On Developing an "Econosphere"

This unindexed collection of essays, **Economics and the Idea of Mankind** (Columbia University Press, New York, 1965. 303 pp. $6.95), is the second in a series of volumes, each about a specific discipline and its relation to the concept of "mankind." The papers composing this volume are intended, in the words of Bert F. Hoselitz, the editor, to apply existing economic theories "to an approach that starts from the assumption that mankind may function as an integrated whole" and to "explore the conditions under which this alternative would be possible and what economic results could be postulated if this assumption were to become a reality." The project of which this volume is an outcome rests on the supposition that some, perhaps many, problems confronting men can be most effectively dealt with if "mankind," awareness of which is believed to be only two decades old, "is considered as a functioning whole" and "action" is "oriented toward the needs and values of mankind rather than of some segmented group."

It is inferable that inhabitants of nation states can and will behave as members of economic "mankind" only if both economic theory and its application are favorable, if goods, productive agents, and relevant ideas can flow freely from nation to nation, and if, as Daniel Lerner implies, "the codes embodying behavioral regulation" in each and every state are congenial to the facilitation of this flow. In an informed essay, Erskine McKinley reviews changes in the attitude of those who write on economics toward "humanity" and closes with the inference that international commerce is the main medium through which the world can be welded into an economic whole. He might have brought out more forcibly, however, that proponents of national planning, whether of socialist or welfare-state orientation, often find it difficult to accommodate their thoughts and actions to a universal humanity; and yet, as Fritz Machlup has observed elsewhere, never before has there been "so much well-meaning and thankless generosity on the part of the richer nations for the sake of the poorer ones."

Kenneth Boulding employs the concept of "econosphere" to encompass not all relationships found in the "homosphere" but those that are economic, extend over the globe, and constitute a strong "force making for world community." Boulding is able to universalize the private-public interest dichotomy, but he is hard pressed to develop a concept of "world interest" corresponding to the "national interest," although he does find that nations are connected indirectly as well as by exchanges (which occasionally fall short of "just") and through "grants" (unilateral transfers) that are generating an international community (as they once generated the national community) and sometimes reducing the tendency of nations to interfere with the more important exchange economy.

Hoselitz argues that considerable economic unification is compatible with marked social, cultural, and political differences. Greater world economic unification, therefore, mainly entails overcoming current international differences in degree of national planning and levels of per capita income, particularly in overcoming the latter, because degree of planning diminishes with economic progress. Change is required in "certain social and consequently general psychological conditions," in "cultural and social systems." Without these changes, economic aid and assistance cannot produce a highly integrated world economic system.

David Felix concludes that neither the international "market system" nor "the international donor system as presently constituted seems capable of effectively implementing world economic welfare norms." He points to the absorption of potentially growth-fostering resources by the international armaments race, but without fingering the sources, as well as to the failure of church-fearing governments to develop and distribute birth-control devices; he especially condemns the various restraints imposed on the international flow of goods and factors. Felix seems to rest his argument on a kind of quasi-egalitarian "welfare" economics and on the supposition that, despite the multiplicity of variables and conditions involved, one can reason by analogy—that is, from untested resemblances—from nation-states to the world (pp. 97, 110, and 111). It is when he applies this argument to international migration that it becomes untenable, in my opinion. He describes the immigration policy of the United States as "one of the more restrictive and racially illiberal policies followed by rich countries today," and suggests that "wealthy nations" could absorb "more of the unskilled from the poor nations without reducing their own economic growth rates" (pp. 99 and 141); but he calls attention to the lack of demand in modern societies for the unskilled (p. 121). Although he notes with Boulding the perversity of modern migration that carries skilled people from underdeveloped to developed lands, he is less alert to the dangers of unrestricted migration (pp. 56, 57, and 126) and to the prospect that, if the few rich capital-forming bastions in the world were swamped by unskilled and multiplying migrants, these bastions would be destroyed and with them such likelihood as now exists of freeing poor lands from poverty.

Theodore Morgan's extensive statistical analysis of trade in world commodities suggests increasing rather than decreasing international divergence during the next several decades, for advanced countries are increasing their share of world trade, especially by developing high-skill industry. In the underdeveloped countries, research, development, modernization, and related activities must proceed much more rapidly than they have in the past, if divergence is not to increase further.

Bernard Semmel, having reviewed the economics of imperialism, seems to endorse international price, production, and marketing controls, supposedly designed to increase the share

going to the producers of raw material in the "benefits of trade." Regarding the prospect of such a set of controls, one need only point to the current American farm program or to past experience with international controls. Emile Benoit reviews men's fears and hopes respecting the probable response of the American and the international economy to disarmament and coexistence as well as to anti-Western behavior subsequent to disarmament. The economic advantages appear to be very great, but it is not likely that they will be realized in this century.

This book prompts three reactions. First, it is very useful to diffuse a world point of view, because it has a salutary impact upon international relations. Second, just as a cathedral can be built only of stable units, so a persisting world-structure can be built only of stable states, to which description many "sovereign" lands do not yet answer; such a structure probably will flow out of benefit-increasing exchanges in greater measure than out of a consensus of any sort. Third, what is said of increasing divergence is sometimes imprecise. Suppose per capita income in country A is greater than that in country B, though increasing less rapidly. The ratio of the former to the latter will steadily shrink, but the absolute spread may long increase if the initial ratio is high.

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Plant Viruses

Plant Virology. M. K. Corbett and H. D. Sisler, Eds. University of Florida Press, Gainesville, 1964. xviii + 527 pp. Illus. $12.50.

This volume is based on a series of lectures delivered by various investigators as part of a Southern Regional Graduate Summer Session in Plant Virology; the sessions were held at the University of Maryland in 1963, under the sponsorship of the National Science Foundation. The first half of the course was concerned with "classical" (that is, biological) aspects of plant virology, and the corresponding section of the book is made up of a series of rather complete, accurate, and objective treatments of subjects such as symptomology, transmission, and bioassay.

The lectures comprising the second, or "molecular," half of the course were much more variable. Virus purification is described in cookbook fashion; the article might be a useful laboratory manual, but is not likely to cause many students to ponder the striking fact that plant viruses are so much easier to purify than normal plant proteins. A brief article summarizes serological techniques; it closes with a comment regarding the importance of serology in determining virus relationships, but the fascinating data on serological relationships are not otherwise discussed. A very brief and rather incomplete article discusses electron microscopy of plant viruses. It is followed by a very elaborate effort to apply the rigorous principles of crystallography to the shapes of virus particles. Less rigorous is the treatment of the dynamics of virus synthesis. In one place the author states (correctly) with respect to TMV (tobacco mosaic virus) that "the assembly of protein subunits and RNA chains in the infected cell cannot be directly observed." Elsewhere in the same article is the assertion that TMV provides "one of the clearest examples" of this assembly system because the process "has been reproduced *in-vitro*."

An article on the biochemistry of virus composition provides a useful summary of observations on the amino acid and nucleotide composition of certain viruses. Less useful to the unsuspecting student is the uncritical application of current concepts of molecular genetics to plant viruses. Thus, the term *cistron* is used to define protein-determining nucleotide sequences in the RNA of plant viruses; however, *cistron* is a unit of complementation, a process unknown in plant viruses.

The tendency to burden the data of plant virology with concepts and conclusions derived largely from in vitro investigations of *Escherichia coli* is especially evident in an article on the biochemistry of virus infection. Here, the subject of the synthesis of normal plant proteins is treated by a description of the well-known generalizations about protein synthesis in ribosome systems, but the student is then informed that there is no clear evidence that this system operates in higher plants. The next section describes "synthesis of TMV protein using TMV-RNA as messenger," in an in vitro *E. coli* system, but fails to note that the relevant conclusions have been disclaimed by the investigators themselves. A striking failure to cite rather extensive contrary evidence permits the author to assert that TMV biosynthesis involves early synthesis of virus RNA, followed by rapid synthesis of virus protein and assembly of protein subunits around preformed RNA fibers.

A very long article on the "molecular taxonomy" of viruses is so encumbered with unnecessary theoretical generalizations that the inherent interest of the data under discussion is obscured. The author states a series of "molecular laws" (the familiar DNA-RNA-protein scheme) and asserts that "Molecular taxonomy accepts these laws as being universal [if they are, we shall eventually find out]. . . ." This article is not noteworthy for its objectivity, the following sentence being typical: "Although molecular taxonomy has already taken giant strides, its future is more glorious than its past."

Two articles, by Bawden and Lauffer respectively, counteract, to some degree, the overconfidence that speaks of the future in the present tense. Unfortunately there was apparently no way to bring the high standards of scientific discourse of these two contributors to bear on the utterances of some of their colleagues. Thus, Lauffer's criteria for associating infectivity with a specific component, would, if applied to "infectious RNA," invalidate a number of conclusions and appended theoretical generalizations made elsewhere in the volume. Application of Bawden's suggestion that it would be wiser "to speculate on the likelihood that current hypotheses are wrong, than to try to adapt them to accommodate awkward facts" would have considerably reduced the length and much improved the usefulness of the molecular section of this book.

In their preface to this volume, the editors express the hope that it will "provide a stimulus for students to continue in the search for knowledge rather than to accept dogma." If this book does provide such a stimulus, it is not likely to be by example.

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