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**IMPERIALISM AND COMPETITION IN ANTHROPOLOGY,
SOCIOLOGY, POLITICAL SCIENCE AND ECONOMICS:
A PERSPECTIVE FROM DEVELOPMENT ECONOMICS**

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Imperialism and Competition in Anthropology, Sociology, Political Science and Economics: A Perspective from Development Economics*

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Abstract: In work published in the 1980's Yujro Hayami and I elaborated a theory of institutional innovations in which institutional changes are induced, on the demand side, by changes in relative resource endowments and technical change and, on the supply side, by changes in cultural endowments and advances in social science knowledge. In the mid-1980's I initiated a research program to explore what development economists might learn from research by other social scientists working in the field of development. In this paper I draw on this earlier work, and on related literature to explore the conditions under which interdisciplinary imperialism or interdisciplinary collaboration can be most productive. I argue that when the objective of research is to advance fundamental knowledge in the social sciences imperialism can be highly productive. But where multiple sources of knowledge must be drawn on for policy, mechanism, or system design interdisciplinary collaboration is essential.

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Imperialism and Competition in Anthropology, Sociology, Political Science and Economics: A Perspective from Development Economics

My interest in the subject of todays talk emerged out of an interest in the sources of technical change. In research initiated in the early 1970s Yujiro Hayami and I extended the theory of induced technical change and tested it against the history of agricultural development in the United States and Japan (Hayami and Ruttan, 1971, 1985; Binswanger and Ruttan, 1978).

Our demonstration that technical change could be treated as largely endogenous does not imply that either agricultural or industrial technology can be left to an "invisible hand" that drives technology along an efficient trajectory determined by differential rates of growth in demand or changes in relative resource endowments. Scientific and technical progress is also driven by an internal logic. But the capacity to advance knowledge in science and technology is itself a product of institutional innovation--"the great invention of the nineteenth century was the invention of the method of invention" (Whitehead, 1925: 96).

In work published in the mid 1980's Hayami and I elaborated a theory of institutional innovation in which institutional change is induced, on the demand side, by changes in relative resource endowments and by technical change and, on the supply side, by changes in cultural endowments and advances in social science knowledge (Ruttan and Hayami, 1984; Hayami and Ruttan, 1985: 94-110).

The elements of a pattern model that maps the relationships among changes in resource endowments,, cultural endowments, technology and institutions is shown in Figure 1.0. The model goes beyond the conventional general equilibrium model in which resource endowments, cultural endowments, institutions and, until recently, technology are treated as exogenous. In the study of long-term economic and social development, however, the relationships among the several variables must be

treated as at least partially endogenous.

An advantage of the pattern model is that it helps to identify areas of ignorance. Our capacity to model and test the relationships between changes in resource endowments and technical change is relatively strong. But our capacity to model and test the relationships between change in cultural endowments and either technical or institutional change is relatively weak.

A second advantage of the model is its usefulness in locating the contributions of economists and other social scientists to account for the role of the several sources of change in resource and cultural endowments and of technical and institutional change (Hayami and Ruttan, 1985:110-114).

Let me refer to a few examples. Historians working within the Marxian tradition have tended to view technical change as dominating both institutional and cultural change. In his book *Oriental Despotism* (1957), Karl Wittfogel (mistakenly) viewed the irrigation technology used in wet rice cultivation in East Asia as determining political organization. His primary emphasis was on the impact of resources and technology on institutions--on lines(B) and (C). Douglas North and Robert P. Thomas attempted to explain the growth of western Europe primarily in terms of changes in property institutions. Population decline in the 14th and 15th centuries was viewed as a primary factor leading to the demise of feudalism and the rise of the national state--line (C). Mancur Olson has emphasized the proliferation of distributional coalitions as a burden on the diffusion of technology--line (b)--and on the reallocation of resources--line (c).

The relationships in the lower left hand corner of Fig. 1.0 have received relatively little attention from economists. An important exception is an analysis by Avner Greif (1994:912-950) of how the differential impact of collectivist cultural endowments of Maghribi traders and the individualistic cultural

endowments of Genoese traders (D) influenced the development of commercial institutions in the Mediterranean region in the eleventh and twelfth centuries. In a celebrated article, "*De Gustibus Non Est Disputaden*" Stigler and Becker (1977: reprinted 1996) insisted that tastes, which I include under the rubric of culture, "neither change capriciously nor differ importantly between people" (1996:24). More recently Becker has significantly modified this position. In *Accounting for Tastes* he introduces differences and changes in culture as arguments in a utility function that includes the stock of personal and social capital (1996: 5).

In an attempt to fill in some of the gaps in my own knowledge I initiated, in the mid-1980's, a research program to explore what development economists might learn from research by other social scientists working in the field of development (Ruttan, 1988; 1991; 1992). In this paper I attempt to draw some implications for the organization of social science research. More specifically I attempt to respond to the question: Will advances in knowledge occur more rapidly through multidisciplinary (or interdisciplinary) cooperation or through disciplinary imperialism?

The first post WW II generation of development economists attached considerable importance, at least at the rhetorical level, to the role of cultural endowments, social structure and political organization in the process of economic development. But professional opinion did not deal kindly to the reputations of development economists who made a serious effort to incorporate knowledge from the other social science disciplines into development theory or into the analysis of the development process.. The names of Irma Adelman Peter Bauer, Everett Hagen, Albert Herschman, Bert Hoselitz, and Gunnar Myrdal come to mind. Their work typically received favorable reviews--and then was promptly ignored.

Anthropology

The economist who attempts to "read anthropology" is confronted by many anthropologies (Marcus and Fischer, 1986: 16). In my review (Ruttan, 1988) I focused primarily on the "materialist" and "interpretive" schools of anthropology. I drew particularly on the work of Marvin Harris (1968: 1976) as representative of the materialist school and Marshall Sahlins (1976) as representative of the interpretive school. The polemical style employed in their work has helped sharpen the distinctions that are of interest to development economists.

Materialist Perspectives

Scholars who approach anthropology from a materialist perspective interpret differences in social life and behavior as arising out of universal psychological, economic, and political concerns. Their approach seems, at first instance, congenial to economists. Objectively measurable behavioral elements include (a) an infrastructure that includes the ecosystem and the modes of production and reproduction; (b) a structure that includes elements of the domestic and international political economy and (c) a superstructure that includes both universal (etic) and culturally specific (emic) approaches to interpretation.

This congeniality is illustrated in the exploration, by Harris, of the differing regional cow demographics in India (Harris, 1980: 56). In the southwestern state of Kerala the mortality rate of male calves is much higher than that of female calves. In the northern state of Uttar Pradesh the mortality rate of female calves is much higher than that of male calves. In both areas farmers indicated a strong personal commitment to Hindu prohibitions against the slaughter of domestic cattle. They insisted that

they would never kill or starve one of their cattle. Yet economic factors were, in both provinces, powerful indicators of cattle sex ratios. In Kerala cattle were valued primarily for milk rather than traction. In Uttar Pradesh cattle were valued primarily for traction rather than for milk. The differences in mortality rates were precisely those that would have been predicted from the analysis based on the neoclassical theory of the firm. Harris's interpretation would have carried more conviction, at least among economists, if he had employed the more formal tools of microeconomic analysis and a conventional statistical test of his hypothesis.

Interpretive Perspectives

During the 1960's and 1970's efforts emerged, drawing on a wide range of philosophical perspectives, social science theory and ethnographic research to direct anthropology away from the older "cultural anthropology" and "social anthropology" schools and to redirect anthropological theory and ethnographic research "to elucidate how different cultural constructions of reality affect social action." These interpretive approaches involved an explicit rejection of materialist approaches. In Sahlins words, "anthropology can no longer be content with the idea that custom is merely fetishized utility" (Sahlins, 1976: 76). He suggested, somewhat more pungently, that materialist theory assumes that "manure is thicker than blood" (1976: 25).

In a more positive tone Sahlins argued: "The real issue posed for anthropology ... is the existence of culture. The utility theories have gone through many changes ... but always play out the same denouement: the elimination of culture as a distinct object of the discipline. One sees through the variety of these theories two main types: one is naturalist or ecological while the second is utilitarian

involving the familiar means-ends calculus of the rational human subject (1976: 101). He goes on to insist that neither the rationalist nor utilitarian theories have been able to explain fully the anthropological discovery that the creation of meaning is the distinguishing quality of man.

Implications

I now return to the question that motivated my interest in anthropology: What help can the development economist obtain from anthropology? My response must be ambiguous. The results of the materialist research program are generally consistent with the research by economists. But materialist anthropology has avoided, almost as thoroughly as economics, attempts to understand the sources of change in cultural endowments and the impact of cultural endowments on economic development (Kuran, 1995:328).

Interpretive anthropology, despite its tendency to slip into idealism and romanticism, places the impact of cultural differences and the sources of cultural change at the center of its research agenda. In the long run the results of this focus are likely to become more helpful to development economists than research carried out within the materialist agenda.¹ It is important that interpretive anthropology, if it can recover from its flirtation with deconstruction and avoid the temptation to abandon its commitment to social science, continue to pursue an agenda that will generate a more adequate understanding of the sources and impacts of cultural change. It may not be completely unreasonable to view interpretive anthropology as an attempt to protect the discipline of anthropology from the imperialistic ambitions of economics and sociobiology. Nevertheless, if the interpretive research agenda is successful it will substantially facilitate the ability of economists to collaborate with anthropologists in incorporating the

role of cultural endowments into economic development analysis and to utilize that knowledge in institutional design and reform.

Sociology

There are two possible motivations for interest by development economists in research by sociologists. One is the potential use of sociological knowledge by economists who are involved in development planning or policy. Knowledge of the implications of different social structures for response to policy initiatives could improve the effectiveness of project or policy design. A second reason development economists have been interested in sociology is because of a concern about the social impacts of the changes associated with economic growth. Are changes in technology, for example, so disruptive of communal values that they generate resistance to the economic development "project"?

My own answer to the question of "why sociology?" is similar to that of James S. Coleman, the leading social theorist of the last generation, "A major question that a theory of institutions should answer is how, and under what conditions, formal institutional structures come into being?" (Coleman 1990: 337). In my review of the sociological literature on development I gave special attention to modernization theory and dependency theory.

Modernization

When economists began, after World War II, to extend their analysis of economic development they carried with them the economic accounting system that had been developed by

pioneers such as Simon Kuznets and Richard Stone, along with the neoclassical microeconomics of Marshall and Hicks and a macroeconomics recently erected by Keynes and his followers. When sociologists entered the same territory they did not bring with them a clear metric of social development. What they did bring was a set of empirical generalizations from classical 19th century sociology that characterized the differences between "traditional" and "modern" societies. They also brought with them a "structural-functional" or "social systems" theory of organization and action that had been elaborated by Talcott Parsons during the 1930's.

As social research led to a deepening of knowledge about traditional societies Parsons introduced an evolutionary orientation into the structuralist -functional model (Parsons, 1964: 339-357). In this model even the simplest social system includes four evolutionary essentials: Culture, in the form of religion; communication through language; social organization based on kinship; and technology embodied in artifacts and knowledge. Societies that advance beyond the "primitive" stage of evolution are characterized by development along four evolutionary universals: (a) social stratification and cultural legitimization; (b) bureaucratic organization, money and markets; (c) generalized universalistic norms; and (c) demographic association.

Parsons' evolutionary model provided an attempt to answer the question: What grows in the process of social development? Looking back at the Parsonian system from a late 1990's perspective it appears that Parsons was searching for what economists would term a general equilibrium model. A basis was established for the pursuit of a more rigorous and productive social development research agenda. Further advances along this line would have required a level of formalization in sociological analysis comparable to that in economics. Sociology as a discipline was not prepared to move to the

level of abstraction and formalization implied by such an agenda.

Dependency and Underdevelopment

By the end of the 1960s both the theme of modernization and the evolutionary version of the structuralist-functional model had largely been abandoned as guides to research by sociologists concerned with Third World development. Research on the sociology of development became fragmented, as in anthropology, among a plethora of antipositivist, subjectivist, interpretive and constructionist perspectives. The search for an alternative perspective was the product of profound disillusionment among many social scientists with the impact of Western cultural, political and military penetration into non-Western societies (Horowitz, 1972, 1982).

One response to these concerns was to embrace a new radical macro-sociology that owed more to economists and historians, working within a neo-Marxist paradigm, than to work by sociologists. The speed with which this new perspective, variously labeled "underdevelopment theory" or "world systems theory", was embraced by sociologists was surprising, even to many radical critics of modernization theory (Horowitz, 1972: 509). To an economist it was particularly surprising how a school of economics, radical political economy, largely ignored or viewed as "bad economics" by mainstream economists, so rapidly established a bridgehead and then set an agenda for theory and policy research in the sociology of development.²

The central theme of underdevelopment theory, popularized by the vigorous rhetoric of Andre Gunder Frank, was that it was world capitalism which created and maintained the conditions of underdevelopment in the Third World--that simultaneously generated both economic development at

the center and underdevelopment on the periphery (Frank, 1967: 1969: 1971). By the mid 1980's commitment to the "development of underdevelopment" perspective had largely eroded. It has, however continued to retain greater currency in the developed world, even as it had lost much of its intellectual appeal in the developing world, particularly in Latin America where it had initially exerted its greatest impact on development policy.

Implications

Let me now return to the issue of what development economists can, or should, learn from sociology? My response at this stage is to abandon, for the time being the search for assistance from meta-theory in sociology. I find greater value in research in several areas which Merton referred as "middle range" research agendas (Merton, 1948; Hedström and Swedberg, 1998). These include (a) the sociology of science and technology, (b) the sociology of work and production, and (c) the sociology of project design and implementation.

A "new economic sociology" has emerged as a direct challenge to the economic understanding of work, production and market organization. The pioneering research in this tradition include the studies by Harrison White on labor mobility within organizations, the studies by Mark Granovetter of how labor market participants obtain information, and the research by William Friedland and associates on the organization of agricultural production (White, 1970; White and Eccles, 1987; Granovetter, 1985: 481-51; Friedland, Barton and Thomas, 1981; Swedberg, 1990: 78-114). The potential significance of the new economic sociology for development economics is related to the rapid transition from a rural to an urban-industrial labor force in most developing countries. As developing countries

make the transition from societies in which the majority of the population live in rural areas to societies in which upwards of eighty percent or more will live in urban areas the issues that are beginning to be addressed by the economic sociologists will become increasingly important.

Political Science

The subject matter of economic development and political development intersect over abroad front. Economic policy is made by incumbent politicians in the context of political institutions. The analysis of the economic impact of alternative policies is the stock in trade of the economist. But there is a deep fault line that divides scholarship in the two fields. Each field tends to treat the knowledge it draws from the other as implicit rather than explicit. Important advances have, however, been made by political scientists and economists, loosely grouped within the collective choice field of political economy, in advancing our understanding of the processes by which economic resources are translated into political resources and political resources are translated into economic resources. But similar convergence has not yet been achieved among students of political and economic development.

Political Systems

The 1960's was a period of intense intellectual ferment in the field of political science. Insights based on advances in understanding of individual and group behavior, drawing on psychology, sociology, and economics, were incorporated into the theoretical domain of politics. The concept of political system was elaborated and distinguished from changes in the environment in which political activity takes place. New quantitative methods from statistics and econometrics were adapted to

explore the relationship between the political system and its environment. The emergence of new states turned the attention of political scientists to applying these advances in theory and method to the problem of mobilizing political resources for nation building and economic development.

By the mid 1970's, however, scholarship in political development found itself facing a series of methodological, empirical and ideological challenges. The methodological foundation of the major research effort in political development sponsored by the Social Science Research Council Committee on Comparative politics was characterized as "persuasive discourse"--lacking in an analytic-deductive approach to theory construction and empirical analysis (Holt and Turner, 1975). The empirical challenge centered around the continued relevance of the Anglo-American linear model of political development--in which the political development of a country could be measured by its linear distance from the attributes of English and American liberal constitutional democracy. No society could be properly modern in the absence of autonomous individualism, a democratic polity, and market capitalism. And Huntington (1965), in particular, argued that political development should be measured in terms of the strength or capacity of government institutions--as whatever strengthens government institutions.

The ideological challenge was posed by a number of younger political scientists who, like many younger sociologists, were attracted to the dependency or underdevelopment perspective (Duvall, 1978).

Political Development

It is hard to escape a conclusion that the scholars who had been engaged in advancing

knowledge in the field of political development have been reluctant to confront the central question of political development--what is it that grows in the process of political development? I have argued in my paper on political development that the most obvious candidate for what grows in political development is power! In the 1950's power was viewed as the central phenomenon to be explained by political science. But the traditional concept of power was as an instrument or resource to alter the behavior of agents. This "limited good" or "zero sum" definition of power was challenged in an insightful, and largely neglected, paper by Talcott Parsons (1963). In Parsons' view, the political system or polity of a society is composed of ways in which the relevant components of the total system are organized to achieve action--that is the "power to" achieve individual and collective goals rather than by the zero sum concept of "power over."

In my paper on political development (Ruttan, 1991) I argue that, conceptualized as the "power to," growth in political development can be measured in terms of both its concentration and its distribution. By conceptualizing power in terms of both growth and distribution it is possible to advance two important theoretical propositions about its growth: (a) power that is closely held, or highly concentrated, faces severe constraints on its growth and effective utilization; and (b) power that is loosely held, that is equally or widely distributed, also faces severe constraints on its growth. In both cases the growth of power, primarily along a single dimension, runs into diminishing returns.

If one accepts these two propositions, then it is possible to maintain that political development has advanced (a) if the amount of power available to a society grows with no worsening of the distribution of power, or (b) as the distribution of power becomes more equal with no decline in the amount of power available to society. By these criteria it seems apparent that political development has

decayed in the former USSR and has grown in China over the last several decades.

Imperialism or Cooperation

Several inferences might be drawn from this review of the literature on social science knowledge and economic development. One is that economists should continue to search for the sources of economic development--measured in terms of the growth and distribution of income--without much help from or collaboration with the other social sciences. Processes are underway, however, that are leading toward a synthesis of social science knowledge. Sociobiologist E. O. Wilson has argued that science has embarked on a voyage that will lead to a unification of all knowledge. But he is skeptical that the social science disciplines will willingly venture on such a voyage. "The social sciences will continue the split, ... already rancorously begun, with one part folding into or becoming continuous with biology and the other fusing with the humanities" (Wilson, 1998:12). My own vision is similar to that articulated by Hirshleifer: "Good economics will also have to be good anthropology and sociology and political science and psychology" (1985: 53). The reciprocal of this view is that good anthropology, good sociology, good political science and good psychology will have to become good economics. But how can the unification or integration of social science knowledge occur?

There are two options. One is imperialism. A second is cooperation. I will argue that both have different roles to play in the voyage toward unification. Let me first present the argument for imperialism.

Imperialism

The most ambitious colonization effort has been directed, since the mid-1950's, by Gary Becker (Coleman, 1993: 169-173; Fuchs, 1994: 183-92). Becker has insisted, with great vigor, that the economic approach (Becker, 1976: 4), provides a unified framework for understanding all human behavior. He has applied this vision to areas of human behavior as diverse as discrimination against minorities, the analysis of crime and punishment, investment in human capital, and family behavior-including marriage, divorce and fertility and the relations between husbands, wives, parents and children (Becker, 1981, 1993). Coleman notes that Becker's work, by focusing on areas viewed by sociologists as strongly insulated from market forces, has contributed to the transformation of entire subfields of sociology by "the introduction into sociological theory and research of the paradigm of rational choice as developed and used in neoclassical economics" (Coleman, 1993:169).

Becker's work on the family represents his most extended and comprehensive exercise into a field previously regarded as almost the exclusive domain of sociology (Becker, 1981, 1991). It is also the work that has had the most pervasive impact on how sociology is done. In his research on the family he examines marriage markets, the specialization and division of labor within the household, and the trade off between the demand for quantity and quality in the nurture and education of children. He also touches on related issues such as the determinants of fertility, intergenerational mobility, the effects of imperfect information on divorce, and altruism within the family. In each of these areas he has combined rigorous theoretical reasoning with a wide ranging dialogue between theory and data. A consequence of Becker's research on the family is that it is not possible to conduct serious work in the field of family sociology, or as it is sometimes termed, "the new home economics" without reference to

Becker's contributions (Coleman, 1993; Grossband-Shechtman, 1993:7-16).³

There are, however, limits to economic imperialism. Hirshleifer has noted that the invasions of neighboring disciplines by economists--whether in sociology, political science, or anthropology--have failed to achieve a complete conquest and have at times been followed by strategic retreat. The initial phase of easy successes has often yielded quick results. But this has often been followed by a second phase. "In the partially conquered new territories behavior persists that remains difficult to square with the postulate of rational self interested behavior Rational self-interested interpretations of intra and extra family altruism, the act of voting, and the willingness to provide public goods have been less than fully convincing" (Hirshleifer, 1985: 53). After conquering the border regions and collecting the "low hanging fruit" the leader of an invasion often finds it difficult to keep the troops on the frontier rather than retreating to native territory.

If sociology is conceived as the science of society all social behavior falls within its domain. Similarly, anthropology, conceived as the science of culture, includes the norms that govern economic relationships. It is somewhat surprising that both disciplines have largely abandoned substantial territory to which they have legitimate claims to economics--which has traditionally laid claim to the limited territory governed by rational choice. If imperialism is to succeed in creating a unified body of social science knowledge it is important that the related disciplines also mount a vigorous campaign to regain lost territory. Among economists George Akerloff has been particularly aggressive in attempting to import concepts from sociology into economics (Akerloff, 1970; 1984). But I would like to see a much more aggressive effort on the part of other social sciences to export concepts to economics. If they are to succeed they must actively begin to occupy the ports of entry into economics. I applaud the

perspective expressed by Mark Granovetter, in an interview with Richard Swedberg. "The reason that I concentrate my own efforts on the more hard-core economic matters of production of goods and services is partly polemical, since it seems to me that if one can show that this imperialistic project of economics is not even appropriate within its own domain, then it is course clear that it would have more difficulty outside of that domain, in the more traditional sociological areas" (Swedberg, 1990: 105).

My own sense is that there are a number of entry points where economics is vulnerable. Advances in our understanding of sources and implications of transition from the traditional to the modern family type, in which the family abandons much of its household production activities and specializes in more affective relationships and joint consumption, is one such point (Ben-Porath, 1982: 61). Although political science, as noted earlier, was successfully colonized by the economic theory of public choice a vigorous reverse colonization is been initiated (Freeman, 1989). Similarly the sociology of work has begun to occupy territory previously held by economists. And economic anthropology could very well, by linking its commitment to ethnography with the formal tools of microeconomics, reclaim considerable territory that has fallen by default to economics. In my own fields, agricultural and development economics, I would like to see anthropology reoccupy the analysis of household-firm behavior in peasant agricultural systems. I see little evidence, however, that anthropologists are inclined to do battle with economists even in an area where their traditional capacities would give them considerable advantage. In contrast substantial imperialistic energy is being expended by anthropologists in pushing the margin between anthropological and humanistic approaches in the area of "cultural studies" (Clifford, 1997:61).

Cooperation

Let me now turn to consider the conditions under which interdisciplinary or multidisciplinary collaboration or cooperation between economists and other disciplines can be more productive than imperialism--where such collaboration is essential for success. I briefly touch on three examples ranging from the design of rural development projects in Africa, to the impact of the fundamentalist revival in the worlds religions, to my personal experience in the research effort that led to the "seed-fertilizer" or "green revolution" in Asian agriculture.

Integrated rural development. In a retrospective assessment of assistance to rural development Lele (1991) found that seventy-five percent of World Bank supported rural development projects in East Africa that were initiated during 1974-79 failed. The failures were due to a substantial degree to "a lack of understanding among expatriate personnel of the complex farming systems evolved by African farmers, inadequate knowledge of producer preferences and an inadequate awareness of the risk-averting responses of subsistence farmers " (Lodowijks, 1994: 85). It is hard to avoid a conclusion, given the wealth of sociological and ethnographic literature on East African agriculture, that the incorporation of knowledgeable economic anthropologists and rural sociologists into the project planning teams could not have resulted in at least a modest improvement in project performance.⁴

The Fundamentalism Project. The second example is the Fundamentalism Project carried out over a five year period (1988-93) under the direction of Martin E. Marty of the University of Chicago Divinity School. The project employed a comparative approach in an attempt to analyze the reasons for the rise and the social and political significance of fundamentalist (and fundamentalist like) movements in the worlds major religions during the late 20th century.⁵

A common feature of all of the several fundamentalisms is that they arose as a reaction to modern, secular, pluralistic societies in which the cultural constraints and the traditional support networks that of rural and pre-industrial societies were severely disrupted. Almost all fundamentalisms are grounded in an absolute truth, generally but not always enshrined in a particular holy scripture that is independent of historical change. But they are not simply traditionalist. They tend to be vigorous critics of what they regard as the corruption of traditional religious institutions. While most set themselves apart from the rest of societies they also share a common missionary goal to reform and convert society to their way of life. In pursuing this objective they have tended to politicize intimate and private issues such as sexuality, family, life, and education.

The success of the Fundamentalism Project depended on several factors. One was the concern about the social and political implication of resurgent fundamentalism in the 1970's and 1980's. The emergence during the late 20th Century of religious movements that were "intense, impassioned, separatist, absolutist, authoritarian and militant" was difficult to comprehend by a world which viewed itself as becoming modern, or even "postmodern" (Marty, 1996:24). The commitment to the project by scholars in a wide range of humanistic and social science disciplines was precipitated by the charismatic intellectual entrepreneurship of Martin Marty.

Inventing the Green Revolution. The third example draws on my personal experience as a member of the staff of the International Rice Research Institute (IRRI) in the mid 1960's. The high yielding rice varieties developed at IRRI, and at cooperating research centers throughout Asia, became the source of the "seed-fertilizer" or "green revolution" in rice production in Asia in the 1970's. At the time I joined IRRI in June of 1963 I was the only economist among the 18 senior scientists on the IRRI

staff.

Seminars, attended by senior scientific staff, research scholars, and assistants, were held every Saturday morning. At a seminar held a short time after my arrival the IRRI Director, Robert Chandler, responded to a question about research priorities by pounding on the table and announcing: "The purpose of this institute is not to do good science!" After a shocked silence he continued: "The purpose of this institute is to raise rice yields in Asia!" Then after a pause he added: "And raising rice yields in Asia may require that you do good science!"

My initial reaction was disbelief. The objective struck me as extremely audacious. In retrospect, however, the objective that Chandler set before the IRRI staff was responsible for establishing an IRRI culture (ideology? dogma?) that was largely responsible for the successful development of modern high yielding rice varieties. The objective of raising rice yields in Asia, when internalized, overrode personal disciplinary loyalties. It helped create an environment in which cooperation across disciplines became routine rather than exceptional.

The implications that I draw from this and related experience is that where multiple sources of knowledge must be drawn on to advance knowledge or technology or for institutional design multidisciplinary collaboration and cooperation is both important--and possible. Disciplinary imperialism would be destructive of the necessary cooperation. For such cooperation to be effective there must be commitment to an objective that is broader than to the subject matter of an individual discipline or a personal research agenda. This commitment does not come easily. The objectives must be regarded as such overriding importance that for the participants to "buy in" to the objective of the program.

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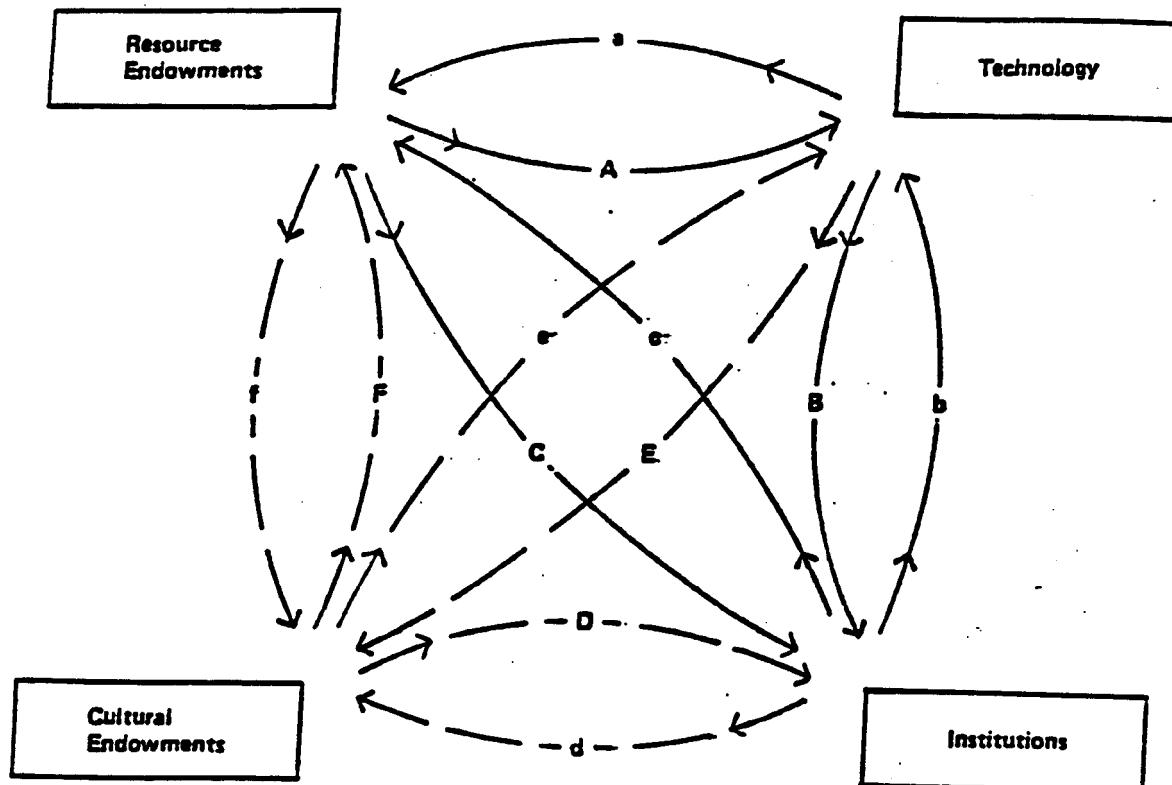
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Endnotes

1. One of the problems with materialist anthropology is that economists have been able to bring more formal tools to bear on essentially the same problems. See, for example the Laguna village studies by Hayami and Kikuchi (1982) and the North India village studies by Bliss and Stern (1982) and the study of marriage markets by Grossbard (1976, 1978).
2. As an example, in his widely adopted text, *The Sociology of Modernization and Development*, David Harrison (1988) denotes more pages to underdevelopment and world systems theory than to modernization theory. Few of his references are to work by sociologists.
3. Other invasions by Becker into neighboring territory have captured less ground. I have in mind, for example, his early research on the economics of discrimination (1957, 1971). The essential point of this work is that discrimination occurs when economic agents reveal a willingness to pay for not entering into contracts with other agents with, for example, a different religion, skin color or ethnic origin. This willingness is described by an exogenously given discrimination coefficient. Becker's analysis focused primarily on the economic consequences of discrimination. But he provided little insight into the sociological or cultural factors which determine the magnitude of the discrimination coefficients (Sandmo, 1993:89).
4. For a comprehensive assessment of the consequences of the neglect of sociological knowledge in the design of agricultural development projects see Cernea (1991).

5. The project involved nearly 200 scholars from the fields of history, political science, sociology, economics and theology. The product, reported in five volumes, is one of the major scholarly accomplishments of its time (Marty and Appleby, 1991, 1992, 1993a, 1993b, 1995).

Figure 1.0 Interrelationships between Changes in Resource Endowments, Cultural Endowments, Technology, and Institutions



Source: Daniel R. Fusfeld, "The Conceptual Framework of Modern Economics," Journal of Economic Issues 14 (March, 1980):1-52.

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