

BOOK REVIEWS

REGIONAL ECONOMIC GROWTH: THEORY AND POLICY, by Horst Siebert,
International Textbook Company, 1969. pp. XII - 217, \$7.00.

Professor Siebert has integrated the spatial dimension into pure growth theory. That this is a major accomplishment can best be appreciated by a reminder that Horst Siebert has successfully generated spatial models of economic development from a regional science that has no usable concept of space and from growth theory that has no adequately tested theory.

This short book is well-written and worthy of careful study by scholars interested in either regional science or economic growth. However, the most cursory review will reveal that this is not a book for neophytes. Its publication should enliven the Regional Sciences in the United States as Dr. Siebert has made some materials accessible in the English language for the first time. Set theory is used to delineate regions, for example, and information theory is applied to the study of interregional factor movements.

Part I treats growth in a closed region. The author analyzes the internal determinants of the growth processes and their impact on the spatial layout of economic activities as well as on regional income. The economic map is identified as a grid with a particular region identified by a set of rows and columns. Unfortunately this definition is still less than operational with our present data limitations. Researchers may assume that a county, SMSA or Federal Reserve District is a region not because it necessarily exemplifies an internal homogeneity and external heterogeneity but simply because it is a region for which data are available. However, the methodology of identification is clarified by use of set theory. Most approaches to the ordering of regions are discussed such as the simulation model or matrix form. Perhaps the only major technique omitted is factor analysis. On the whole, the discussion is excellent with a detailed review of the literature. The materials would perhaps be more useful for classroom purposes had the author provided some empirical examples to amplify the discussion. Unfortunately, even the most advanced students may flounder. Some students will have to work through such materials as those in the Hahn and Matthews survey article before these growth models can be easily handled.¹

One of the most interesting parts of this book is the discussion of the effects on productive capacity of the uneven spatial distribution of technical knowledge. Siebert fails to recognize, or at least clearly explain, the relationship between social systems and the use or development of innovations. The section could have been made more interesting if the author had discussed this aspect of growth by first recognizing that technical knowledge only affects productive capacity when it is implemented and that this transition is affected in some way by the social system.

The readily apparent contribution in this section concerning the closed

¹F. H. Hahn and R. C. O. Matthews, "The Theory of Economic Growth: A Survey" in Surveys of Economic Theory, Vol. II (Growth and Development), pp. 1-124. St. Martin's Press, 1967.

region is the explicit consideration of transport inputs. Transport inputs are defined as a set of resources including transport capital, transport labor and transport land. Earlier it was stated that the latter was too minor to quibble about, yet it is included. Some headway is also made in the study of the impact of changes in productive capacity on spatial structure. Unfortunately this aspect of the discussion is brief and suggests that subregions (spatial points) must be defined and considered to generate a theory of regional economic development. Most of this material reads somewhat like the growth pole and growth center literature. Later, the author makes specific use of these terms and cites the important literature in the field. Both sections on the supply of labor and technical knowledge might have been made more realistic had the effect of changes in the level of human capital investment been evaluated. No doubt the rate of implementation of technical knowledge is affected by educational inputs. One important evidence of this was reflected in the rate of agricultural output during World War II after the pervasive rural education by county extension agents. Another limitation, albeit minor, is the lack of discussion of the differentials in spatial distribution of technical adaptor groups which can generate variations in their effects. One can also visualize a kind of halo effect emanating from the growth of the electronics industry which may have contributed to differential rates of expansion for certain regions. Unfortunately, no such practical examples are even superficially explored in a way that would be helpful to the student.

Part II considers the determinants of growth which are external to the region. The major portion of the book is devoted to this study of development in the open region.² The stimulants to growth analyzed originate outside the region in the form of factor and commodity movements. Although some of this analysis is reminiscent on the one hand of Meade's study of customs unions and Ohlin's interregional trade analysis on the other, it is unusual for its formulation of behavioral hypothesis for studying labor movements.³

One of the relationships posited is that between levels of achievement and target goals on the one hand and willingness to move on the other. Another way in which behavioral expectations are defined is by use of information systems analysis. Dr. Siebert has developed materials here on an interdisciplinary basis which should answer some of the recent criticism of economics for its lack of concern with the formulation of behavioral hypotheses.

Regional economists have been slow to recognize the economic impact of uneven spatial distribution of technical knowledge and those factors generating

² Cf. other major attempts such as Ralph W. Pfouts, Ed. The Techniques of Urban Economic Analysis, Parts I and II on Economic Base Theory or John M. Mattila and Wilbur R. Thompson, "Toward an Econometric Model of Urban Economic Development" in Issues in Urban Economics, Harvey S. Perloff and London Wingo, Jr., Eds., pp. 63-78.

³ Horst Siebert, Regional Economic Growth: Theory and Policy, pp. 53-66.

it. One of the more interesting aspects of this book is the discussion of this phenomenon. Spin-off effects are examined using information flow analysis by establishing economic variables as primary determinants of the rate of flow and implementation of technical knowledge.

The author's use of mathematics and theoretical frameworks throughout the book is rigorous and to the point. Chapter 7 is devoted to specifying general theorems suggested by the simplified two-regional model. Purists will delight in this part of the book, practitioners will have difficulty comprehending it and will wish to argue with several of the theorems. Theorem 2, for example, states "The greater the accumulation of capital and the higher the increase of the labor supply of region I compared to region II, the greater its rate of growth."⁴ One can criticize this theorem for failure to differentiate kinds of labor or at least to indicate that accumulation of capital includes expansion of human capital. Still another example might be Theorem 9: "The stronger the tendencies to equalize regional social characteristics, such as social structures, attitudes, behavior and institutions, the greater the mobility of factors and the smaller the growth differences between regions."⁵ This is rather like the chicken and the egg argument, but it would appear that the relationship may be reversed, namely, the greater the mobility of factors, the greater the tendencies toward equalization of social characteristics of two regions. The movement of labor between the United States and Canada might serve as a good example of this, with resulting effects on the political system very apparent to Canadians.

However, these are only minor criticisms. This opus, although light by page standards, is heavy in content. Specialists in international trade, growth, regional science or human resource economics will find this work interesting and useful. Other less specialized readers will discover that the contents are much too difficult unless they happen to have a strong background in economic growth theory.

Regional economic policy is examined in Part IV. In this section, the growth pole concept is amplified and related to the expansion model. This step is an important improvement. In fact, one of the principal feats accomplished by this text may be the development of a theoretical framework on which growth center and growth pole concepts can hang their hats. The survey of decision-making techniques and policy instruments in Part IV is concise yet thorough. Although Siebert does not mention pollution problems, this entire section could be very useful to those economists interested in these problems since effects of intra- and inter-regional policies and spatial aspects of economic activities must also be considered.

This analysis of the behavior of subnational economies over time will be useful for advanced courses emphasizing regional economic development theory as a basis for the study of policy and planning activities. The growing concern about lagging areas and planning strategies for reducing marked differential

⁴Ibid., p. 136.

⁵Ibid., p. 141.

rates of change in economic well-being of regions has changed the nature of many courses in regional economics or expanded them. This concern makes the analytical techniques in this book eminently suitable when the instructor wishes to develop course materials within a theoretical construct.

Several years ago, John Meyer in his survey article described an important gap in Regional Economics: "Its (regional economics) major contributions this far have been to provide broad measures and frameworks needed to evaluate and organize these activities (to attempt analytical solutions to different policy problems)--- and this is without question a considerable contribution. Further implementation or realization on these efforts will require, however, greater knowledge of regional growth processes than is now available."⁶ Professor Siebert has made an important contribution towards filling this void.

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STRATEGIES OF AMERICAN WATER MANAGEMENT, by Gilbert F. White,
The University of Michigan Press, Ann Arbor, 1969, pp. IX, 155, \$5.95.

This slender volume of 125 pages which is supplemented by a listing of major historical events in water management decisions in the United States, as well as by a brief but rather useful, selected bibliography, presents a highly readable account of the historical evolution of goals, perceptions and changing attitudes towards the management of our water resources from the late 19th century until today. However, the book is much more than a history of past to present decision making processes. By tracing goals and goal perceptions of those responsible for water management decisions over time on the one hand and analyzing the consequences of their resulting actions on the other it provides not only a historical account but also a critical analysis of the rationale of these decisions.

To provide the latter, the author obviously had to have some normative notion or prescriptive ideal which he could apply as a yardstick of desirable performance. Unfortunately, nowhere in the volume can a clear and concise statement of this yardstick and of its justification be found. However, while this might be a shortcoming of presentation it is not all too difficult to draw together the strands of arguments, comments and suggestions that Gilbert F. White presents in the six short chapters of his book. They can probably best be summarized in his statements that water resource planning and management ought to pursue a strategy of "multiple purposes and multiple means, including research" (p. 13), with "greater emphasis -- placed on plans preserving

⁶ John Meyer, "Regional Economics: A Survey" in Surveys of Economic Theory, Vol. II (Growth and Development), p. 266. (St. Martin's Press, 1967).

flexibility to adjust to new techniques and social instruments as well as to shifting preferences" (p. 100) and to combine this strategy with greater efforts towards more "sensitive sounding of public preferences linked with public education" (p. 122).

While this is the message that clearly emerges from a reading of the volume as a whole, the way it is presented (despite the mass of historical evidence and case citations) is impressionistic rather than rigorous, suggestive rather than concrete. Anyone who expects to find a short-cut prescription of how to go about water planning and water management will be disappointed. This is not a handbook of how to do things but rather a volume that discusses how things have been done, why they have been done and why so often the policy adopted (whether private or public) have fallen short of the promises they had set out to fulfill. There can be no doubt that in this respect White's discussion is invaluable to all of those who are concerned with the future development and utilization of American water resources even if not every one will fully agree with all of his findings or suggestions.

It might also be easy to criticize him for some of the details of his presentation, such as the setting up of a seemingly rigorous decision making model for which he claims that the relevant factors of water resource planning are the "perception of (1) range of choice, (2) water resource, (3) technology, (4) economic efficiency and (5) spatial linkages," with economic efficiency being only "one of the factors affecting decisions" (p. 10), while it could just as easily be shown that the "perception" of all of these factors are no more than simple constraints which form part and parcel of any economic optimization decision. On the other hand, he leaves out of this model several important noneconomic considerations such as the recently so hotly debated issues of environmental quality, or the perceived threats to relative income distributions or to established ways of life which may have had and probably will have even more so in the future a much stronger influence on decisions in the water resources field than the five points listed above.¹ Nevertheless, these are mere quibbles with a presentation that no one seriously concerned with the future of America's water resource can afford not to read. This is a book that combines a historical review with critical analysis, a book that uses the past in order to show better and more fruitful paths for the future.

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¹ However, in justice to White's presentation, it should be noted that he deals with these issues elsewhere in his book.

CAPITAL AND DEVELOPMENT PLANNING, by Sukhamoy Chakravarty.

Foreword by Paul Samuelson. Cambridge, Mass., and London: The M. I. T. Press, 1969, pp. xx-344, \$12.50.

One approaches any of Dr. Chakravarty's works with awe. One should be forewarned of this one at least by Professor Samuelson's delightful sampling of variational problems in nature: the lazy rope, etc. Since it is to be assumed that the book is excellent and valuable, I shall try to place it within the field of growth-cum-optimization models, and along the way to comment on it.

Clearly this book is grounded in Dr. Chakravarty's previous work, especially in his contributions to Capital Formation and Economic Development, edited by Rosenstein-Rodan, No. 2 in the series, Studies in the Economic Development of India, (London: George Allen and Unwin, 1964). This one surveys and extends Ramsey economics--an optimal dynamic world which, though without money, yields optimal solutions through the calculus of variations.

Dr. Chakravarty quite elegantly develops the matter of the length of the plan: finite or infinite. For example, a finite period might be the shortest one in which to save a capital stock able to employ all labor. Generally, since no horizon is best, and all are arbitrary, one should plan for all time.

The author also usefully distinguishes total consumption from the per-capita consumption of all persons, thereby introducing population variation.

In planning, one seeks so to consume, (thus to invest), as to be best off, through the plan period, lifetime, or perpetuity. Should everyone be already as well off as can be maintained forever, one follows the golden rule and invests annually an amount equal to profits, by whomever saved. This continues to maximize per capita consumption, which is best, given that consumption is good and prices are proper and ignoring the disutility of (fixed) factor inputs.

Given that production takes place according to a constant returns law, the system optimally expands along the way through the initial endowment, in commodity-value space. If the prices be constant and proper, that ray is the same ray in physical good space. Further, output grows at the rate of the slowest-expanding commodity, which rate equals the profit rate of the most profitable activity; in equilibrium, all those rates must be equal. Note that we have avoided optimizing, because the equilibrium is itself optimal.

Should the system not be riding the Turnpike (freeway?), the problem is to take the shortest tangential path onto it. The shortest path is, of course, not to consume any of the goods in which stocks are too low for Turnpike conditions. Since during that hellish short run, we might all die, we seek another approach; consider utility of consumption, perhaps net of the disutility of providing factor services, and maximize it. Should the society desire rather to reach some stock not the turnpike-cruiser stock, they would still swing arbitrarily close to it, and follow a curve in the shape of a catenary. Naturally the best path is the one yielding somehow the greatest time-aggregate utility.

Should the society desire to remain on the turnpike and to abide by the Golden Rule, they may plan for either the time until they arrive on the turnpike (almost) or for infinity, since under the Golden Rule no planning is necessary.

To maximize the utility of consumption over time is the Ramsey problem.

Since the form of consumption is not known, it is also a problem in the calculus of variations: to take the extreme of an integral of an unspecified function; here the utility of consumption which is production net of investment. Simple growth maximizing, when out of equilibrium, need not increase welfare.

The basic Ramsey problem¹ is to save so as to maximize the utility of consumption net of disutility of labor. As capital grows, due to saving, consumption grows faster than labor, and the net utility approaches the upper bound Bliss. The savings rate is the ratio of (the distance of net utility from Bliss) to (marginal utility of consumption). When Bliss is reached, there is no further need to save, and the system becomes stationary. Since the model assumes excess labor, labor's marginal disutility is zero, and the utility of consumption is net utility.

One calls a positive time preference "myopia." That is, it is short-sighted for a rational community to prefer present over future consumption. It is nothing of the sort for a Ramsey man to do so. The condition for ongoing growth is merely that the marginal productivity of capital exceed the rate of time preference. Of course, the lower the rate of time preference (for consumption over investment) the higher is the rate of growth. To attain a high growth rate, even temporarily, one is tempted to set up a long-sighted authority which would by totalitarian means save the proper amount. If one believes in positive time preference, this would bring the Ramsey society to save too much, to transfer wealth needlessly to the future.

Chakravarty follows Ramsey in these assumptions:

- (1) Tastes do not change;
- (2) Utility is a homogeneous function of consumption;
- (3) Utilities of consumption at different periods add.

The first two require for a utility maximum that consumption grow proportionately. The third allows non-eating in one period to be made up in another. Hicks objected to that; Chakravarty passes the objection off saying that Hicks offered no alternative (p. 25n).

The simple model handles the standard golden rule and catenary turn-pike cases fairly clumsily, and performs better with its constancies relaxed. Assumptions (2) and (3) imply that the unequal utility of consumption be of constant elasticity v :

$$U_c = C_t^{-v}. \text{ Since } U_c = \frac{dU}{dc}, v \neq 1, U(C_t) = \frac{1}{1-v} C_t^{1-v}.$$

Should v be less than 1, consumption would grow indefinitely (and capital might fall to zero) for long or infinite planning horizons. However, if as required for

¹This draws upon Sir John Hick's Capital and Growth, Chapter XXI, pp. 251-63 (Oxford and New York: Oxford University Press, 1965). Sir Dennis Robertson's essay "Some Notes on the Theory of Interest" in Utility and All That, pp. 97-102 (London: George Allen and Urwin, 1952). Robertson's "Interest on Capital: Supply," in Lectures on Economic Principles, pp. 239-249 (London & Glasgow: Collins: The Fontana Library, 1963), and Sir Roy Allen's Mathematical Analysis for Economists, Chapter XX, pp. 537ff (London: Macmillan, 1938).

the model to make sense with an infinite horizon, v exceeds 1 the utility of consumption is negative, and Bliss requires that utility rise to equal marginal utility at zero. Perhaps that is some carry-over of Eastern anticorporatism.

The picture improves only slightly if utility attaches only to consumption above the subsistence level. It does make more sense, however. We disapprove, in development, of unnecessary consumption, which detracts from capital formation and is undemocratic. Further, minimum consumption may be given as the institutional minimum wage.

For a finite period, if one assumes constant returns to capital, one finds initial optimal saving rates of some 90 percent, which I submit is, in a poor country, ridiculous. Of course, output and consumption grow spectacularly, but the trouble with assumption (3), intertemporal independence, is that even in that short run, we would indeed die. No wonder this requires totalitarian planning.

If one assumes diminishing returns in production, then the savings rate must be quite a bit lower and consumption higher since good investments are much less attractive than under constant returns. A minimum wage constraint also humanizes the system.

For optimizing linear equation systems, the straightforward Euler's Equation does not indicate a solution. Pontryagin's method does, however. Dr. Chakravarty includes elaborate appendices on both. He devotes four chapters to those linear systems with which we are mainly familiar, but derives for them the same sort of results to which we are used for curved technologies and utilities. Since the linear are likelier to be applied, this is useful.

If some resource is short, and growth requires it, how much of it should go to growth-inducement? Offsetting the growth shortage worsens the existing scarcity. This and some social welfare solutions to it receive expert analysis.

A quite fundamental problem is this: Dr. Chakravarty assumes that only capital, at least initially, matters: that labor hangs about waiting to be mated with it. Anyone who has tripped through the odd machinery lying about the developing world might feel that the problem is one of under- or outright misutilization of resources, not of general scarcity. Now everyone (e.g. London Economist, April 25, 1970, p. 68) writes of so many thousands (invested) per job; it is however customary to point out that the necessary "infrastructure," mainly human, must occur as well. That is, neither more labor nor more capital is necessary nor sufficient for growth, and particularly for development; technical and organizational skills are. Dr. Chakravarty writes that "Skilled labor and its creation raise problems akin to those involved in constructing capital goods with a long gestation lag (p. 10).

This is at any rate superior to the (Russian) approach of V. V. Novizhilov ("Cost-Benefit Comparisons in a Soviet Economy" in V. S. Nemchinov, ed.: The Use of Mathematics in Economics (Edinburgh and London: Oliver and Boyd, 1964), who sweeps the problem away in his Chapter 17: "The Problem of the Maximum Growth of Labor Productivity": The revolution did all that. There remains only to optimize the rate of growth and of accumulation, which means over the long term to minimize outlays, as seen in changes in the standard effectiveness (marginal efficiency) of investment. Thus, when the

plan optimizes capital allocation for both total input and labor productivity optimization happens automatically--and presumably it happens according to one more Lagrangean multiplier (op. cit., pp. 134-8). Of course it does, but hardly automatically.

The book provides a generally excellent treatment of the classical curvilinear approach to optimization and of linear or Portryagin optimization techniques. He extends his analysis to generalized utility functions, to two- and multi-sectoral models, to the problem of where innovation ought to be introduced.

The non-Massachusetts Cambridge reader might first work through the appendices. He will find two peculiarities:

First, deviations about the solution are stated not as our usual differentials, but as solution plus variation (together called "the variation"). Engineers form their linear-approximating models the same way. This ought to indicate that the work aspires to more, or at least something other than economics.

Second, a person not too familiar with mathematics must have done the proof-reading. Trivial errors and omissions waste the reader's time and his confidence in his own mathematics, and drive him to muttering. For example, on page 47, a "t" is omitted, "T" is rendered as "t" on page 67, and Y as y on page 268. One expects better than that, especially from a mathematical text whose literary style is very good.

Capital and Development Planning joins turnpikes, multilinear periodic models, and golden age equilibria into a consistent general dynamic scheme. This helps to tidy up non-equilibrium growth, and significantly extends it.

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REGIONAL ECONOMICS: A STUDY IN THE ECONOMIC STRUCTURE, STABILITY AND GROWTH OF REGIONS. Hugh O. Nourse. McGraw-Hill Book Co., New York, 1968, viii and 247 pp. \$8.95.

The title of this book provides a fairly accurate description of its contents. It is a concise, clearly written introduction to regional economics. But this very conciseness may provide the source for the basic criticism of the book. The reader is torn between applauding the crispness and lack of verbosity on the one hand, and pondering about the attempt to cram so much material into 247 pages on the other.

The book is divided into two parts; the first deals with regional structure, including chapters on systems of cities, industrial location patterns, and land use; and the second with measurement and change in regional economic activity, with chapters on measurement models, interregional theory of income and trade, regional growth, and public policy. Nourse, then, introduces a broad

range of materials in a relatively short amount of space. The result is that many readers may detect a worrisome degree of incompleteness. The economic analysis, for example, consists of a rather brief introduction to the influence of price theory on locational decisions; and the material on the theory of the firm, while well introduced, lacks a sufficient development of the critical assumptions which underly it.

The geographer may feel that the chapter on systems of cities overemphasizes Lösch. There is little comment about the more recent contributions in this literature. It seems particularly unfortunate that no mention was made of the applications of the Christaller model by Berry, Marble and others to intra-urban locational patterns.

The chapter on land use emphasizes a theoretical framework of the factors underlying patterns of use. The common equilibrium models are employed, focusing primarily upon the work of Alonso. The disturbing factor here is the lack of attention given to two alternative explanations of land use; i. e., decision theory and behavioral analysis (see A. Pred, Behavior and Location, Lund, C. W. K. Gleerup, Land Studies in human geography, Series B, No. 27, 1967).

Still, given the constraints of space under which the author placed himself, he has done a credible job. His book is a welcome addition to the literature.

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FRENCH REGIONAL PLANNING, by Niles M. Hansen, Bloomington: Indiana University Press, 1968, pp. xvi-319. \$12.00.

The design of regional growth objectives and their coordination with their counterparts at the national level is an unsettled issue. Every new empirical evidence bearing on the economic, social, and political problems raised by a conscious regional policy is extremely welcome. Niles Hansen who has written a very comprehensive and informative report on the regional policy experience of France after World War II must have deeply felt the need for an accepted coherent framework of analysis on which to base his presentation. Since no framework exists, he alternates between the presentation of regional policy developments over time and the discussion of specific issues of regional planning. Policy and theory are mostly kept apart: the discussion of the French approach to Regional Economic theory (Chapter 5) is separate from that of the Urban Hierarchy and the policy of Metropoles d'équilibre (Chapter 10) which are also separated from the analysis of Paris' functions and problems (Chapter 2). In the same manner the structure of the French regional economy (Chapter 6) is presented after the discussion of decentralization policies (Chapter 3). The rest of the study deals with the institutions (Chapter 4), policies for lagging and intermediate regions (Chapters 7 and 8) and the introduction of regional policy into the Fourth and Fifth National Plans (Chapter 9).

The book opens on a discussion of resource allocation in a regional context. It is a loose conceptual framework to help "describe and evaluate the achievements, shortcomings, and prospects of this unique attempt to deal rationally with spatial allocation in both theoretical and practical terms" in France. The framework consists of a classification of regions into congested, intermediate, and lagging areas based on the level of investment of different types. On one side, we have private and government investment in directly productive activities (DPA), on the other government investment in public overhead capital, either social (SOC) or economic (EOC). Economic overhead capital (EOC) contributes directly to economic activity and includes such investments as roads, harbors, bridges, etc. Social overhead capital (SOC) covers such items as education, health programs, cultural projects and can be broadly thought of as investment in human capital. Free market forces fail to check the growth of congested regions where existing investment induces additional industrial expansion and population migration. At the same time lagging regions fail to grow and develop because of the opposite shortage of capital in DPA, SOC and EOC. A sound regional policy would require a slow-down of investments in congested regions, expansion of EOC in intermediate regions and expansion of SOC in lagging regions. In principle, equilibrium would exist when "the social marginal product (SMP) associated with a given investment is the same for all types of investments (DPA, SOC, or EOC) and for all regions." These guidelines are used to evaluate the French policy until the year 1965.

French regional planning begins in fact and in Niles Hansen's book with the special problems of the Paris region which dominates French life, particularly in politics, education, the arts, communication, banking and transportation. The historical growth of Paris and its consequent congestion are examined. Public opinion surveys are called to show "that external effects in the Paris region are negative." They certainly underline the intensity of public feelings but leave the actual demonstration of such external effects to further studies. This is the first appearance of a recurrent theme: Paris' primacy was too strongly felt to be questioned and policy makers have taken decisions without waiting for documented evidence of the external private economies and public costs of urban concentration. In the early post-war years the remedies proposed to the imbalance between Paris and the provinces were mostly piecemeal ineffective restrictions which failed to divert industrial growth and labor migration away from Paris. This failure can be easily explained by the officials' inability to grasp the elements and understand fully the nature of urban growth mechanisms. The administrative structures were also inadequate and so was the will to act. The administration did not clearly understand that to be effective, a regional policy must consider all regions at the same time and not limit itself to the consideration of only one area whatever its importance. It is only after 1955 that some of the financial tools and administrative reforms necessary for meaningful regional planning became operative. The country was divided into 22 planning regions (later reduced to 21). Regional Development Societies (SDR) were created and special funding was made available through the Economic and Social Development Fund (FDES) as a special account of the Treasury.

At approximately the same time, Francois Perroux's growth pole theory became more important among French economists to a point where the theory and French regional planning became inaccurately associated in many minds. Niles Hansen presents the theory very clearly, an achievement considering the unfathomable analyses of Perroux who strains so much towards depth that the result contains more poetry than operational statements. Perroux says that "growth does not appear everywhere at the same time; it shows itself in points or poles de croissance, with variable intensities; it spread by different channels and with variable final effects for the economy as a whole." But as Hansen points out "this should not be construed to mean... that a development pole is equivalent to a key industry, and economic base, or even some concentrated phenomenon." The concept is related to Perroux's concept of economic space as "a field of forces," with "centres (or poles or foci) from which centrifugal forces emanate and to which centripetal forces are attracted. Each center being a center of attraction and repulsion, has its proper field, which is set in the fields of other centres." Hansen brings more of such evidence into his analysis to conclude that in terms of policy purposes we still do not know how these centers can be manipulated, nor even what they are made of. The theory does not provide economic goals nor usable criteria for regional policy. It is an example of what can happen when too many different disciplines are brought to bear on the same subject at too high a level of abstraction. Maybe, a growth pole might be considered a psychological archetype framing the subconscious of regional planners. To broaden the analysis, it would have been interesting to relate the discussion to the concepts of urban hierarchy and central place theory.

It is more stimulating to analyze the empirical side of French planning and to see the results of the original legislation of the fifties. Calling on his introductory analytical framework, Hansen reviews what happened in lagging agricultural regions. He concludes that in Brittany, Central France, and the Southwest social overhead investments were most needed and most effective. However, they would have two conflicting tendencies: they would attract industrial investors who needed qualified manpower and would make labor migration easier. An eventually beneficial outcome would depend on the simultaneity of SOC and DPA investments. But, Hansen does not make it clear how DPA investment can be attracted. For this region EOC investment is ineffective, as shown by the limited impact of the RDS societies and the industrial gas complex of Lacq in the Pyrenees. RDS societies did significantly better in the intermediate regions of the East and Southwest.

In 1963, government commitment to regional policy deepened. Until that date, regional funding was worked out after the annual budget was prepared which guaranteed the residual nature of regional planning. In the Fifth Plan specific urban policies were introduced for the first time. It is probably at this stage that the reader would want to find more details about the guidelines and procedures followed to disaggregate the national budget on a regional basis. Hansen should also emphasize more heavily the dominant role of the administration and the insufficient public participation in decisions involving basically one-third of all French investments. In his discussion of the institutions, Hansen should have emphasized the potential role of the Social and Economic Council, a

representative body, as one of the places where meaningful public discussion of regional planning could and has taken place. With the present lack of economic criteria for regional investment decisions, the political process assumes even more importance. In France, the government has reluctantly accepted public investigation of its regional plans. To this date FDES funds are closely controlled; decisions are made after consultations with Regional Expansion Committee whose members are citizens representing regional interests but are designated by the government. In 1969, the decentralization of public decision-making proved to be less than an idle issue since DeGaulle resigned from office when (and partly because) his proposals for public participation in the regional planning process were rejected by popular vote as inadequate.

Many other issues would deserve analysis. In general, Hansen presents the many intricate aspects of French planning in a way useful to other economists elsewhere. His critical comments are well to the point and broaden the analysis, while his quantitative analyses remain at an embryonic stage. If he ever intends to follow up on the present analysis, it would be very interesting to read his evaluations of the impact of the Common Market on the effectiveness of French regional planning. In the financial area, it would be an important contribution to describe the financial procedures and economic rules used in recent years and to have an evaluation of the 1966 law on local finance. It would also be interesting to know whether any progress has been made on regional accounting. Already at present, the author should be thanked for having clearly and competently described the top of a very interesting iceberg.

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THE ECONOMY OF CITIES, by Jane Jacobs, Random House, 1970, pp. 268,
\$1.95.

The Economy of Cities is a provocative book. Taking a historical view of urban development, Jane Jacobs has produced a polemic centered on the proposition that cities are man's major innovation--from which all other fruits of his creative energies flow. This idolatry of the city is not new, but it is unusual to find it rooted in a theoretical framework. Mrs. Jacobs uses economic base concepts to seek a dynamic theory of urban growth.

Her book is about the economy of cities only if "economy" is given its broadest meaning. It is human innovation as a self sustaining process which interests the author. Economic innovation is the focus, considered in the context of its interaction with all innovation. A major theme is that from the creation of seed culture through the development of agribusiness it has been urban man which has innovated, rural man who has shared. It is difficult to cover such a broad subject in a short, readable book, without losing depth. Much ground is surveyed, little is excavated, sifted, pondered. The author has

scrutinized the commanding heights, speculated as to the significance of each, but left substantiation or rejection of her hypotheses to others. The specialist will find himself asking why he didn't think of this or that, but he will also find himself profoundly uneasy with the facile knitting of webs around insects of so many different species. As he attempts to formulate testable hypotheses, he will find the scale so vast, the interrelationships so multifaceted, the time dimension so vague, that he is likely to growl in frustration "no operational significance," or "what's new about cities being creative units," or "so what."

There are two principal hypotheses of the work. The first is urban primacy, in contrast to what the author asserts is the common view of agricultural primacy. The second is that cities grow by creating work at home, this creation being done out of the diversity of the city. No sector of the cities' economy--export, import or domestic--is significantly more important than another in this creative process, although the sectors have different weights during different phases of a city's history.

Mrs. Jacobs considers the issue of urban vs. rural primacy to be so important as to devote nearly a quarter of the book to the hypothetical development of a representative first city, New Obsidian. By a combination of speculation and appeal to archaeological evidence it is argued that the first cities arose from trade with seed gatherers and hunters, antedating organized agriculture. It was in urban storage areas for wild grain and animals that the necessary selection occurred to produce the high yields required for settled agriculture. In this way the city gave rise to agriculture and interacted with it in the miracle of growth. But it was in the city, where human beings of different mien could interact that innovation occurred, to be exported to the rural sector. Hence the doctrine of urban primacy.

At first it appears that the author's concern to establish the doctrine of urban primacy arises out of pique at the widespread academic acceptance of the converse doctrine. For instance Gideon Sjoberg notes the following prerequisites for the emergence of cities:

- 1) a favorable "econological" base, 2) an advanced technology (relative to the pre-urban forms) in both the agricultural and non-agricultural spheres, and 3) a complex social organization--above all, a well-developed power structure.¹

He would therefore seem to support the concept of agricultural primacy. But a page later we find,

But the nexi between technology and urban living are complex: the development of specific technological items was in large measure made possible by the concentration of peoples in permanent settlements (first villages and towns, later cities), and, as indicated, the creation of large permanent urban communities demanded a relatively advanced state of technology.

¹Gideon Sjoberg, The Pre Industrial City, (New York: The Free Press, 1960), pp. 27 and 29.

Hence it would appear that Sjoberg and Jacobs do not stand far apart except on one fundamental issue--the definition of "city." Mrs. Jacobs' concern about agricultural primacy arises out of a desire to place cities from the first moment at the center of the stage. We may contrast her definition "A settlement that consistently generates its economic growth from its own local economy" (p. 262) with Sjoberg's "We see, in contrast to a town or village, (it) as having greater size, density, and heterogeneity and including a wide range of non-agricultural specialists, most significant of whom are the literati."²

Having thus established the city as the key element of economic growth by definition, it remains to be seen how useful this definition is in explaining the economy of the contemporary city. The author's second hypothesis is that cities grow out of their diversity, their "valuable inefficiencies and impracticalities." The city is viewed as counter-entropic, succeeding by creating a more complex environment rather than by simplifying and specializing. Thus Birmingham sustains growth while Manchester stagnates in textile production; Detroit becomes dominated by the auto industry and foolishly simplifies its structure to accommodate it, whereas Los Angeles explodes as the fantasyland of the west. The schema applied is the economic base model; the motor of growth is the creation of work by import substitution and export promotion, both as outgrowths of local talent supported by the local population. An important parameter in this process is the way in which a city uses its surplus capital (in the sense of excess productive capacity), the existence and flexibility in use of which is an important attribute of the successful city. But the essential ingredient of the expanding city is a diversity of goods and services, making possible exploitation of new ideas at minimum cost. It is in the articulation of this concept that Mrs. Jacobs makes her greatest contribution, for she attempts to put flesh on that most elusive of ghosts, the economies of agglomeration. It is not the economic base schema or the emphasis on the direction of capital which gives the book its power and interest, but rather the consistent, unifying pursuit of the nature and significance of agglomeration economies. In this light, the title takes on a dual meaning, the economy of cities in a descriptive sense, and the economizing nature of cities.

The debate as to whether cities give rise to settlement or settlement give rise to cities is one of long standing in economic history. In a historical sense it is clear that they iterated in the process of growth, both in the settlement of North America and in the urban explosion in Europe as a result of the voyages of discovery. For the person concerned with the contemporary city, its problems and its vitality, the question of agricultural or raw material or resource primacy is of little interest. The important, crucial, question is how to provide for a rising population in an atmosphere of healthy, sustainable human development. Aside from providing, as Herbert Gans notes on the flyleaf, an urban myth for an urbanized people, this book will not aid much in answering that question. On the issue of urban renewal, Mrs. Jacobs gives us clear guidelines--maintain diversity, promote the small, presumable innovative

² Ibid., p. 11.

businessman. On the issue of population, rely on the selfsame small businessman, but grant him tax or other subsidies. On the issue of economic organization--avoid big business and overspecialization. Shades of Adam Smith.

Mrs. Jacobs has written a book which mixes an historical viewpoint with a rather conventional, liberal economist's methodology. The result is a readable and provocative book which will be of good service in introducing the layman to the broad outlines of dynamic urban economic growth. It is not to be expected that in a book of this length and scope that specific issues could or should be dealt with. The specialist will find that Mrs. Jacobs has used his rather static theories or urban economies as a basis for jumping beyond the realm of empirical verification into speculation as to the historical process or urban growth. The book will thus aid him in his own unraveling of urban growth processes. Yet he will not be able to avoid the feeling that the issues facing the contemporary city dweller have transcended the city itself, and that perhaps in the decade of the sixties the city has conquered the nation only to find that the nation has become, McLuhan-like, a collection of urban, electronically linked, villages.

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ATLAS SOZIALÖKONOMISCHER REGIONEN EUROPAS (ATLAS OF SOCIAL AND ECONOMIC REGIONS OF EUROPE, by Ludwig Neundörfer (editor) Nomos Verlag, Baden-Baden, 1964 (1st part) - 1969 (5th part) price DM 9.50.

First some factual information. The atlas is comprised of 49 maps with 15 different subjects on 35 double sheets. The first 12 subjects are standardized: 4 maps for each symbol, Central Europe, Northwest and Northern Europe, Southwest and Southeast Europe (S.W. and S.E. are missing twice). The scale for all these maps is 1:4,000,000 the size is 22 x 20 inches for the first two and 11 x 20 inches for the last map of each subject. The most frequent symbols are rows of little men, dots of the size of 2/10 inches, squares of 1/8 inches, choropleth and isarithm maps in that order.

The atlas is a result of four years of research under the sponsorship of the Council of Europe. This explains to a degree the special shape of Neundörfer's Europe which, "comprises all countries and nations West of the iron curtain whose governments in any way after 1945 sided with Western Europe and have taken up contact with one another." It includes Turkey but it remains unclear to the reviewer why Neundörfer has excluded West Berlin.

When producing thematic maps of eighteen nations, it is understandable that the author complains about data problems. The regional subunits are usually not comparable. Therefore one either accepts the fact that the sizes of the subunits vary from nation to nation or one tries to aggregate the statistical divisions to units of similar size. The author has taken the second alternative.

He defines as a "region" an area "...inhabited in each case by approximately 500,000 people" ... "within which socially and economically identical circumstances have developed out of traditional historical union." The last statement is simply impossible since "traditional historical unions" of the size of 500,000 inhabitants are very rare cases. The number of inhabitants in a region varies between 350,000 and 750,000 (1950). Unfortunately the author does not give a table of the population size so that the reader is unable to check any of the regions for their accurate size. "...cities of 100,000 inhabitants and over, always form a unit by themselves, irrespective of their size." A check on different maps shows that cities and regions are not taken as separate units but one or more cities are combined with a region as their hinterland. In other words the range of the population size for the different regions varies from 350,000 to 8,000,000 and the average number of inhabitants is certainly much higher than 500,000.

"The author wishes to express his gratitude to a large number of statistical offices which assisted him in finding and procuring the necessary material. They bear the responsibility for accuracy for the data." True, but these statistical offices usually give some explanation of their data whereas Neundörfer doesn't even mention the statistical sources so that the reader is incapable to refer to any of them.

The introduction and the rather lengthy explanation for each map are in German, French, and English. "The French and English versions of the text endeavour to provide as accurate as possible the translation of the original German, even though this may occasionally interrupt the flow of language or make some expressions appear awkward. In course of doubt, the reader is invited to turn to the German original." The reader should, in fact, not do this, since both the French and the English translations are usually better than the German original texts. The French translation is elegant and usually free and independent whereas the English is clear and precise and the reader of the German texts is advised to switch to the English "in course of doubt." The individuality in translations starts with the title. The German title reads as "Atlas of Socio-Economic Regions in Europe." The French "Social and Economic Atlas of European Regions" and the English "Atlas of Social and Economic Regions of Europe." In the reviewer's opinion, the French title accounts best for the contents of the atlas, the German, the least if one considers the term "Socio-economic" to be more than just the sum of social and economic.

The basic theme of the introduction is "integration." The work was promoted in the search "for an instrument to be of use in regulating human social life throughout Europe." It was led by "a political need namely the search for aids to be granted to underdeveloped areas within Europe." "This particular work has set itself the task of showing up the living conditions of a large number of people in the present time." What do absolute data, i.e. persons economically active in different sectors, or agricultural land use, industrial jobs etc., tell us in terms of living conditions when we don't know the total population of the regions? The reviewer feels also somewhat uneasy looking at data which to a large degree are from 1950 to 1955, and then reading in the introduction "the Atlas must not share the fate of so many similar endeavours that it

soon becomes a 'historical atlas.' It is intended to render a permanent assistance towards creating a stable order of human social life in Europe under ever changing conditions." Migration maps are of little use when the regions incorporate large cities and only three levels of migration; balance (± 2 per thousand), immigration and emigration do not render much information. The land-use map ("agricultural cultivation") might show the largest numbers of errors. There are, for example, the same colours for waste land and heights between 200 and 5,000 meters, in some of the most active agricultural areas of Northern Germany nothing is grown according to the map, the dominant rice area in France, the Camargue, is shown as pasture cultivation and swamp, etc. The text which accompanies the maps is usually not of much help for their understanding. It is often inconsistent (historical information is given only about Turkey and Britain; there is more factual information about the Rhine axis than about the rest of Europe, etc.).

The Atlas wants to be "a continuous presentation of living conditions built up like a book from one chapter to another so that the desired knowledge is only derived from the course of the entire work." If one overlooks the difficulties in reading and understanding the different maps, one has to say that maps of the "basis of gainful occupation," "agricultural cultivation and land use," the "size of agricultural establishments" with a special look at large agricultural establishments in an extra map, a survey of "industrial jobs," birth rate, natural growth of population and net migration, the "number of doctors and hospitals," an occupation index, the number of "illiterates and graduates of secondary schools" and of the "changes in the base of gainful occupation (1950-1960)" are hardly a sequence which fulfills that goal. We have to be aware that here is an atlas of 18 states with maybe the best data-bases and the largest production of thematic maps after North-America and India, with an overwhelming amount of regional literature, planning reports, planning data, etc. This is not the place to suggest an alternative set-up of an atlas of Europe. But there are already socio-economic maps of Europe produced in different departments of Geography and at the College d'Europe at Bruges, only that they did not appear in such an expensive and bombastic form.

The question might be appropriate however, whether such an atlas is justifiable at all.

The production of socio-economic maps and atlases has been sophisticated to an extent which forbids the simple presentation of statistical data, even if the representation is a good one. There is a very large number of regional, national and international atlases which can be mentioned as examples.

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