

AN ASSESSMENT OF EMPIRICAL RESEARCH ON *DEPENDENCIA**

Steven Jackson, Bruce Russett, Duncan Snidal, and David Sylvan
Yale University

Dependencia theory is in vogue among social scientists throughout the world. Having originated in Latin America in the early 1960s, it was widely embraced both there and in parts of Europe and Africa by the end of the decade. In the 1970s, North Americans joined the flood of scholars attempting to grapple with the problems of underdevelopment in the so-called Third World from a perspective explicitly rejecting traditional theories of development. With this new stream of researchers came new tools and new approaches to the study of peripheral societies, tools and approaches intended to complement those previously used within the *dependencia* tradition.

After nearly a decade of empirical research on *dependencia*, and with a proliferation of new work in sight, it seems appropriate to ask how we should proceed in future efforts. In this essay, we begin with a return to pioneering works of *dependencia* theory and an extraction of the basic tenets of this perspective. We then review the efforts to build upon and "test" the theory by two distinct methodologies (and groups of scholars): intensive case studies and cross-national aggregate data analysis. Finally, we examine descendants of these strategies and argue that both represent significant advances in the attempt to assess the validity and utility of *dependencia* theory.

DEPENDENCIA THEORY

In evaluating research on *dependencia* theory, it is important to have before us some notion of its basic tenets. Of course, the number of different theorists only slightly exceeds the number of distinct strands of theory within this perspective. Further, the complexity (not to mention length) of their various arguments precludes the possibility of analyzing their propositions in detail here, or providing anything like a comprehensive bibliography. Nevertheless, most writings in the *dependencia* tradition, whatever their differences, usually share a "common core" (Fagen 1977), which includes concern with the international (or better,

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transnational) context of development, class relations, unequal relationships (national and transnational), and long-term historical patterns. In presenting "thumbnail" sketches of four seminal works in the field, we hope to suggest the primacy of certain common assumptions and arguments that must be taken into account in the design of empirical research.¹

André Gunder Frank has been and is one of the most prolific and influential dependencia theorists. In numerous books and articles in the last decade he has put forth bold and provocative statements concerning the relationship between global capitalism and patterns of development in Latin America. In *Lumpenbourgeoisie and Lumpendevlopment* (1972) the essentials are clearest.

The three parts of the thesis are:

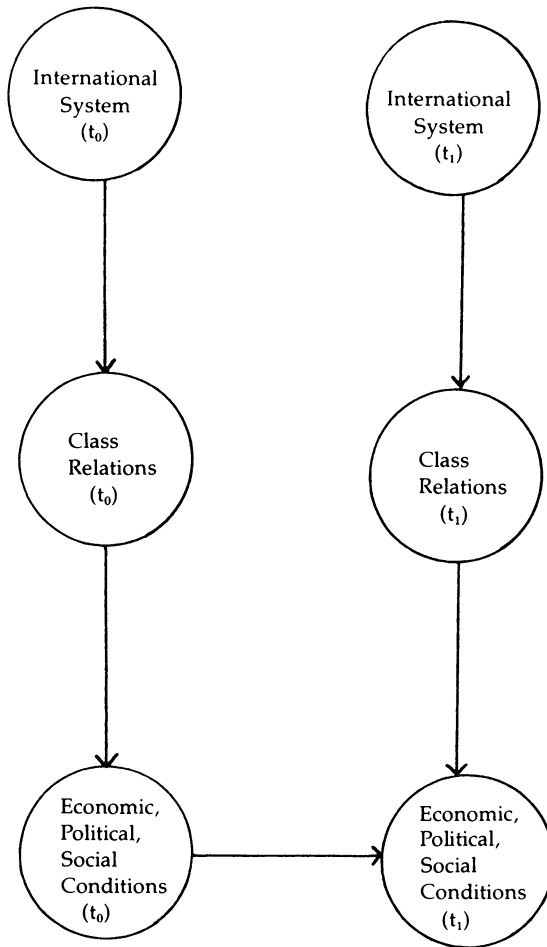
I. The Conquest placed all of Latin America in a situation of growing subjection and *economic dependence*, both colonial and neocolonial, in the single world system of expanding commercial capitalism.

II. This colonial and neocolonial relationship to the capitalist metropolis has formed and transformed the economic and *class structure*, as well as the culture, of Latin American society. These changes in national structures have occurred as a result of periodic changes in the forms of colonial dependence.

III. This colonial and class structure establishes very well defined class interests for the dominant sector of the bourgeoisie. . . . When a change in the forms of dependence modifies the economic and class structure, this in turn generates changes in the policy of the dominant class which further strengthen the very same bonds of economic dependence which produced the policy and thus aggravate still further the development of underdevelopment in Latin America. (P. 13)²

This thesis can be represented heuristically as in figure 1. In the figure, the initial impact of contact between Europe and the territories of Latin America was to impose capitalist class relations on the dependent area. These class relations determine, in broad relief, the economic, political, and social conditions that fall under the umbrella of underdevelopment. At a subsequent time, the effect of contact with the core of the international system is to restructure class relations. This results in a new social reality again determined by the forces of international capitalism operating through the lumpenbourgeoisie. In other words, trade, aid, and investment serve to strengthen the position in the peripheral society of those sharing common interests with foreign capitalists. In the pursuit of their interests, local capitalists produce an unbalanced, disarticulated economy as well as repressive and economically active central governments.

A second major source of dependencia theory has been the works of the "structuralists," drawing inspiration from Raul Prebisch and the ECLA studies.³ One of the most influential structuralists is Celso Furtado and his basic position is found in *Economic Development of Latin America* (1970). In it he begins with the observation that the incorporation of Latin America into the international division of labor led to the development of economic systems based on the export of primary products. This created a situation in which

FIGURE 1 *Heuristic Representation of Argument of André Gunder Frank*

Neither the expansion of demand nor the growth of the export sector required structural change of major significance. It can be said, therefore, that the development model in question was one that did not require much structural flexibility, or rather that it was compatible with structures having little capacity for change. In fact, by allowing development to proceed with the minimum of change, the export model that prevailed in Latin America created a climate of resistance to change on the social plane. By failing to make the ruling classes realize that structural change was an essential ingredient in development, it contributed towards the

emergence of attitudes that were to become obstacles to the region's development in the period that followed. (Pp. 94–95)

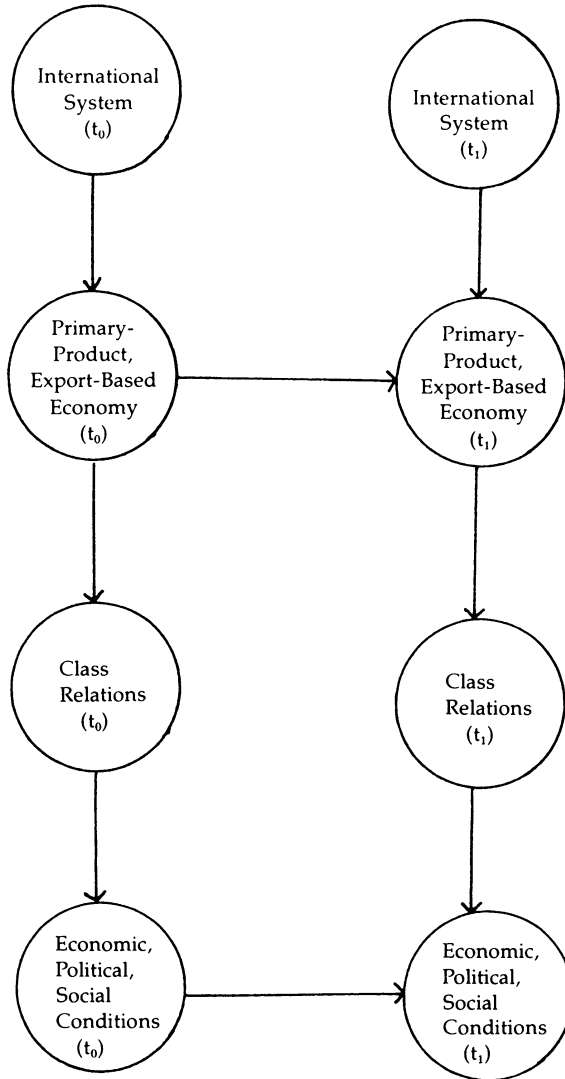
Out of this rigid social structure arise the problems endemic to Latin American societies: persistent inflation, wildly variable exchange rates, and political institutions that strain attempting to implement policies under these conditions. That is, the economic distortions and social rigidity resulting from an external orientation lead governments to try (in vain) to deal with structural problems. Failures breed increasing threats of conflict that yield the deepening of structural tensions in dependent societies. This argument is represented in figure 2.

A third statement of *dependencia* is found in the works of F. H. Cardoso. The most sophisticated theoretical formulation to come from Latin America in the *dependencia* tradition is Cardoso and Faletto's *Dependencia y desarrollo en America Latina* (1969). The authors argue that capitalist expansion at the point of first contact between core and periphery assigned to Latin American countries one of three roles: as reservoir for population, as site of exploitation, as reserve territory (p. 40). Associated with each role was a structure of class relations implying a particular development of class conflicts and their accommodation. The development of this class structure determined the political, economic, and social conditions in Latin America.

As the authors write: "In effect, the change of social structures . . . implies fundamentally a process of relations among groups, forces and social classes by which some of them try to impose upon the whole of society that form of domination which serves their interests" (p. 13). However, the impact of international forces does not cease with its initial impetus. Thus, when Cardoso and Faletto write "in the industrialization of the Latin American periphery the *direct participation* of foreign firms assigns a particular significance to the industrial development of the region" (p. 145, emphasis added), they imply continuing interaction of the forces of international capitalism with the unfolding relationship among classes. This attention to the interaction of external and internal forces leads to an equal concern with the *context* of dependent development. While Cardoso and Faletto take as a point of departure a contextual variable (the nature of first contact), subsequent developments (both theoretic and empirical) reveal an equal need for contextually rich explanations. The conditions that arise from a single set of class relations shape one another as well. Thus, for example, the marginalization of the working classes influences the movement towards more active state involvement in the economy depending, in part, upon both the nature of the economy and the degree of authoritarianism of the government. This argument is represented in figure 3.

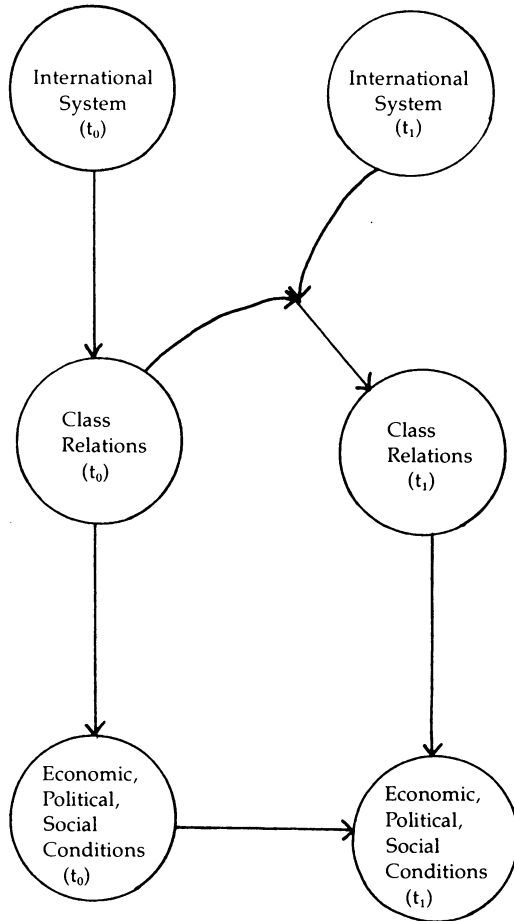
Finally, the works of Samir Amin represent a synthesis and elaboration of numerous prior strands. In *Accumulation on a World Scale* (1974), Amin pictures a chain of consequences similar to that of Cardoso:

The extension of capitalism is thus intended to bring about a rise in the rate of profit of central capital—that is what it is *for*. It is because central capitalism holds the initiative in this extension that relations between center and periphery continue to be asymmetrical—indeed, this is why a periphery is formed. . . . The process of

FIGURE 2 *Heuristic Representation of Argument of Celso Furtado*

development of peripheral capitalism goes forward within a framework of competition (in the broadest sense of the word) from the center, which is responsible for the distinctive structure assumed by the periphery, as something complementary and dominated. It is this competition that determines three types of distortion in the

FIGURE 3 Heuristic Representation of Argument of Fernando Henrique Cardoso and Enzo Faletto



development of peripheral capitalism as compared with capitalism at the center: (1) a crucial distortion toward export activities, which absorb the major part of the capital arriving from the center; (2) a distortion toward tertiary activities, which arises from both the special contradictions of peripheral capitalism and the original structures of the peripheral formations; and (3) a distortion in the choice of branches of industry, toward light branches, and also, to a lesser degree, toward light techniques. (Pp. 169–70)

However, where Cardoso's argument ends with the description of the immiserating social conditions resulting from dependent development, Amin, borrowing largely from Emmanuel (1972) sees an added link in the system. In the context of these conditions, free international exchange tends to further exacerbate conditions:

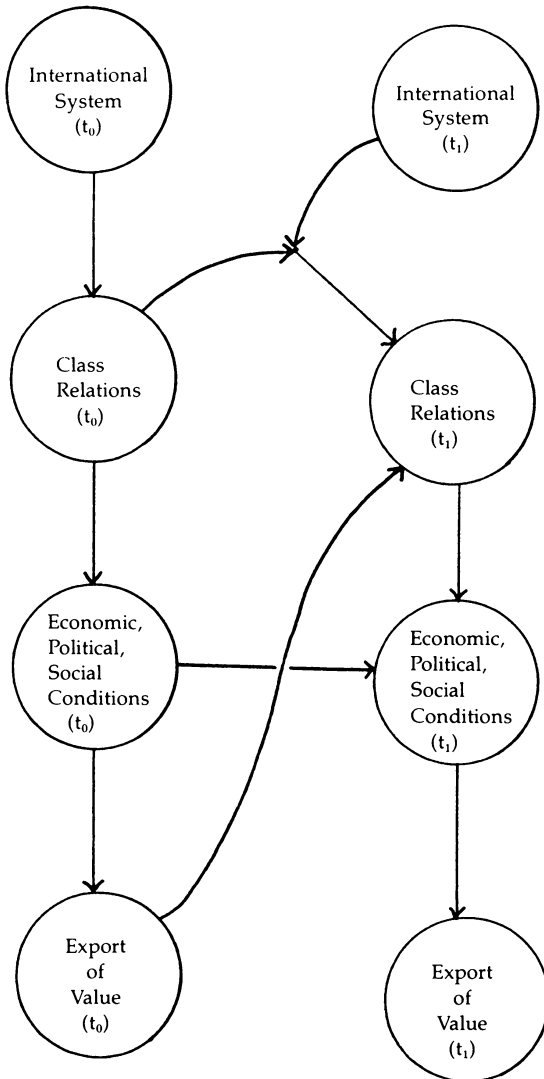
These, then, are the different forms—past, present, and, perhaps, to come—of an unequal specialization which always expresses a mechanism of primitive accumulation to the advantage of the center, keeping the periphery constantly in the same role, though in changing forms. It is this mechanism that, finding expression in an increasing divergence in the rewards of labor, perpetuates and accentuates the underdevelopment of the periphery. At the same time, this “development of underdevelopment” finds expression in aggravation of the internal contradictions characteristic of the peripheral formations: an increasing divergence between sectoral productivities within the economies of the periphery, a divergence that is vitally significant for an analysis of the social formations of underdevelopment. (Amin 1974, pp. 89–90)

This argument is represented in figure 4.

Based on these all-too-brief summaries, certain distinctions among the authors (and by inference among the various strands of dependencia theory they represent) stand out. The difference in influence attributed to external forces as opposed to that attributed to the ongoing dynamics of class relations has received widespread attention and is placed in bold relief here. In addition, the nature of those classes varies in conception from Amin's (defined by source of income) to Furtado's (defined by shared attitudes, institutions, and power). This variation is largely a function of a third and final distinction, that of the variable product-mix of Marxism and neoclassical economics embodied in each theoretical statement.

However, commonality surely dominates these distinctions; *this commonality defines the core of dependencia theory*. All of the authors agree that to understand the economic, political, and social conditions of a peripheral society those conditions must be viewed systematically, as derivatives of a single set of class relations in each society. Moreover, they all agree that the boundaries of the system within which we can comprehend the situation of the periphery must include the advanced industrial core, and further, that it is the *history* of contacts between core and periphery that must be included. All share the view that a wide range of economic, political, and social conditions can be explained by the interaction of the forces of global capitalism and the internal dynamics of class relations. In other words, foreign penetration and external dependence lead to structural distortions in peripheral economies which, in turn, lead to intense class conflict and harsh state repression in dependent societies. This gives rise to a common concern, if of varying intensity, with class relations, structure, and conflict in peripheral societies. Finally, all share (although this is not demonstrated in our brief tour) in the use of empirical data to illustrate phenomena to be explained rather than to “test” those explanations as the term

FIGURE 4 Heuristic Representation of Argument of Samir Amin



“test” is understood in positive social science. What we have, then, is a complex theoretical perspective, untested and not always perfectly clear, requiring careful attention if its ability to help us comprehend a complex, and oftentimes disturbing reality is to be assessed.

CASE STUDIES

Over the last ten years, a considerable number of case studies have been done, employing various facets of dependencia theory to analyze Third World countries. We will focus on three of those studies: Anibal Quijano’s (1971) examination of Peru, Colin Leys’s (1975) analysis of Kenya, and Thomas Biersteker’s (1979) study of Nigeria. Before comparing these works, a brief summary of each is in order.

Quijano, one of the leading dependencia theorists, concentrates on “the economic policy of the Military Junta that has governed Peru from October 1968.” What he finds, in a nutshell, is that the junta pursued policies that might be termed “dependent state capitalism.” That is, the Peruvian state became heavily enmeshed in the economy; it permitted—and indeed, sought—large amounts of foreign capital and technology; and it simultaneously aided and controlled the local bourgeoisie. It should be emphasized that at the time of Quijano’s study this type of analysis was fairly novel. Indeed, Quijano’s effort in this study should be seen less as an examination of Peru and more as the creation and elaboration of an important aspect of dependencia theory; in his own words, “this work proposes a methodology meant . . . to serve as an alternative to that engendered by conventional political science, with its facile use of such labels as ‘populism,’ ‘Bismarckism,’ etc.” (1971, p. 1).

Several years later, Leys wrote his book on Kenya. His study is less concerned with creating theory; rather, it is an *application* of what he terms “underdevelopment theory”—a set of propositions quite similar in most respects to what we have categorized above as dependencia theory. Specifically, Leys is interested in the effects of “neocolonialism” (the various policies followed by Kenya’s government after formal independence) on underdevelopment. Not surprisingly, Leys finds a strong relationship: Kenyatta’s agricultural, industrial, and political policies not only failed to weaken Kenya’s dependence significantly, in many cases they actually strengthened these processes. Leys also finds that the Kenyan state, since independence, has become increasingly autonomous of local classes; his term for this is “Bonapartism,” after Marx’s analysis of Louis Napoleon in *The Eighteenth Brumaire*.

Most recently, Biersteker has examined a particular area of dependencia theory—the direct and indirect consequences of penetration by multinational corporations. Neither an elaboration nor an application of theory, Biersteker’s book can best be characterized as a *test* of various propositions in the dependencia literature. In order to do this, Biersteker sets forth a series of hypotheses about the effects of multinationals, and for each such argument gleans a response from the “neoconventional” writings of the Harvard Business School project on multinationals. Data from several manufacturing industries in Nigeria

are then adduced, and the conclusion drawn that while neither set of arguments provides a perfect explanation, the dependencia arguments fit the facts somewhat better.

The obvious issue that must be faced when dealing with a case study of any kind is how generalizable are its findings. After all, each work concentrates on a single country, and we would like to know whether its findings are at all relevant to the rest of the world. One way to answer this question is to see whether, for any common issue, the findings of one study are similar to those of another. This may be somewhat unfair here, for the works cover different parts of dependencia theory and are intended for different purposes—clearly a theoretical exposition of state autonomy is a different type of work than is a test of propositions relating to multinational corporations. Nonetheless, the studies do overlap to some extent, and a look at that intersection is of some value.

Indeed, there are a number of similarities in the authors' findings. Although their terminology for it varies, both Quijano and Leys observe the rise of a fairly autonomous state; both see this development as serving to repress the working classes. Leys and Biersteker, to give another example, find similar effects of foreign penetration: an outflow of capital, a *comprador* class of middlemen, and an indigenizing response by the state. The studies also contain a number of other common findings; suffice it to say here that for a number of issues, our three authors do see similar phenomena.

They occasionally see different things as well. Leys, for instance, finds that inflated transfer pricing is a common practice in Kenya, a practice that costs the government considerable sums of tax revenues. Biersteker, however, finds little "systematic" use of import overpricing (although this finding relates only to raw materials, and contradicts the *assertions* of officials interviewed by Biersteker). Leys also reports that, among those firms in the same industry, local firms are more capital-intensive than foreign ones—a result which differs from Biersteker's findings. Interestingly, while Leys finds that the Kenyan state was quite efficient at repressing strikes, Quijano reports that the military junta in Peru appeared unable—or at least unwilling—to cope with work stoppages. Again, the list could go on, but the point is that although the evidence points in the same direction for some theoretical propositions, it is conflicting for others. This, of course, is not surprising. We should not necessarily expect different researchers, using different research techniques and different conceptual vocabularies (*viz.* Quijano's and Leys's use of "class" and Biersteker's use of "group": the former assumed a Marxist universe; the latter, a pluralist one), to come up with similar findings.

The above discrepancies are also indicative of some other difficulties that, while capable of partial resolution, are particularly acute for authors employing case-study techniques. One difficulty is the problem of varying context. Peru, we know, is different from Kenya, and both different from Nigeria. This observation is of more than trivial interest, for by doing single-country case studies the authors are unable to assess fully the influence of context on their research. This influence works in two ways. First, context affects the structure of hypothe-

sized relations. Any country can be seen as a particular combination of conditioning variables such as size, colonial history, and so forth;⁴ to the extent these factors are relevant in the determination of various conditions, context plays a role in hypothesized propositions. Given this, we should not be surprised to find that studies that are unable to control for context explicitly may differ on whether a given set of factors leads to a particular effect. For example, Biersteker finds Nigeria's oil wealth serves as a countervailing force to the capital flows at which he looks. Thus, although both Kenya and Nigeria experienced capital outflows, the effects of those outflows (e.g., on government tax revenues) were different.

Second, context affects rules of inference. One of the tasks of measurement is to find empirical indicators that accurately reflect theoretical concepts. To link the two requires a theory, and just as size and other contextual factors are variables that ought to enter into theoretical propositions *relating* concepts, so ought they to enter into theoretical propositions *measuring* concepts (Przeworski and Teune 1970). Failure to include context explicitly in the evaluation of empirical indicators is therefore likely to result in identical data being interpreted in opposite ways, and conversely. Thus while Quijano sees strikes as indicative of the misery of the workers in Peru and hence as a sign of the strength of the state's repression, Leys sees the state's repressive forces in Kenya as manifesting themselves in an *absence* of strikes. This is not so much a case of different *concepts*—both Leys and Quijano have more or less the same *definition* of "state repression"—rather, it is their measurement procedures, which, by failing to account for context (e.g., the state's intentions; the strength of the bourgeoisie), see repression as manifested in opposite forms.

Another difficulty in the use of certain forms of case studies is that of causality. In order to establish their propositions, all three authors implicitly employ a form of quasi-experimental design (Campbell and Stanley 1963). Thus, to see the effects of the Peruvian junta, Quijano begins his book by describing the trends as he saw them *before* the junta took power. The rest of the book discusses changes in those trends. Similarly, Leys takes as his "treatment" the onset of formal independence, having first been careful to describe the colonial situation in Kenya. Biersteker actually employs several quasi-experimental methods. One is to focus on the difference between multinational firms and domestic ones, which act as a "control" group. A second, and quite ingenious one, is to discuss the case of a part of Nigeria—Biafra—cut off for a few years from multinational investment.

Two sorts of problems, however, affect this design. One is the problem of multiple causation. Given that changes in social conditions are often closely linked in time (e.g., policies following independence, the policies of a new junta), it is not unreasonable to suspect that quasi-experimental designs on these issues will have difficulty in attributing consequences to specific causes. Biersteker, for instance, tries to show that Nigeria has the capability of developing without multinational corporations. He does this, as indicated above, by describing the development Biafra was able to undergo after it was cut off from

foreign investment. However, at the time Biafra's ties with multinationals were severed it was also mobilizing to fight a war, and Biersteker is unable to prove that Biafra's development occurred as a result of the former factor and not the latter. Given that different authors are likely to focus on different factors as being important, and that quasi-experimental designs cannot be expected to control for all of the relevant factors, case studies that employ quasi-experimental design ought to be expected to yield divergent findings.

A second, and closely related problem, is that of establishing the import of counterfactual conditions. Most dependent countries have been penetrated for long periods of time, with an accompanying set of consequences. To show that the intensification of these consequences is actually due to relatively recent "treatments," such as the Peruvian junta or Kenyan neocolonialism, and not to general trends in international capitalism or foreign penetration, is accordingly somewhat difficult. Hence Quijano and Leys at times must rely on methods of propinquity to demonstrate cause and effect: Peruvian and Kenyan governmental policies are recounted, followed immediately by a recitation of certain economic trends. Again the choice of which set of policies to bracket with which set of trends will likely vary from one author, and hence one single-country case study, to another.

The above remarks should *not* be interpreted to mean that case studies of dependence ought to be avoided. Quite the contrary. Given the richness of their findings, their exploration of those micro-level hypotheses assumed in the macro-level theories referred to above, and their ability to research subtle, long-term changes, case studies possess great scholarly value. However, the preceding analysis suggests that future studies of dependence should (1) be designed to take into account the effects of context and of long-term trends, and (2) have their propositions couched in precise, systematic terms. Both of these conditions can be satisfied by a set of case studies (obviously, a single country will not suffice); however, they also suggest that a many-country, more formal analysis might be fruitful.

"NORTH AMERICAN" EVALUATIONS

Another response to dependencia theory that may be distinguished from the case-study approach has been a "North American" response of trying to test the theory using statistical methods of modern empirical science in a comparative examination of the experiences of numerous dependent countries. So far this has been mainly of a pioneering nature, breaking the ground for what, by its own standards, would be a proper test. This enterprise has involved a need to specify concepts precisely, to propose measurement strategies, and to synthesize the dependencia literature so that the arguments might be specified in a more general way than is typical of the case study. In so doing, many basic misunderstandings have been produced and violence done to the theory. This has provoked some reaction from the original dependencia theorists that is valuable to the reformulation of the "North American" approach. Such communication can be useful in aiding scholars from the alternate traditions to talk

with rather than past one another *and* also to demonstrate the limits within which such dialogue is possible.

Unfortunately there exists a growing body of literature (exemplified by Hollist and Johnson 1977) that claims to consider dependencia but in reality provides only a caricature of the theory. Insufficient effort is made by such writers to represent accurately the concepts and arguments of dependencia writers; instead we find only a crude presentation of ideas on how “dependent relations” affect international affairs. By working at the level of grand theory—in the style of joining “islands of theory” by asphaltting the lake—the result bears no resemblance to dependencia. For this reason we dismiss such writings from our subsequent discussion.

As representative of the tradition of quantitative research, we have chosen to look at the work of Kaufman, Geller and Chernotsky (1975) and that of Chase-Dunn (1975). These articles examine what are essentially correlational and bivariate relations of the form: External Factors (X) → Outcome in Peripheral Society (Y). Using primarily cross-sectional data on a number of different countries, they provide a first attempt at describing the relations relevant to dependencia processes and the first systematic look at the empirical data on these processes. This is both the strength and the weakness of their contribution.

Both works focus specifically on the effect of certain types of external relations (e.g., trade, investment, debt) on “economic development” and “inequality” in peripheral societies. In addition, Kaufman et al. examine the effects of dependence on two categories of political outcome, while Chase-Dunn focuses attention on two key domestic economic factors as “control variables” for unravelling the effects of dependency. From these analyses they find moderate support for the dependency model.

However, there is room for skepticism as to how pertinent such results are to dependencia theory. It is not clear that the variables they consider are the ones most relevant to dependencia. For example, their conceptualization of “economic development” is concerned almost exclusively with aggregate economic production (GNP) with no regard for the structural distortions that predominate in dependencia writings on economic development. Indeed, we can go so far as to assert that aggregate economic performance per se is not really central to dependencia theory except insofar as it helps shape the development of other aspects of the economy.⁵ Other consequences of dependent development—the dependent variables in these analyses—also have largely been represented in ways only loosely connected to the actual claims of the theory.

A similar problem exists with the modelling of dependent relations as the sole causal factors. Dependency theory has never been a statement of a mechanistic relationship whereby the external linkages of the peripheral state are either the sole or even the direct determinant of all of its internal situation. Rather it embodies a complex argument that these external factors operate both in combination with and through existing internal aspects to shape the future progress of the peripheral society. Thus to say that inequality is the “result” of, say, foreign investment, is to obscure and ignore the domestic political, economic, and social factors that are crucial to this relation. We cannot reduce a

broad-based statement such as “dependent situations lead to inequality” to the simple claim that “external relations cause inequality” without reference to all of those factors that define and describe a dependent situation.

This reflects a much more fundamental misunderstanding of the status of dependencia theory. It is not a statement of the effect of dependent relations so much as a complete theory of development under dependency. It requires much more detail than a simple examination of dependent relations and entails looking at interactions among all the economic, social, and political conditions of the peripheral society. Moreover, it is an historical treatment that cannot be analyzed simply in terms of contemporary relations but requires reference to the entire history of these relations. Chase-Dunn does capture some of this by using an historical “snapshot” of each country as one of the variables in his model. However this is not adequate as a full representation of the whole history of the internal and external relations of peripheral societies. Explaining the situation of dependent countries (and even changes in that situation) is properly approached not simply in terms of present relations of dependence (i.e., some present measure of the “level of dependency”) but rather in terms of shaping the totality of the economic, political, and social relations in the context of dependency through the course of history. It is the detailed and precise modelling of these complex relations that is missing in the correlational and bivariate regression analyses of Kaufman et al. and Chase-Dunn.⁶

Despite these weaknesses in representing dependencia theory, the papers are useful contributions in the presentation and inspection of data relevant to peripheral societies. These are the first systematic descriptions and comparisons of the extent and coincidence of various dependence relations. They provide some confirmation of the propositions investigated but, if the theory is to be of real explanatory value, there is a need for more detailed micro-level analysis of the underlying processes. To achieve some of the contextual richness found in the case-study method, cross-national analyses will require this sort of careful modelling. Ultimately such an approach will prove more fruitful than reliance simply on control variables (Chase-Dunn) or sample-splitting (Kaufman et al.) characteristic of earlier studies.

Problems with measurement of key variables must be overcome for the testing of more detailed models to be feasible. The economic bias of the preliminary studies (e.g., concentration on economic features to the neglect of political-social factors) appears to be due in large part to a willingness to accept readily available (economic) measures and data rather than seeking out those most theoretically pertinent. Furthermore, where Chase-Dunn and Kaufman et al. have used multiple measures of the same concept as separate variables in separate regressions, a much more appropriate approach would be to combine these using multiple indicator strategies. The measurement problems for many of the key concepts of dependencia theory (e.g., inequality, economic disarticulation, state authoritarianism) are considerable but constitute a vital missing step that must be completed before a proper test of the theory can be made.

Ultimately there will be a need to move away from the cross-sectional focus present in each of these two research efforts and towards longitudinal

analysis.⁷ This will allow more detailed examination of historical processes and greater attention to contextual factors. Moreover, there are serious problems in inferring dynamic processes from cross-sectional analyses.⁸ However, cross-sectional analyses can provide important insights. In particular they aid us in testing assertions of the uniqueness of dependency across countries and in estimating the extent to which different mechanisms may be relevant to different regions or different stages of dependency.

There is also room for dispute as to what level of sophistication in methodological tools is appropriate to quantitative tests of dependency.⁹ At the preliminary stages it seems clear that the simple techniques of correlation and regression are appropriate to the analysis in order to explore the prevailing relations. However, as research proceeds to more complex modelling of the theory, there may be a need for a concomitant increase in the use of sophisticated methodological tools. Dependencia theory clearly stipulates simultaneous and reciprocal relations embodying complicated dynamic lag structures; measurement problems also suggest the need for the careful combination of indicators and special attention to error structures. Finally, the different advantages of cross-sectional and longitudinal analysis might suggest the use of "error components models" to maximize the use of information in both directions.¹⁰

A recent survey and reanalysis of North American "tests" of dependency illustrates the need for such approaches (Bornschiefer et al. 1978). Findings that foreign investment has different effects over time highlight the importance of carefully preserving the historical nature of the argument and of carefully conceptualizing and measuring the relevant variables. Empirical findings of strong similarities in the experiences of less developed countries in different regions of the world suggest the pervasiveness of dependency processes; differences between nations at different levels of development suggest the importance of stages and context in dependent development. Drawing upon such results, the authors come to a conclusion similar to that presented above—that there is a need for a closer examination of the particular mechanisms of dependencia and for testing on both a cross-national and a longitudinal basis.

While these technical points are important to the North American testing approach, we should be careful not to lose sight of the theory itself. This can be achieved only by careful attention to both the original and current dependencia literature and also to reactions to this quantitative testing. Cardoso (1977) has recently discussed the "poor consumption" of dependencia theory by North American scholars and has presented many of the critiques discussed above.¹¹ Attention to such comments will allow for a useful reformulation of attempts to test the theory. However, Cardoso clearly shows that there remain some fundamental disagreements and misunderstandings—in both directions—which are not likely to be easily resolved.

In part these are due to difficulties inherent in modelling "historical" and "dialectical" processes and to skepticism in some quarters that complex social phenomena are capable of "scientific" analysis. This is closely related to the more serious difference that many of the dependencia writers start from the assumption that the theory is essentially "correct" and hence that the appropri-

ate goal is further theory construction and elaboration of details of the particular processes involved. In this respect it may be impossible to reconcile fully attempts to “test” dependencia with the mainstream of that tradition. Nonetheless, North American writings should still be of interest to dependencia theorists to the extent that such “tests” reflect on the plausibility and importance of particular mechanisms and processes of dependencia.

TESTING DEPENDENCIA THEORY

From this discussion it is clear that several features must characterize future studies:

1. Evaluations of dependencia phenomena must be broadly based, drawing on the experience of a variety of countries (different situations of dependence, with varying cultures, metropolises, levels and types of economic activity, and resource abundance) both in the contemporary world system and in at least the recent (post-World War II) past.

2. Such evaluations must be *broadly focused*, attending to economic, social, and political phenomena as both causes and effects—dependencia theory is not, especially as developed more recently, narrowly economic in identifying either independent or dependent variables.

3. Indeed, the idea of system is crucial to any understanding of dependencia theory. That is, many dependence processes occur in a *complex and dynamic system*, wherefrom we may temporarily pick out so-called dependent and independent variables for analytical purposes, but we must not lose sight of their interaction.

4. A *systemic perspective* encourages attention to various units of analysis: the global system, nations as subsystems, dyadic relationships (e.g., concentration of penetration), linkages among various subsystems within each nation (as in uneven development, or disarticulated economies). On the other hand, the focus should not usually be upon highly disaggregated levels of analysis (e.g., individual firms or political parties as actors).

5. Studies must be systematic and rigorous, with careful conceptualization, development of measurement theory to fit data appropriately to concept, and measurement accuracy (i.e., replicability).

6. Most important, perhaps, is *rigorous adherence to dependencia theory*. As noted earlier, there are many varieties of dependencia theory, and theorists can be vague or ambiguous in their conceptualization, but this is a common problem with verbal theorizing and not limited to *dependentistas*. Any attempt to “test” dependency theory must make the effort to understand the relationships specified in that body of theory, to represent the arguments accurately and fully, and to try to construct a synthesis encompassing the major points.

Two projects seem to offer prospects for meeting most of these criteria, especially if they are viewed together, as complementary efforts. One is primarily an intellectual descendant of those employing a comparative case-study method, the other falls more clearly into the North American data analysis tradition. For the complementarities to emerge, however, and indeed for either to achieve its

full potential, some of the philosophical and linguistic gap between these traditions must be bridged.

One project proposal is designed by Osvaldo Sunkel of the Institute of Development Studies at the University of Sussex, England, henceforward referred to as the Sussex project (Sunkel and Fuenzalida 1977, and Godfrey and Langdon 1976).¹² This project would aim "at a better definition of concepts, at their operationalization into variables, and at the definition of the causal relationships among them." As such it recognizes that dependencia theory is not yet "accepted as a full-fledged theory, i.e., a set of abstract and general propositions from which particular hypotheses may be inferred and then put to empirical test by means of standard research procedures." The goal is "to develop theory" rather than assume that an established theory exists. Furthermore, the effort seeks to "abandon the classical, individual, effort at theory building, that relies on the knowledge and insights that a small group of persons in a few academic institutions in the developed countries may be able to accumulate over a long period of time, building a theoretical structure on a necessarily narrow and Eurocentric basis," emphasizing instead "a network of researchers from various disciplines and located mainly in the underdeveloped countries" (Sunkel and Fuenzalida 1977, p. 5). It is to proceed by the systematic comparative analysis of the development experience of a selected group of countries, with comparability ensured by use of a common general outline and definitions. From those studies it is hoped "to organize a process of systematic comparison among them intended to lead to the formulation of precise definitions of concepts, to their operationalization and measurement, and to the formulation of hypotheses about the causal relationships among them" (p. 6). Such standardization for case studies could avoid some of the conceptual or measurement incomparabilities often resulting from individual case studies, as for example noted previously with Quijano and Leys.

This project fits, at least in intent, most or all of the preceding criteria. It is concerned with a variety of countries. (We have seen no list, but it is clear that both African and Latin American countries are to be included.) It is broadly focused, with economic, social, cultural, political, and "spatial" dimensions, and explicitly systemic in both the above senses. Concerned with "the transnationalization of capitalism and national development," it gives more attention to developments *within the capitalist core* than is typical of most dependencia theory. Highly sophisticated, it gives greater attention than did earlier dependencia theory to "a fuller, more stable incorporation of the integrated segments (within peripheral countries) into the transnational system, with concomitantly greater benefits and fewer asymmetries experienced" by those segments (p. 9). Clearly it aspires to the degree of rigor we would seek, though it is too soon yet to evaluate results. Finally, it is deeply rooted in an understanding of dependencia theory, as seen both by its richness and sophistication and by the emphasis on historical processes. Sunkel is of course himself a major dependency theorist, which helps!

A project sharing many, but not all, attributes of the Sussex project is our own, henceforth referred to as the Yale project.¹³ Like the Sussex project, ours

is broadly based, employing data on all less-developed countries for which reliable information is available—roughly sixty countries, worldwide, over the period 1960–75. It too is broadly focused, addressed to economic, cultural, social, and political processes, and postulating an interactive system of relationships. We are concerned with the way various types of foreign penetration leads to economic distortions (in the foreign trade sector of peripheral countries, but more profoundly to structural distortions in the domestic economy as well), and ultimately to marginalization, inequality, social conflict, and the imposition of a coercive-authoritarian state. The project employs multiple indicators and concepts at various levels of analysis. All the investigators are North Americans, and certainly not originators of dependencia theory. We have, nevertheless, circulated our papers widely for criticism by those who have personally developed the theory.¹⁴

Where the Yale and Sussex projects differ markedly is in our conviction that it is now appropriate to formulate, at least tentatively, “a set of abstract and general propositions” which can be put to test by more or less standard research procedures. Since no single, rigorously specified version of dependencia theory currently exists in that literature, we have attempted to specify our own version (in a model with eighteen variables and twelve equations, often expressed as distributed lags to take account of long-term historical processes) of a “core” of dependencia theory. While nearly all the verbal arguments could be expressed in equations somewhat different from ours (various forms would be preferred by different authors), we feel that our current version builds on sufficient commonality among diverse dependencia perspectives for us to pursue a strategy of elaborating, testing, and ultimately revising hypotheses. Inherent in this choice of research strategy is the high risk that we will have misspecified aspects—perhaps crucial ones—of the theory. Nevertheless, the results of our errors will be readily apparent to critics from either research tradition. To correct those errors we will need other methods than simply empirical testing in the style of equations with data on many variables and countries, and will move to computer simulations and analytical exercises that can elucidate more fully the implications of the model. Longitudinal “case studies” must be designed to explore long-term processes and where necessary to investigate more micro-level phenomena than can be examined in the many-country, recent-decades investigation. These exercises should result in a revised model based on detailed mathematical analysis and solid empirical evidence.

The Yale project is in some ways quintessentially North American social science. While we are motivated by strong normative concerns, the investigation is more “positivistic” and, in detail though perhaps not in general overview, probably more skeptical about the “truth” of dependency theory. With its emphasis on precise measurement and formal modelling, the Yale project is more analytical and certainly more self-consciously concerned with scientific method. This is a consequence both of the research tradition in which we operate and of the particular skills in which we imagine our group holds a comparative advantage. The Sussex project is more oriented to the study of specific countries and

specific problems, derivative of the European and now Third-World tradition of case study examination for contextual richness. The investigators emphasize "the different impact of transnationalization on different types of underdeveloped countries," and the "great variations in the nature and intensity of transnationalization" (Sunkel and Fuenzalida 1977, p. 23). This leads to an extensive typology of characteristics of countries that must be "taken into account," though these are subsequently collapsed into a more parsimonious tentative typology of countries. Consistent with the dependencia tradition, it is cautious about—but does not adamantly resist—"premature" efforts to specify generally applicable relationships among variables, and instead will lead to detailed study of specific processes within various less-developed countries.

There is a difference of emphasis between our drive for the discovery of generally applicable principles and the Sussex case-study oriented work emphasizing contextual richness. Yet we recognize the force of dependencia arguments about contextual differences among relationships (see Duvall and Russett 1976, pp. 4–11) and it is clear that the Sussex investigators do expect, in time, to establish some general propositions based on findings from their cases. It would be quite erroneous to imagine a polar distinction here.

While the projects differ in important ways, they share sufficient commonalities as to be complementary. The Sussex project should identify additional variables that are ignored in our initial model (we neglect, for instance class relations), and suggest alternative specifications of various processes when our initial specifications go awry. The Sussex group also is to investigate the prospects for future policy by peripheral states—strategies for re-integration of currently dis-integrated national societies and economies on a less dependent, more self-reliant basis. We have not yet said anything systematic about the causal "loops" from state action back to either strengthening or weakening ties of national dependence.¹⁵ Moreover, the Sussex examination of the impact of transnationalization on specific institutions in peripheral countries (on academic and research institutions, the mass media, architecture and city planning, and on the state) would provide detailed micro-level information that can correct erroneous assumptions in the Yale project.¹⁶

Contrasting aspects of the Yale project, with its mathematical representation of complex propositions, analytic exercises, and simulation, should elucidate unexpected implications of, and perhaps contradictions among, various propositions. Our emphasis on devising measurement techniques for variables currently little employed in cross-national research may be helpful, and should at least stimulate others to evaluate the validity of our efforts. Most important, perhaps, our effort to identify general patterns of cross-cultural and cross-temporal variation (complex patterns of interacting variables, to be sure, thus confronting in important degree the question of contextual variation) should provide baselines against which the Sussex observations of particular countries can be viewed.

Methodological rigor must be combined with a sophisticated understanding of the perceptions of people who have experienced dependence: a union of

positivist method and progressive theory. To produce this combination, North American and Third World social scientists must learn to talk—and listen—to each other.

NOTES

1. In addition to the above-cited article by Fagen, for other diverse but useful reviews of dependencia literature here see Cardoso (1977), Chilcote (1978), and Domínguez (1978).
2. The interpretation of Frank's argument represented in fig. 1 omits any feedback loops from the peripheral society back to the international system. This is a reasonable, if controversial, reading that might alternatively be viewed as a tentative simplification. This simplification is present in all four heuristic figures in this paper and this note applies equally to the other representations.
3. We refer, for example, to Prebisch (1950, 1963), Economic Commission for Latin America (1970), and to numerous studies and reports that have appeared in ECLA's annual publications, *Economic Bulletin for Latin America* and *Economic Survey of Latin America*.
4. In Przeworski and Teune's words, "The goal of comparative research is to substitute names of variables for the names of social systems" (1970, p. 8).
5. For example, Cardoso has argued in his article "Associated-Dependent Development: Theoretical and Practical Implications," in Stepan (1973), that economic growth is possible under dependence contrary to the arguments of most of the earlier dependencia writers. Subsequently the point has become moot and dependencia writers have focused on the distortions attendant on dependent development.
6. Chase-Dunn uses control variables as a partial step in this direction while Kaufman et al. split their sample into regions for similar reasons. However, these are inadequate techniques for dealing with complex relations and more closely resemble "data-mining" approaches.
7. Chase-Dunn's analysis is not longitudinal despite his claims to the contrary in the article. He recognizes this in a later paper (Bornschieer, Chase-Dunn, and Rubinson, 1979).
8. For a discussion of some of the technical problems see Kuh (1959).
9. This is a general issue in analyzing complex phenomena where there are measurement problems. Some analysts would argue that measurement problems preclude sophisticated techniques; others would reply that it is just in such situations where sophisticated techniques are most necessary.
10. For a presentation of these techniques and a discussion of their applicability see Balestra and Nerlove (1966) and Maddala (1971).
11. Duvall (1978) has discussed similar problems from a different perspective.
12. We understand that this project is currently in limbo due to lack of funding. For reasons that will be clear in the text, we regard it as a very promising design and hope for its fruition in some incarnation.
13. We use this label because the project began at Yale; with one exception (Raymond Duvall), all the investigators remained there at the time of writing. For descriptions of the project see Duvall and Russett (1976) and Duvall, Jackson, Russett, Snidal and Sylvan (forthcoming).
14. Not always with success in obtaining sympathy or, perhaps, comprehension. See Cardoso (1977, p. 23).
15. We intend, however, to pursue this, as in the Ph.D. dissertation underway by David Sylvan.
16. We are nevertheless paying close attention to the role of the state though at a less micro-level than Sussex. See the Ph.D. dissertation underway by Steven Jackson, as well as Freeman and Duvall (1978), and Jackson, Russett, Snidal, and Sylvan (1978).

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Latin American Research Review

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