceeds with foreign capital in key positions, industrialization, originally hailed as a harbinger of national emancipation, is viewed as bringing on a new “dependency,” more insidious and debilitating than the earlier forms. Furthermore, O'Donnell suggested in 1975 that the problems of transition from the “easy” to the “difficult” stage of ISI bear some responsibility for the breakdown of democracy and the rise of authoritarian regimes in various Latin American countries during the 1960s and 1970s. Not much of this thesis, however, survived the animated debate to which it gave rise.⁷

A very different critique of an industrialization that has backward linkage as its principal engine emphasized the danger of doing too much rather than too little, because of the misallocation of resources the process was believed to entail. This neoclassical critique pointed out, for example, that, given the nature of the ISI process, the *effective* rate of protection granted to domestically produced finished articles was much higher than appeared from the nominal rates, because of the large proportion of the total value of these articles that was imported, usually at much lower or zero rates, as intermediate inputs.⁸ While the proposition itself is correct, those high levels of effective protection are bound to decline once the intermediate inputs are in turn produced in the country and would hence be eligible for the level of protection generally available to domestically produced goods.⁹ The more successful the process of backward linkage, the more likely it was, therefore, that excessive levels of effective protection, characteristic of the early stages of the process, would be brought down.

⁷See articles by Kaufman, Serra, and Hirschman in D. Collier, ed., *The New Authoritarianism in Latin America*.

⁸See Johnson.

⁹See Corden.

Customs duties were not the only element in the environment of protection that fostered the new import-substituting industries. An important sheltering device was unintended. In the years after World War II, a number of developing countries experienced inflation. In combination with fixed, hence lagging, exchange rates, the inflationary pressures resulted in long periods of currency overvaluation, which made it necessary to establish quantitative import controls. Such controls generally favored the new industries, with their high requirements of imported inputs and machinery, and the arrangement thus served to subsidize industrial investment and expansion. The subsidy was paid, via the overvalued exchange rate, by the exporters of traditional primary products. The resources that were transferred in this roundabout manner from the traditional agricultural or mining sectors to the emerging industrial establishment could not have been mobilized directly. In the industrializing societies of Latin America, for example, the interests tied to the traditional export sectors were still in a highly influential position, and it was out of the question to tax them outright.¹⁰

While ingenious in the short term, the usefulness of the arrangement was bound to decline with time. The discrimination against exports, resulting from the overvalued exchange rate, was not particularly serious during the first stages of industrial development, when most new manufacturers had their hands full asserting themselves in their own rapidly growing domestic market. Moreover, in the shorter run, export volume of some of the traditional products—tropical tree crops and minerals from existing installations—did not react adversely to the overvaluation. But conditions changed after a decade or two of the postwar industrialization drive. Exports of industrial products (as well as of a new generation of primary products—fish meal, soya, etc.) became possible in the conditions of rapidly expanding world trade characteristic of the sixties and early seventies. Because of scale economies, some linked industries could only be economically justified if export markets could be found for a portion of

¹⁰See Kafka, and Furtado.

their output almost from the start. Finally, the overvaluation interfered with the vigorous pursuit of the backward linkage dynamic itself as long as materials and machinery could be imported at bargain prices. It therefore became desirable to establish realistic exchange rates, to reduce the degree of protection, and to adopt a new set of policies for both continued industrialization and export promotion.

Such a correction of the course of economic policy was not easy to perform. On the one hand, it was resisted by groups that had prospered under the older set of policies. In some countries, such as Chile, on the other hand, the new course was imposed in the form of total reversal of previous policies as though they had been wholly misguided; in the process, considerable damage was caused to the industrial structure that had been built up and unemployment rose to very high levels.

CONSUMPTION LINKAGE

The linkage concept represented an attempt to identify specific powerful pressures toward investment decisions that make themselves felt in a growing economy. The forward and backward linkages are peculiarly direct pressures of that kind. Specially fashioned after observation of the industrialization process in the late developing countries, they were, not surprisingly, able to capture some of its distinctive features and problems, such as its sequential or staged character. Once formed, the linkage concept proved versatile: new types of linkage effects were identified and found useful for the analysis of a wide range of development experiences.

The mechanisms of the new linkages were more roundabout than the backward and forward variety. Thus *consumption linkage* is defined as the stimulus toward domestic production of consumer goods that will be undertaken as newly earned incomes are spent on such goods. In an open economy such goods will often be imported at first, but eventually domestic production will become an attractive proposition.

Consumption linkage is actually the *initial* step in the process of import-substituting industrialization. The backward and forward linkage dynamic can explain the *spread* of industrial activity from an established industrial nucleus, but how is it possible to account for a country's first generation of industrial plants? Many of these have typically come into being in the peripheral countries when increasing domestic incomes originating in export agriculture or mining caused imports of various consumer goods to reach a volume that made domestic manufacture economically attractive. Eventually some of these goods would be exported; as I put it, enjoying the paradox, the countries in question, "tend to develop a comparative advantage in the articles they import."¹¹ This whole process is far from smooth and gradual. Though basically connected with the growth of a country's primary exports, it often acquired special impetus when a period of trade expansion was followed by retrenchment due to world depression or international crisis: then, with demand for the imported articles well established and with imports temporarily unavailable, the incentives to domestic manufacture were strongest. These incentives were usually further buttressed by protective tariffs, at least in the noncolonial countries of the periphery.

Rising imports of consumer goods, such as textiles, into newly developing countries have often been blamed for the decay of local handicraft and artisanal production. It appears that they must be correspondingly credited with laying the groundwork for local industry, through consumption linkages.

The strength of consumption linkages and their effectiveness in inducing industrial development depend not only on the aggregate income stream to which primary exports give rise, but on many other factors, including the distribution of this income. The more egalitarian the distribution of a given income the larger will be the consumer demand for many typical products of modern industry and the more likely does it become that the domestic market will reach the size at which local production is warranted.

¹¹See Hirschman, *The Strategy of Economic Development*, p. 122; for an empirical study, see Teitel and Thoumi.

The early development of manufactures in the northern United States, in contrast to delayed industrialization in the American South and in Latin America, with their much greater income inequalities, has been explained on these grounds.¹² The argument that an egalitarian distribution of income is favorable to growth is, of course, at odds with the more traditional view, which emphasizes the need for capital and therefore for savings, most readily accumulated by the rich.

When domestic income increases because of a boom in primary exports, a good part of it will be spent not on industrial goods but on food, especially in low-income countries. The concept of consumption linkage must therefore be extended to the additional domestic food production that is induced by the rise in exports. In Chile, for example, the rise in nitrate exports in the decades before World War I made for an expansion of wheat production in the Central Valley.¹³ In Ecuador, mounting cocoa exports in the early decades of the century led similarly to an expansion of rice production to satisfy increases in domestic demand for food. Rice cultivation, once introduced, turned out to be well suited to some of the country's soils and climate, so that rice took over as an important foreign-exchange earner for Ecuador when the cocoa plantations were devastated by disease in the 1930s. It may therefore be not just luck if one primary product is rapidly followed by another as a mainstay of a country's exports: the consumption linkage dynamic will on occasion explain a good part of the story.

Recognition of the importance of consumption linkage has substantial implications for development policy. As long as only backward and forward linkages are taken into account, a development strategy that pays attention to the linkage concept is likely to have a proindustry bias. Traditional food-growing agriculture uses a low level of industrial inputs, such as machinery and fertilizer, and is therefore poor in backward linkage effects. Once agricultural techniques evolve, however, and particularly when

¹²See Baldwin.

¹³See Cariola and Sunkel.

consumption linkages are given their due, the expansion of agricultural incomes can be just as stimulating for overall growth as an industrial spurt. Precisely on this ground, recent reappraisals of development strategy favor a tilt of investment priorities toward agricultural improvement.¹⁴ It is, of course, ironic that an analytical tool that originally served to justify the building up of industry in less developed areas should later be used for advocating a quite different development strategy. But this very shift testifies to the acceptance the linkage concept has gained: no matter what strategy is advocated, it is now felt necessary to make the case for it in terms of the vigorous linkage effects that would ensue.

FISCAL LINKAGE

Consumption linkage describes a familiar, spontaneous process: incomes are earned in a new activity and are then spent on goods that, while often imported at first, will eventually be produced domestically. One activity induces another through the market. But new activities can also be established by the state as it interferes with such market forces. The state can tap the flow of income accruing to the exporters through various forms of export taxes, or it can impose tariffs on the imported articles on which a good part of the new export-related incomes will be spent. The resulting fiscal receipts can then be used, among other things, to finance public or publicly supported investment projects. These sequences spell out a new class of *fiscal linkages*.¹⁵ They are again rather roundabout and perhaps unreliable mechanisms compared to backward and forward linkages. Within that category, however, extraction (and subsequent expenditure) of revenue through export taxes has a relatively straightforward character and may be called *direct fiscal linkage*. The raising (and disposal) of fiscal receipts through tariffs on imports, on the

¹⁴See Adelman, and Mellor and Johnston.

¹⁵First so labeled by Pearson.

other hand, involves still more steps and is here labeled *indirect* fiscal linkage.

The choice by the state between direct and indirect fiscal linkage has largely depended on the kind of commodity that is being exported. Export taxes (direct fiscal linkage) have been prevalent in the case of primary commodities produced in enclave conditions—that is, in geographically isolated, often originally foreign-owned plantations, mines, and petroleum fields. It was the very concentration of production in an outlying area, its ownership by one or a few foreign firms, and the ease with which fiscal control over production and export volume could be established that invited the use of taxation at the source. When, on the contrary, the export commodity was produced over a wide, centrally located area by numerous domestic, politically influential producers—as in the case of coffee, cocoa, or other tropical crops—direct taxation was administratively difficult and politically inadvisable. Here the state resorted preferentially to indirect extraction of revenue by imposing tariffs on the imports that would flow into the country as a result of its primary exports.

The idea that the state should take advantage of some existing source of economic growth to stimulate growth elsewhere arose with particular strength in countries where the export product was a clearly *depletable* natural resource, such as guano or petroleum. It was supposed that the state had a special responsibility to use part of the wealth arising from the temporary “bonanza” for developing other “growth poles”¹⁶ that could take over once the original source of export income had dried up. This is the meaning of the phrase “sow the petroleum” that was coined in Venezuela to justify various state-financed regional and industrial development schemes. Direct fiscal linkage has often had this aim of jumping, as it were, from an ongoing activity to a wholly different one, to be created *ex nihilo*, in contrast to the seemingly plodding backward and forward linkages where the new activities are in areas adjacent to the one already in existence. (By definition, an enclave activity is deprived of such adjacent opportuni-

¹⁶See Perroux.

ities.) Unfortunately, such jumps into uncharted territory are very risky, so that direct fiscal linkage has sometimes resulted in white elephants.

But the state does not always act in this "creative" way: more frequently its economic activities have consisted in extending the infrastructure for ongoing economic activity, through investments in transportation (port facilities, railroads, and highways), communication, and, later, power generation as well as health and education. These types of public investment have often been characteristic of indirect fiscal linkage, with the state's revenue accruing primarily through tariffs on imports rather than through levies on exports. In these cases, the export articles that generate the dutiable imports are likely to be agricultural products whose cultivation could be further extended, and the state performs the comparatively low-risk task of facilitating it. At the same time, these public investments can have the result of accentuating the country's economic structure and of relegating it more firmly to its role as a supplier of certain primary products; in the course of colonial development, indirect fiscal linkage has in fact been an important mechanism acting in this manner.¹⁷

LINKAGE CONSTELLATIONS AND THE STAPLE THESIS

I have suggested here that different primary commodities may have affinities for different types or "bundles" of linkages, depending on their economic, geographic, social, and political conditions. For example, the enclave conditions under which certain commodities are produced favor direct fiscal linkage, but exclude by definition any substantial backward and forward linkages. (If such linkages appear, as when the production of crude petroleum is followed by the construction of oil refineries and petrochemical industries, then the resulting petroleum complex loses something of its enclave character.) Correlatively, the non-

¹⁷See Birnberg and Resnick.

enclave characteristics making for indirect rather than direct fiscal linkage—the export staple is produced by numerous domestic producers over wide areas and is marketed by a dense network of traders—should in due course also make for import-substituting industrialization (via the consumption linkages), and for backward linkages once agricultural technology becomes more advanced.

In this manner, the linkage approach has a great deal in common with the staple thesis developed by a group of Canadian economic historians. The most prominent member of the group, Harold Innis (1894–1952), showed in a series of meticulous and subtle studies how Canadian development—transportation facilities, settlement patterns, new economic activities—was shaped by the characteristics and requirements of specific primary commodities—from furs to codfish to timber, minerals, and wheat—that Canada was successively supplying to world markets. The virtue of the linkage approach in comparison to the staple thesis, with its detailed analysis of the impact of one commodity at a time, is that it supplies a few major categories that structure the inquiry and permit comparative analysis of the development paths which different staples are likely to trace out for the economies in which they are embedded. Naturally, a full accounting of the influence of any given staple in a specific environment will uncover a great many additional factors, some of which will be purely circumstantial, whereas others could point toward some further generalizable linkage varieties.

It is a basic tenet of the staple thesis that development of the periphery starts with the discovery of some staple that is in demand in the center. In contrast, the “development-of-underdevelopment” thesis has attempted to show that it was precisely the “successful” development of staples that was responsible for the impoverishment of the periphery: that the staple boom left nothing behind but a depressed area with depleted mines, exhausted soil, and impoverished subsistence agriculture.¹⁸ The historical record contains a number of situations that seem to

¹⁸See Frank.

confirm this kind of analysis: the silver mines of Potosí in Bolivia, the "mining" of guano in Peru, and the sugar plantations of the Caribbean and of Brazil's Northeast. The linkage approach can resolve the apparent contradictions between the staple and the development-of-underdevelopment theses. Like the staple thesis, it was originally devised to explain different patterns of *growth*, but it is easily used to account for stagnation and immiserization. Some or all of the linkages may fail to materialize, and an inquiry into these failures once again permits a preliminary sorting out of some major conceivable reasons for such negative developments. In the case of staples produced in enclave conditions, for example, direct fiscal linkage may of course have appeared not at all or too feebly and too late. Alternatively, the linkage may have operated, but then could have led to misinvestments of the revenue: this was precisely the case in Peru, where revenues were extracted from the mid-nineteenth-century guano boom but were then spent on nonproductive railroad ventures.¹⁹ In the case of agricultural staples, such as sugarcane, produced by slave labor on plantations, there may have been a failure of both indirect fiscal-linkage and consumption linkage, since much of the income accrued to absentee owners and the income distributed to the work force was barely sufficient for subsistence and therefore provided little stimulus for additional food production on a commercial scale, for the importation of taxable consumer goods, and even less for their domestic production.

The various linkages, their possible failures, and their changing constellations make for an increasingly complex pattern of possibilities. Moreover, in some cases a linkage may be an obstacle to development, or at least to a certain kind of development, rather than an asset. This is the case when a bulky staple requires elaborate processing by technologically complex, capital-intensive methods to be transformed into a finished product. Such processing constitutes forward linkage, of course, but in the case of agricultural staples like sugarcane, it means that the growers themselves will often be unable to enter the processing phase,

¹⁹See Hunt.

which will therefore be occupied by outside entrepreneurs; in this manner growers of the staple will be locked into their agricultural activity. The opposite situation obtains when the staple needs little processing and is compact, with a comparatively high value per unit of weight. In this case the growers themselves—generally some member of the family—can handle the transportation and merchandising functions, acquiring new entrepreneurial and urban skills in the process. Actually what goes on here is that the absence of one kind of forward linkage—elaborate, capital-intensive processing—makes for the availability of another forward link, to the merchandising function, that can be taken advantage of directly by the producers. In the tropics, examples of this easy transition from agricultural production to activities in transportation, trade, and eventually to finance and industry are supplied by the story of coffee expansion in Colombia and Brazil. In parts of Greece and of some other Mediterranean countries, the production of olive oil, nuts and raisins, as McNeill has shown, has made for a similarly easy transition from rural to urban pursuits. The same holds true, with less happy overall results, for the production of marijuana, cocaine, and opium.

LINKAGES AND SOCIETY

The linkage constellations characteristic of a given staple not only spell out certain likely patterns of development (or stagnation) but also, through these patterns, influence the social order and political regime of countries where the staple is economically important. I have called the effort to trace such influences "micro-Marxism," the idea being that, in searching for the effects of the "productive forces" on the "relations of production," it may be fruitful to go considerably beyond the macromodes of production—feudal, capitalist, and so on—that Marx specified and stressed. This is particularly so for the countries of the periphery during the period of export-led growth when they were specialized in one or a very few primary product lines, with very different

linkages and characteristics. But even in countries at a different stage of development, knowing the degree of compatibility or affinity between key economic activities and forms of social and political organization can be useful. For example, Wiles, a student of the centrally planned economies, has made a distinction between "left-wing crops" and "right-wing crops," pointing out that products requiring individual attention, such as grapes and certain fruits and vegetables, are particularly unsuitable for collectivized agriculture, in contrast to the more "left-wing" grains, where operations are standardized (with the important exception, one might add, of wet rice, whose cultivation definitely demands "tender loving care"). For the industrialized countries of the West it has been suggested that specific sectors (textiles, steel, chemicals, automobiles) which have been leaders at successive periods of industrial expansion, have each nurtured different "congenial" political forms or tendencies.²⁰

Such micro-Marxist explorations can be insightful, but two qualifications are in order. First, there is no necessary one-to-one relationship between a specific economic activity and a "resulting" sociopolitical regime. The fact that there existed for a long time a mutually supportive and reinforcing relationship between sugarcane cultivation and slavery does not mean that sugarcane does not "fit" just as well into one or several very different social and political regimes. Nevertheless, the number of such fits may well be limited and some sociopolitical configurations could be definitely ill-suited to the development of a certain productive activity or technology.

Second, the causal connection between the productive activity, be it a staple or an industrial complex, and a sociopolitical regime does not flow in only one direction. The analysis has here primarily proceeded from the characteristics of a staple or an industry to their imprints on society and polity. But in many cases it is possible and inviting to reverse the direction of the inquiry: one might ask whether a certain kind of political regime is likely

²⁰See Kurth.

to exhibit a strong preference for the promotion of a certain type of industrial development—such as a petrochemical complex.²¹ Even in the famous case of the sugarcane-slavery complex, the connection probably works both ways: the prevailing technology of sugarcane lent itself to the introduction of an enslaved labor force, but the way of life the conquerors of the New World in the tropics wanted to establish for themselves made them look for the kind of economic activity that would best fulfill their wishes, and from among a number of possible land uses they chose the cultivation of cane by imported slaves as the most fulfilling.

The linkage concept, in short, invites the analyst to pay close attention to the differential technological and situational features of economic activities as a means of detecting how “one thing leads (or fails to lead) to another.” But this focus does not prejudice either the nature or the principal direction of the causal links involved in the complex interactions among technology, ideology, institutions, and development. My contention is simply that the linkage approach has a number of interesting observations to make in this area. It thus challenges other approaches to propose alternative or supplementary interpretations.

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²¹See Evans.