

# Staff Paper Series

Imperialism, Colonialism and Collaboration  
in the Social Sciences

by  
Vernon W. Ruttan

Department of  
**APPLIED  
ECONOMICS**

---

College of Food, Agricultural  
and Natural Resource Sciences

**UNIVERSITY OF MINNESOTA**

Imperialism, Colonialism and Collaboration  
in the Social Sciences

Vernon W. Ruttan

*The analyses and views reported in this paper are those of the author(s). They are not necessarily endorsed by the Department of Applied Economics or by the University of Minnesota.*

*The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.*

*Copies of this publication are available at <http://agecon.lib.umn.edu/>. Information on other titles in this series may be obtained from: Waite Library, University of Minnesota, Department of Applied Economics, 232 Classroom Office Building, 1994 Buford Avenue, St. Paul, MN 55108, U.S.A.*

*Copyright (c) (2007) by Vernon W. Ruttan. All rights reserved. Readers may make copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.*

## PREFACE

The initial draft of this paper was written in the spring of 2003. I intended to include the paper in a book that I was then completing, *Social Science Knowledge and Economic Development: An Institutional Design Perspective* (University of Michigan Press, 2003). As I was completing the book I concluded that the chapter did not fit with what I was trying to achieve in writing the book. I set it aside with the intention of returning to the issue when the book was completed.

By the time the book was published, however, I was fully engaged in another book project on a completely different subject. The book that resulted from that project, *Is War Necessary for Economic Growth: Military Procurement and Technology Development* (Oxford University Press, 2006) drew on my earlier interest and work in the area of science and technology economics and policy.

In reviewing several of my unpublished papers in the summer of 2007 I decided that the intellectual journey that I had traveled in completing the social science knowledge project might be of interest to some of my former students and colleagues. I decided to make a few small revisions and then release the paper in the form of a University of Minnesota Department of Applied Economics Staff Paper.

Vernon W. Ruttan  
Regents Professor Emeritus

## ABSTRACT

Prior to the middle of the twentieth century the margins that have demarcated the subject matter of the several social sciences had been relatively stable since the latter decades of the nineteenth century. Since mid-century, however, a number of intellectual and institutional developments have conspired to call into question traditional disciplinary boundaries. In this paper I address the role of disciplinary imperialism, colonialism and collaboration in advancing social science knowledge about development processes and in the design of development policy and institutions. I conclude the paper with several case studies of collaboration across disciplines that have advanced knowledge and practice in the field of development.

Prior to the middle of the twentieth century the margins that demarcated the subject matter of the several social sciences had been relatively stable since at least the latter decades of the nineteenth century. Clear borders existed between the study of the market (economics), the state (political science), and civil society (sociology). The focus of scholars in these fields was almost entirely on the western countries in which these three disciplines had originated. Only anthropology, which took as its domain the entire field of human culture, focused major attention on the least developed areas of the world.<sup>1</sup>

In the United States the establishment of the Social Science Research Council in 1923 represented an initial attempt to institutionalize interdisciplinary research across the several social science disciplines (Bennett 1951; Klein 1990).<sup>2</sup> Since mid-century several developments originating in what used to be termed the second (centrally planned) and third (less developed) worlds conspired to call into question the disciplinary structures that had become conventional in the universities of the West. One was the decolonization of western dependencies that combined with tensions between the U.S. and the U.S.S.R. to focus the attention of policy makers and academics in the West on the economic, political and social changes in the second and third worlds. A second was the expansion in the scale of human activity, particularly the dramatic growth of population and material production, in both rich and poor countries. A third was the expansion of university systems and the growth of social science capacity even in the very poorest countries (Gulbenkian Commission 1996).

An early response was the establishment of area studies as a new institutional arrangement to exploit the presumed complementarities among the several social science disciplines to provide integrated knowledge about geographic areas, particularly the countries and regions of the second and third worlds. Another was the emergence of new

“interdisciplinary” disciplines (public affairs, development studies, political economy) and sub-disciplines (economic psychology, sociology of law, ecological economics) (Langenhove 1999).

The growing duplication in the subject matter of the several social science disciplines, combined with pressure from the private foundations and public agencies that provided funding for social science research as well as from university deans and presidents responding to internal financial stringency, resulted in a continuing dialogue about the organization of the social sciences. A consequence has been a heightened level of interdisciplinary aggression but only modest growth in interdisciplinary cooperation.<sup>3</sup> In this paper I address the contributions of imperialism, colonialism and collaboration in the social sciences in advancing knowledge about the development process and in the design of development policy and institutions.

In my book, *Social Science Knowledge and Economic Development* (Ruttan 2003) I reviewed the contributions of the several social science disciplines to knowledge about the process of economic development. In an earlier book Yujiro Hayami and I had noted: "Until our colleagues in the other social sciences provide us with more helpful analytical tools, we are forced to adhere to a strategy that focuses primarily on the interactions between resource endowments, technical change and institutional change " (Hayami and Ruttan 1985: 114; see also Pieters and Baumgartner 2000). We regarded this conclusion as unsatisfactory. Jack Hirshleifer has, however, challenged economists to adopt a broader perspective. "Good economics will also have to be good anthropology and sociology and political science and psychology" (Hirshleifer 1985, 53).<sup>4</sup> The reciprocal of this view is that good anthropology and good sociology and good political science and good psychology will also have to become good economics. Sociobiologist Edward O. Wilson is more skeptical. He argued that science has embarked on a voyage that will lead to a unification of all knowledge. But he doubts 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).

But how can the unification or integration of social science knowledge occur? There are three options. One is imperialism. A second is colonization. A third is collaboration. I will argue that each have different roles to play in the voyage toward unification. In the next section I present the case for imperialism. In subsequent sections I discuss the case for colonization and collaboration.

## **Imperialism**

Imperialism involves the seizure and incorporation of new territory. Economic imperialism involves the extension of economics to topics that go beyond the traditional issues addressed by economists including the theories of consumer choice, production, markets and macroeconomics. "The most aggressive economic imperialists aim to explain all social behavior by using the tools of economics" (Lazear 2000, 103). More than a decade earlier Ghislin had argued, with somewhat excessive enthusiasm, that by expanding the scope of economics we gain the sort of benefit that physics did when its laws were made to apply to all matter (Ghislin 1988, 23).<sup>5</sup>

In economics the most ambitious imperialist crusade has been directed, beginning in the mid-1950s, by Gary Becker of the Department of Economics at the University of Chicago (Stigler 1984; Coleman 1993, 169-73; Fuchs 1994, 183-92).<sup>6</sup> Becker has insisted, with great vigor, that the economic approach provides a unified framework for understanding all human behavior (Becker 1976, 4). He applied this vision to areas of human behavior traditionally viewed as the province of sociology, 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). James S. Coleman, a leading social theorist of the last generation, insisted that Becker's work, by focusing on areas viewed by sociologists as strongly insulated from market forces, has contributed to the transformation of entire sub-fields of sociology by "the introduction into sociological theory and research the paradigm of rational choice as developed and used in neoclassical economics" (Coleman 1993, 169). The significance of Becker's work was recognized by his receipt of the 1992 Nobel award in economics.

Becker's work on the family represented his most extended and comprehensive excursion into a field previously regarded as the almost exclusive domain of sociology (Becker 1981; 1991).<sup>7</sup> His work on the family has been controversial among both economist and sociologists (Swedeberg 1990; Akerloff 1990; Fine 2002)<sup>8</sup>. In his research on the family Becker examines marriage institutions, 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.

In recent work (with Kevin Murphy), Becker has turned his attention from the economic interpretation of social behavior to the influence of social forces or social capital on market behavior. This is accomplished by treating the social environment as an argument, along with goods and services, as a component in a stable extended utility function. Factors such as culture and social structure, employed by anthropologists and sociologists, are treated as complements to

goods and services thus enabling him to retain the assumption of rational choice (Becker and Murphy 2000, 8-26).<sup>9</sup>

A consequence of Becker's research 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" (Nerlove 1974), without reference to Becker's contributions (Coleman 1993; Grossbard-Shechtman 1993, 7-16).<sup>10</sup> Students of development have found his work exceedingly useful in attempting to understand changes in family structure and the changing role of family members during the process of development (Grossbard-Shechtman 1998).

Many sociologists have reacted with considerable hostility to the rational choice assumptions employed by Becker, and to the work of sociologists such as James S. Coleman who have employed rational choice theory in their work (Baron and Hannan 1994; Ruttan 2003: Chapter 3). 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 (Hirshleifer 1985, 53). Furthermore "the fact that psychiatry may interpret individual behavior in terms of minimizing tension does not imply that we can stick tension into a utility function and call psychology economics" (Shubik 1984, 475). 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. My reading of the literature suggests that Becker's 1992 Nobel lecture marked the apogee of the literature on the economic imperialism project.

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 traditionally laid claim only to the limited territory governed by markets. If economic 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. If they are to succeed they must actively begin to occupy the ports of entry into economics (Harriss 2002).

Labor relations is an example of a field previously occupied by economics that has been successfully penetrated by sociologists (Baron and Hannan 1994). But the successful entry of sociologists into the field “was not so much adventurous colonization as the occupation of territory left vacant after mainstream economists abandoned any serious empirical investigation of what went on inside the enterprise” (Ingham 1966, 259). Stephen Gudeman has addressed the problem of the penetration of economics into anthropology by moving aggressively to develop an “anthropology of economics” that interprets the emergence of economic ideas as induced by changes in historical and contemporary economic environments (Gudeman 1986, 2001). I applaud the perspective, expressed by sociologist 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 has difficulty retaining the loyalty of its practitioners even within its own domain, then the credibility of its imperialist challenge would be weakened outside of that domain-- in the more traditional areas of sociology (Swedberg 1990, 105).

Baron and Hannan (1994) have identified a number of entry points where economics is vulnerable to invasion by sociologists. 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). A better understanding of decision-making by couples, including decisions about labor supply, is another area that might benefit from a sociological perspective (Grossbard-Schechtman and Neuman 1998).

Although political science has been successfully colonized by rational choice theory a vigorous reverse colonization is being initiated (Freeman 1989; Miller 1997; Ruttan 2003). Anthropologists have imported the tools of microeconomics to address issues of peasant household and production behavior (Gudeman, 1998; Hunt 2000; Montjoy 1996). But even greater imperialistic energy has been expended by anthropologists in pushing the margin between anthropological and humanistic approaches in the area of "cultural studies" (Clifford 1997; Ruttan 2003: Chapter 2). As anthropology has abandoned territory on its "right" to economics it has embraced invaders advancing from the "left" under the banners of "postmodernism".<sup>11</sup>

## **Colonialism**

One alternative to imperialism is colonialism. The colonial alternative does not involve absorbing the territory of a neighboring discipline into that of the intellectual imperialist. Rather it involves establishing colonies at strategic locations on the periphery of foreign territory that can serve as a base for commercial or intellectual interchange. Game theory represents an

intellectual innovation initially developed by mathematicians that has established colonies throughout the several social sciences and related professions. Unlike Becker's frontal attack on the border regions between economics and sociology the establishment of colonies in nearby territory occurred through the relatively peaceful diffusion or transfer of knowledge by agents skilled in the theory and method of both disciplines. The process of colonization was initially facilitated by a presumption that adoption of game theory as a tool of analysis appeared (mistakenly) to the inhabitants of the colonized disciplines, to carry little threat of subversion by rational choice theory (Ruttan 2001).

The initial articulation of game theory was by the Austrian mathematician, John von Neumann. It was introduced to economists as a result of the somewhat fortuitous collaboration with Oscar Morgenstern in the now classic book, *The Theory of Games and Economic Behavior* (1954).<sup>12</sup> Von Neumann, prior to his collaboration with Morgenstern (1928), had already provided a mathematical interpretation of parlor games such as chess and poker and a proof of the minimax solution (the largest minimum and the smallest maximum) to such games. Reviewers of *The Theory of Games* immediately sensed that the game theory approach was sufficiently general to have potential applications across the social sciences. But they were also cautious in questioning the immediate applicability of the two-person zero-sum cooperative games explored by von Neumann and Morgenstern (Hurwicz 1945; Marshak 1946; Luce and Raiffa 1958).

It was the remarkable work of John F. Nash, in the late 1940s and early 1950s that provided the theoretical foundation for subsequent advances in game theory and its applications. His first great contribution was the theory of two person bargaining (Nash 1950a); his second was the definition of equilibrium conditions for a non-cooperative game (Nash 1950b); his third,

and generally considered the most important, was to provide a more general analytical framework for applying rational choice analysis beyond the production and allocation of material goods to the analysis of incentives in non-market environments (Nash 1954). “With this step, Nash carried social science into a new world where a unified analytical structure can be found for studying all situations of conflict and cooperation” (Myerson 1999, 1074).<sup>13</sup> In 1991 Nash was a recipient, along with John Harsanyi and Reinhard Selten, of the Nobel Prize in economics.<sup>14</sup>

In the half century since the seminal contributions by Nash game theory has changed the way research has been conducted in fields ranging from economics and political science, sociology and anthropology, to military strategy and evolutionary biology (Shubik 1984a; 1984b).<sup>15</sup> It would be difficult to argue that this colonization was the product of an organized interdisciplinary effort. Rather the knowledge was transferred by agents who were relatively skilled in the application of mathematics regardless of whether the agents were migrants or were citizens of the colonized territories. Myerson was only exaggerating slightly when he insisted: “The formulation of Nash equilibrium has had a fundamental and pervasive impact on economics and in the (other) social sciences which is comparable to the discovery of the DNA double helix in the biological sciences” (Myerson 1967, 1067). It has been adopted even more widely as a metaphor for communication across disciplinary boundaries-as “conversational game theory”- than for advancing knowledge about behavior or as an instrument for use in institutional design (Snidal 1985; Shubik 2002).

The significance of game theory for the analysis of institutional change, and thus for the several social sciences, is that it seeks to provide a rational choice explanation of how social norms and rules emerge (Ostrom 2000). “It seeks to understand in a formal way the strategies by

which people can move from selfish interests to cooperative outcomes” (Fukuyama 1999, 151). Paradoxically the rational choice assumptions have also been a primary source of resistance to the diffusion of game theory from its colonial enclaves to the broader community of scholars, particularly in sociology and anthropology. Diffusion has also been slowed by disagreements among game theorists regarding the relative merits of cooperative and non-cooperative game formulations (Allen 2000).

From a development economics perspective interest in game theory stems from its potential application in the design of incentive compatible institutions. If a social process can be characterized as a “game” then institutions are the rules governing the play of the game (Hurwicz 1988, 40). “In development economics, an exclusive methodological reliance on price theory can naturally lead to a focus on those aspects of the developing economy that can be formulated within the terms of price theory, such as savings rates and international terms of trade, with a neglect of other fundamental problems such as crime and corruption, which can undermine the system of property rights that price theory assumes” (Myerson 1999, 1080; Ruttan 2003). Development economists have, however, been resistant to colonization by game theory. In contrast political scientists interested in institutional renovation and reform in developing countries, such as Elinor Ostrom and her colleagues at the Indiana University Workshop in political theory and Policy Analysis, have made substantial use of game theory in their implementation research (Ruttan 2003: Chapter 4; 2007: 261-263).<sup>16</sup>

## **Collaboration**

The relationship between advancing knowledge in the social science disciplines and in related professions has become more complex than it appeared when the several incipient social

sciences were struggling to establish their separate boundaries. The traditional ideology that knowledge is advanced by the disciplines and is applied in the sub-disciplines and related professions represents an excessive simplification of the relationship between knowledge and practice. In Figure 1, I present a somewhat abstract outline of the more complex contemporary relationships between the traditional social science disciplines and the newer applied fields of social science knowledge. The arrows depict both the horizontal and vertical relationships in the network that links advances in social science knowledge to the solution of societal problems. It is important to recognize that advances in knowledge do not flow only across the core disciplines and professions. Advances in professional practice and in knowledge generated by the sub-disciplines has often contributed new challenges and new insights to the core disciplines.

Research collaboration in both the vertical and horizontal directions depicted in Figure 1 has experienced substantial growth in U.S. academic institutions over the last several years. The social sciences have, however, lagged relative to the physical and biological sciences in the growth of collaboration (Adams, Black, Clemmons and Stephan 2002). In this section I consider the conditions under which interdisciplinary or multidisciplinary collaboration or cooperation can be more productive than imperialism or colonialism.

I argue that in applied research, directed toward interpretation or problem solving, imperialism can be counterproductive. Collaboration across disciplines is often essential for success. There is a remarkable paucity of literature in the social sciences that describe the characteristics of successful collaborative efforts across disciplines.<sup>17</sup> As illustrations I briefly touch on three examples ranging from the design of rural development projects in Africa, the interpretation of the fundamentalist revival in the world's religions, and to my personal

experience in the research effort that led to the "seed-fertilizer" or "green revolution" in Asian agriculture.<sup>18</sup>

### **Assistance for 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" (Lodewijks 1994, 85).

Other World Bank studies conducted at about the same time indicated that the average rate of return at the time the projects were audited was 18.3 percent for projects that were designed to be socio-culturally compatible. For projects that were socio-culturally incompatible the returns averaged only 8.6 percent (Kottak 1991). Since the early 1990s the World Bank has responded to these findings by adding substantial anthropological and sociological research and planning staff capacity to its sector development and project planning activities (Cernia 1996).

The addition of anthropologists and sociologists to project staff posed a number of difficult problems to Bank staff and management. There were several possible entry points. Historically the main entry point for social scientists (including economists) was the ex post evaluation of development impacts. Favorable evaluations were applauded and unfavorable appraisals were typically ignored. A second conventional role was in ex ante social impact assessment of potential positive and adverse social repercussions. A third entrance point was in the generation of the social information necessary for project planning. Each of these roles, while

potentially useful fell short of involving social scientists directly in project and policy design. Cernia argues that social scientists have been most effective when fully incorporated into project development teams. “Adopting the project model as a common denominator for applied sociological work has the advantage of enabling sociologists to interact better with other project professionals and to overcome their often self paralyzing biases against other professionals and their disciplines” (Cernia 1991, 15). I have made a similar argument in a discussion of the role of social scientists in agricultural research institutes (Ruttan 1982).

### **The Fundamentalism Project**

A 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 world's major religions during the late 20th century (see Chapter 8 in this volume).

A common feature 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 of rural and pre-industrial societies were severely disrupted. Almost all fundamentalisms are grounded in an absolute truth and generally but not always enshrined in a particular holy scripture that is independent of historical change. But most fundamentalist movements 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 perusing 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 1970s and 1980s. The emergence during the late 20<sup>th</sup> 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). A second was the commitment to the project by scholars from a wide range of humanistic and social science disciplines. This commitment was precipitated by the charismatic intellectual entrepreneurship of Martin Marty.

### **Inventing the Green Revolution**

A third example draws on my personal experience as a member of the staff of the International Rice Research Institute (IRRI) in the mid 1960s. 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 1970s (Hayami and Ruttan 1985; Evenson and Gollin 2003). 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!" After a second 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 disciplinary loyalties. It helped create an environment in which cooperation across disciplines became routine rather than exceptional.

## **Perspective**

The initial implication that I draw from this review is that in the social sciences disciplinary imperialism is more likely to advance fundamental knowledge than either colonialism or collaboration. More recently I have concluded that where multiple sources of knowledge must be drawn on in applied research and institutional design, collaboration and cooperation across disciplines is both important--and possible. The perceived social costs to the individual social scientist of moving beyond traditional disciplinary boundaries may be offset by the opportunity costs of failing to reap the gains from advancing knowledge across a broader front. Disciplinary imperialism can be destructive of the intellectual environment necessary to achieve effective cooperation.

Colonization tends to occur as an unintended consequence of serendipitous advances in knowledge. For cooperation or collaboration to be effective there must be commitment to an objective that is broader than the subject matter of an individual discipline or a personal research agenda (Kanbur 2002). This commitment does not come easily. When it does occur it is usually

only when the objectives of the research program are regarded as of overriding importance and often under the direction of a charismatic program leader. Such commitment is difficult to institutionalize. The danger that confronts any interdisciplinary program is that after an initial burst of creativity it will settle down to doing normal science—to filling in the gaps in the literature.

Figure 1. The Demand for Social Science Knowledge

Problem Areas	Productivity	Education	Poverty	Health	Unemployment	Growth
		↔			↔	↕
Integrative Professions	Management	Law	Public Affairs	Social Service	Psychiatry	Education
		↔			↔	↕
Specialized Sub-disciplines	Physical Anthropology	Agricultural Economics	International Relations	Family Sociology	Child Psychology	Moral Philosophy
Core Disciplines	Social Anthropology	International Trade	Voting Behavior	Political Sociology	Human Ecology	Political Philosophy
	↕	↔			↔	↕
	Anthropology	Economics	Political Science	Sociology	Psychology	Philosophy
		↔			↔	

## **References**

- Adams, James D., Grant C. Black, Roger Clemmons, and Paula E. Stephan. 2002. "Patterns of Research Collaboration in U.S. Universities, 1981-1999." Gainesville, FL: Department of Economics, University of Florida (mimeo)
- Akerlof, George A. 1970. "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism." *Quarterly Journal of Economics* 84: 488-500.
- Akerlof, George A. 1984. *An Economic Theorist's Book of Tales: Essays that Entertain the Consequences of New Assumptions in Economic Theory*. Cambridge: Cambridge University Press.
- Allen, Beth. 2000. "The Future of Microeconomic Theory." *Journal of Economic Perspectives* 14: 143-50.
- Almond, G. A., E. Sivan and R. Scott Appleby. 1995. "Fundamentalism: Genus and Species." In Martin E. Marty and R. Scott Appleby, eds., *Fundamentalisms Comprehended*. Chicago: University of Chicago Press, 399-424.
- Baron, James N. and Michael T. Hannan. 1994. "The Impact of Economics on Contemporary Sociology." *Journal of Economic Literature* 32: 111-1144.
- Bergmann, Barbara R. 1995. "Becker's Theory of the Family: Preposterous Conclusions." *Feminist Economics* 1: 141-50.
- Becker, Gary S. 1957 (1971). *The Economics of Discrimination*. Chicago: University of Chicago Press.
- Becker, Gary S. 1976. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.
- Becker, Gary S. 1981 (1991). *A Treatise on the Family*. Cambridge: Harvard University Press.

- Becker, Gary S. 1993. "The Economic Way of Looking at Behavior." *Journal of Political Economy* 101: 385-409. (Slightly revised version of Nobel Lecture, December 9, 1992.)
- Becker, Gary S. and George Stigler. 1977. "De Gustibus Non Est Disputandone." *American Economic Review* 67: 76-90.
- Becker, Gary S. and Kevin M. Murphy. 2000. *Social Economics: Market Behavior in a Social Environment*. Cambridge, MA: Harvard University Press.
- Bennett, Wendell C. 1951. *Area Studies in American Universities* New York: Social Science Research Council.
- Ben-Porath, Yoram. 1982. "Economics and the Family--Match of Mismatch? A Review of Becker's, A Treatise on the Family." *Journal of Economic Literature* 20: 52-64.
- Berk, Richard A. 1981. "On the Compatibility of Applied and Basic Sociological Research: an Effort in Marriage Counseling." *American Sociologist* 16: 204-11.
- Buchanan, James M. and Gordon Tullock. 1962. *The Calculus of Consent: Logical Foundations of Constitutional Democracy*. Ann Arbor: University of Michigan Press.
- Cerneia, Michael. M. 1985 (1991). *Putting People First: Sociological Variables in Rural Development* (2<sup>nd</sup> ed). New York: Oxford University Press.
- Cerneia, Michael M. 1996. *Social Organization and Development Anthropology: The 1995 Malinowski Award Lecture*. Washington, DC: World Bank Environmentally Sustainable Development Studies and Monographs No. 6.
- Clifford, James. 1997. *Routes: Travel and Translation in the Late Twentieth Century*. Cambridge: Harvard University Press.
- Coleman, James S. 1990. *Foundations of Social Theory*. Cambridge: Harvard University Press.

- Coleman, James S. 1993. "The Impact of Gary Becker's Work on Sociology." *Acta Sociologica* 36: 169-78.
- Coleman, James S., E. Q. Campbell, C. Hobson, J. McBarland, A. Mood, F. Wernfield and R. R. York. 1966. *Equality of Economic Opportunity*. Washington, DC: U.S. Government Printing Office.
- Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper and Row.
- Ferber, Marianne A. and Julie A Nelson, eds. 1993. *Beyond Economic Man: Feminist Theory and Economics*. Chicago, IL: University of Chicago Press.
- Fine, Ben. 2001. "Economic Imperialism as Kuhnian Revolution." *International Papers in Political Economy* 8 (3).
- Fine, Ben. 2002. "'Economic Imperialism': A View from the Periphery." *Review of Radical Political Economics* 34(2): 187-201.
- Freeman, John R. 1989 *Democracy and Markets: The Politics of Mixed Economics*. Ithaca, NY: Cornell University Press.
- Fuchs, Victor R. 1994. "Gary S. Becker: Ideas About Facts." *Journal of Economic Perspectives* 8: 183-92.
- Fukuyama, Francis. 1999. *The Great Disruption: Human Nature and the Reconstruction of Social Order*. New York: Free Press.
- Ghiselin, Michael T. 1987. "Principles and Prospects for General Economy." In Gerard Radnitzky and Peter Bernholz, eds., *Economic Imperialism: The Economic Method Applied Outside the Field of Economics*. New York: Paragon House Publishers.
- Granovetter, Mark. 1985. "Economic Action and Social Structure: A Theory of Embeddedness." *American Journal of Sociology* 91: 481-510.

- Grossbard Amyra. 1976. "An Economic Analysis of Polygyny: The Case of Maiduguri." *Current Anthropology* 17: 701-07.
- Grossbard Amyra. 1978. "Toward a Marriage Between Economics and Anthropology and a General Theory of Marriage." *American Economic Review* 68: 33-37.
- Grossbard-Shechtman, Shoshana. 1993. *On the Economics of Marriage: A Theory of Marriage, Labor and Divorce*. Boulder, CO: Westview Press.
- Grossbard-Shechtman, Shoshana. 2001. "The Economics and Sociology of Marriage: Historical Trends and Theories of In-Marriage Household Labor." Shoshana Grossbard-Shechtman, ed., *The Expansion of Economics*. M.E. Sharpe.
- Grossbard-Shechtman, Shoshana. 2001. "The New Home Economics at Columbia and Chicago." *Feminist Economics* 7 (3): 103-130
- Grossbard-Shechtman, Shoshana and Shoshana Neuman. 1998. "The Extra Burden of Moslem Wives: Clues from Israeli Women's Labor Supply." *Economic Development and Cultural Change* 46: 492-517.
- Grossbard-Shechtman, Shoshana and Christopher Clague. 2002. "The Expansion and Reorientation of Economics." In Shoshana Grossbard-Shechtman and Christopher Clague, eds., *The Expansion of Economics and Other Disciplines: Toward and Inclusive Social Science*. Armonds, NY: M.E. Sharp.
- Gudeman, Stephen. 1986. *Economics as Culture: Models and Metaphors of Livelihood*. London: Routledge and Kegan Paul.
- Gudeman, Stephen. 1988. *Economic Anthropology*. Cheltenham, UK: Edward Elgar.
- Gudeman, Stephen. 2002. *The Anthropology of Economy: Community, Market, and Culture*. London: Blackwell.

- Gulbenkian Commission on the Restructuring of the Social Sciences. 1996. *Open the Social Sciences*. Stanford, CA: Stanford University Press.
- Harriss, John 2002. "The Case for Cross-Disciplinary Approaches in International Development." *World Development* 30: 487-496.
- Hayami, Yujiro and Vernon W. Ruttan. 1985. *Agricultural Development: An International Perspective*. Baltimore, MD: The Johns Hopkins University Press.
- Hirshleifer, John. 1984. "The Dark Side of the Force." *Economic Inquiry* 32: 11-32.
- Hirshleifer, John. 1985. "The Expanding Domain of Economics." *American Economic Review* 75: 53-68.
- Hodgson, Geoffrey M. 2001. *How Economics Forgot History: The Problem of Historical Specificity in Social Science*. New York: Routledge.
- Hunt, Robert C. 2000. "Labor Productivity and Agricultural Development: Boserup Revisited." *Human Ecology* 28: 251-77.
- Hurwicz, Leonid. 1945. "The Theory of Economic Behavior." *American Economic Review* 35: 909-25.
- Ingham, Geoffrey. 1996. "Some Recent Changes in the Relationship Between Economics and Sociology." *Cambridge Journal of Economics* 20: 243-75.
- Kanbur, Ravi. 2002. "Economics, Social Science and Development." *World Development* 30: 477-486.
- Klein, Julie T. 1990. *Interdisciplinary: History, Theory, and Practice*. Detroit, MI: Wayne State University Press.

- Langenhove, Luk Van. 1999. Rethinking the Social Sciences? A Point of View." In Committee For Scientific and Technological Policy. *The Social Sciences at a Turning Point?* Paris: Organization for Economic Cooperation and Development, 43-51.
- Lazear, Edward P. 2000. "Economic Imperialism." *The Quarterly Journal of Economics* 115: 99-146.
- Lele, Uma, ed. 1991. *Aid to African Agriculture: Lessons from Two Decades of Donors' Experience*. Baltimore, MD: Johns Hopkins University Press.
- Leonard, Robert J. 1985. "From Parlor Games to Social Science: von Neumann, Morgenstern and the Creation of Game Theory." *Journal of Economic Literature* 33: 730-61.
- Lodewicks, John. 1994. "Anthropologists and Economists: Conflict or Cooperation?" *Journal of Economic Methodology* 1: 81-104.
- Luce, R. Duncan and Howard Raiffa. 1958. *Games and Decisions: Introduction and Critical Survey*. New York: John Wiley and Sons.
- Maynard-Smith, John. 1981. *Evolution and the Theory of Games*. Cambridge: Cambridge University Press.
- Marschak, Jacob. 1946. "Newmann's and Morgenstern's New Approach to Static Economics." *Journal of Political Economy* 54: 97-115.
- Marty, Martin E. 1996. "Too Bad We're So Relevant: The Fundamentalism Project Projected." *Bulletin of the American Academy of Arts and Sciences* 59: 22-37.
- Marty, Martin E. and R. Scott Appleby, eds. 1991. *Fundamentalisms Observed*. Chicago: University of Chicago Press.
- Marty, Martin. E. and R. Scott Appleby, eds. 1993a. *Fundamentalism and Society: Reclaiming the Sciences, the Family and Education*. Chicago: University of Chicago Press.

- Marty, Martin E. and R. Scott Appleby, eds. 1993b. *Fundamentalism and the State: Remaking Politics, Economics and Militance*. Chicago: University of Chicago Press.
- Marty, Martin E. and R. Scott Appleby eds. 1994. *Accounting for Fundamentalisms: The Dynamic Character of Movements*. Chicago: University of Chicago Press.
- Marty, Martin E. and R. Scott Appelby eds. 1995. *Fundamentalisms Comprehended*. Chicago: University of Chicago Press.
- Mellor, John W. 1997. Review of *United States Development Assistance Policy: The Domestic Politics of Foreign Economic Aid*. *Journal of Economic Literature* 35: 790-791.
- Metzger, Norman and Richard N. Zare. 1999. "Interdisciplinary Research: From Belief to Reality." *Science* 283: 642-643.
- Myerson, Roger B. 1999. "Nash Equilibrium and the History of Economic Theory." *Journal of Economic Literature* 37: 1067-82.
- Nasar, Sylvia. 1998. *A Beautiful Mind*. New York: Simon and Schuster.
- Nash, John F., Jr. 1950a. "The Bargaining Problem." *Econometrica* 18: 155-62.
- Nash, John F., Jr. 1950b. "Equilibrium Points in n-Person Games." *Proceedings of the National Academy of Sciences* 36: 48-49.
- Nash, John F., Jr. 1951. "Noncooperative Games." *Annals of Mathematics* 54: 289-95.
- National Research Council. 1995. *Allocating Funds for Science and Technology*. Washington, DC: National Academy Press.
- Nerlove, Mark. 1974. "Household and Economy: Toward a New Theory of Population and Economic Growth." *Journal of Political Economy* 82: S200-18.
- Olson, Mancur. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press.

- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.
- Ostrom, Elinor. 1998. "The Institutional Analysis and Development Approach." In Edna T. Loehman and D. Marc Kilgour, eds., *Designing Institutions for Environmental and Resource Management*. Cheltenham, UK: Edward Elgar, 68-90.
- Ostrom, Elinor. 2000. "Collective Action and the Evolution of Social Norms." *The Journal of Economic Perspectives* 14: 137-58.
- Pardey, Philip P. and Jason E. Christain. 2002. *The Production and Diffusion of Policy Knowledge: A Bibliometric Evaluation of the International Food Policy Research Institute*. Washington, DC: International Food Policy Research Institute, Impact Assessment Discussion Paper 14 (January).
- Pieters, Rik and Hans Baumgartner. 2002. "Who Talks to Whom? Intra- and Interdisciplinary Communication in Economics Journals." *Journal of Economic Literature* 40: 485-509.
- Radnitzky, Gerard and Peter Bernholz, eds. 1987. *Economic Imperialism: The Economic Method Applied Outside the Field of Economics*. New York: Paragon House.
- Rhoades, Robert E. 1984. *Breaking New Ground: Agricultural Anthropology*. Lima, Peru: International Potato Center.
- Ricker, William H. and Peter Ordeshook. 1973. *An Introduction to Positive Political Theory*. Englewood Cliffs, NJ: Prentice Hall.
- Ruttan, Lore M. 2001. "Games and the CPR Toolkit." *The Common Property Resource Digest* 55 (December 2000): 1-3.
- Ruttan, Lore M. and Monique Borgerhoff-Mulder. 1999. "Are African Pastoralists Truly Conservationists?" *Current Anthropology* 40: 621-37.

- Ruttan, Vernon W. 1981. *Agricultural Research Policy*. Minneapolis, MN: University of Minnesota Press.
- Ruttan, Vernon W. 1996. *United States Development Assistance Policy: The Domestic Politics of Foreign Economic Aid*. Baltimore: The Johns Hopkins University Press.
- Ruttan, Vernon W. 2002a. *Technology, Growth and Development: An Induced Innovation Perspective*. Oxford University Press.
- Ruttan, Vernon W. 2002b. "Imperialism and Competition in Anthropology, Sociology, Political Science and Economics: A Perspective from Development Economics." In Shoshana Grossbard-Shechtman, ed., *The Expansion of Economics and Other Disciplines: Toward an Inclusive Social Science*. Armonk, NY: M. E. Sharp.
- Ruttan, Vernon W. 2003. *Social Science Knowledge and Economic Development: An Institutional Design Perspective*. Ann Arbor, MI: University of Michigan Press (in press)
- Ruttan, Vernon W. 2006. "Social Science Knowledge and Induced Institutional Innovation: An Institutional Design Perspective." *Journal of Institutional Economics* 3: 249-272.
- Sandmo, Agnar. 1993. "Gary Becker's Contributions to Economics." *Scandinavian Journal of Economics* 95: 7-23.
- Schelling, Thomas C. 1960. *The Strategy of Conflict*. New York: Oxford University Press.
- Schotter, Andrew. 1981. *The Economic Theory of Social Institutions*. Cambridge: Cambridge University Press.
- Shubik, Martin. 1984. *A Game-Theoretic Approach to Political Economy: Volume 2 of Game Theory in the Social Sciences*. Cambridge, MA: The MIT Press.
- Shubik, Martin, 2002. "Game Theory and Operations Research: Some Musings 50 Years Later." *Operations Research* 50: 192-196.

- Snidal, Duncan. 1985. "The Game Theory of International Politics." *World Politics* 37: 25-57.
- Stigler, George J. 1984. "Economics--The Imperial Science?" *Scandinavian Journal of Economics* 86: 301-13.
- Swedberg, Richard. 1990. *Economics and Sociology, Redefining their Boundaries: Conversations with Economists and Sociologists*. Princeton, NJ: Princeton University Press.
- Tian, Guogiang. 2000. "Implementation of Balanced Linear Cost Share Equilibrium Solutions in Nash and Strong Nash Equilibria." *Journal of Public Economics* 70: 239-61.
- Twining, William. 1973. "Law and Anthropology: A Case Study of Interdisciplinary Collaboration." *Law and Society Review* 7: 561-83.
- von Neumann, John. 1928. "Zur Theorie der Gesellschaftsspiele." *Mathematische Annalen* 100: 295-320. For an English translation see "On the Theory of Games of Strategy" in Albert Tucker and R. Duncan Luce, eds. 1959. *Contributions to the Theory of Games*. Princeton, NJ: Princeton University Press.
- von Neumann, John and Oskar Morgenstern. 1953. *The Theory of Games and Economic Behavior*. Princeton, NJ: Princeton University Press.
- Wilson, Edward O. 1998. *Consilience: the Unity of Knowledge*. New York: Random House.

## Notes

---

<sup>1</sup> I am indebted to Ben Fine Shoshana Grossbard-Shechtman, John D. Montgomery, Steven Polasky, Lore M. Ruttan and Vasant Sukhatme for comments on an earlier draft of this paper.

<sup>2</sup> In Europe the distinctions among the several social sciences were less distinct than in the United States. The work of scholars such as Max Weber, Werner Sombert, Emile Durkheim and Vilfredo Pareto extended across economics, political science, sociology, and law and public policy (Grossbard-Shechtman and Clague, 2002).

<sup>3</sup> For a useful discussion of the issues that confront the intellectual and institutional viability of area studies, with particular reference to Asian studies, in U.S. universities see Koppel (1995). For discussion of the obstacles to interdisciplinary cooperation associated with the procedures followed by the federal agencies that support research and by university practice see National Research Council 1945: 41-43; Metzger and Zare 1999.

<sup>4</sup> Geoffrey M. Hodgson has insisted that economists need to rediscover their earlier commitment to historical specificity in theory development and application (Hodgson 2001).

<sup>5</sup> For a vigorous critique of the triumphalism reflected in the Ghiselin (1987) and Lazear (2000) articles see Fine (2001, 2002).

<sup>6</sup> A second major example of economic imperialism was the penetration of rational choice theory into political science (Downs 1957; Buchanan and Tullock 1962; Olson 1965; Stigler 1971; Ruttan 2003). For an excellent review and evaluation see Miller (1997).

<sup>7</sup> For a careful review and assessment see Grossbard-Shechtman (2001; 2002). Grossbard-Shechtman traces the rise of “the new home economics” to collaboration between Jacob Mincer and Gary Becker to the labor economics workshop at Columbia University in the early 1960’s. Grossbard-Shechtman attributes the recent decline in interest in the new home economics

---

research program to tension between the more conservative practitioners who remain clearly linked to the Becker agenda and the more policy oriented practitioners who are more concerned with feminist issues.

<sup>8</sup> Becker's work on the economics of the family, along with other work of the "new home economics" school has been vigorously criticized in the feminist literature both for its reliance on neoclassical micro-economics for its conceptual foundations and for anti feminist bias by its mostly male practitioners. See, for example, Bergman (1995) and the papers in Ferber and Nelson (1998).

<sup>9</sup> In his book with Kevin Murphy (2000) Becker did, however, make at least a partial retreat from his earlier position that tastes should be taken as given (Becker and Stigler 1977).

<sup>10</sup> 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 that determine the magnitude of the discrimination coefficients or of the sources of cultural change (Sandmo 1993, 89).

<sup>11</sup> Ben Fine has argued that as anthropology and sociology seek to retreat from the worst excesses of postmodernism they are becoming increasingly vulnerable to economic imperialism. He goes on to argue that the more analytical basis for the expanding influence of mainstream economics on the other social science disciplines "arises out of the new information-theoretic

---

economics through which both the economic and the social are perceived as responses to the market” (Fine in press). Fine is highly critical of this development which he regards as excessive reductionism.

<sup>12</sup> For a history of the von Neumann-Morgenstern collaboration see Leonard (1995).

<sup>13</sup> Myerson, unable to resist a less than generous reference to the work of Wilson, noted his advocacy of a “search for a ‘consilient’ unification of social science with virtually no regard for the real unification that has been provided by non-cooperative game theory (Myerson 1999, 1067).

<sup>14</sup> In the late 1950’s Nash entered a period of severe mental depression from which he did not emerge until the late 1980s. For an exceedingly insightful biography, which includes a useful exposition of Nash’s contributions to game theory, see Sylvia Nasar (1998).

<sup>15</sup> Among the works that were particularly influential in extending the application of game theory have been Schotter, 1981 (economics), Ricker and Ordeshock, 1973 (political science), Schelling, 1960 (military strategy), and Maynard-Smith, 1980 (evolutionary biology), Ostrom, 2000 (political science); and Ruttan and Borgerhoff-Mulder, 1999 (anthropology).

<sup>16</sup> The implementation literature has taken two primary directions since Hurwicz formulated a general model to deal with incentive problems. One direction is to characterize what various institutions can achieve using incentive compatible mechanisms. The second direction is toward “better” mechanism designs ... “which implement specific and respected social choice rules such as efficient allocations and individually rational decisions which have desirable properties” (Tian 2000). The Ostrom research program falls in this second category.

<sup>17</sup> The response to my own efforts to work across disciplines has been disappointing. My book *United States Development Assistance Policy: the Domestic Politics of Foreign Economic Aid*

---

(Ruttan 1996) was viewed favorably in economics journals (see Mellor 1997). As far as I have been able to determine it was not reviewed at all in the political science literature.

<sup>18</sup> Other excellent examples of successful collaboration across disciplines that I might have drawn on include: (a) James S Coleman and colleagues on performance differences between black and white students in U.S. high schools (Coleman et al 1996); (b) William Twining on the collaboration between anthropologist E. Adamson Hobel and legal scholar Karl L. Lewellen in the study of Comanche, Shoshone and Pueblo law or law-ways (Twining 1973); (c) Richard Berk on collaboration across disciplines in evaluating the success of water conservation efforts in California (Berk 1981); (d) Elinor Ostrom and colleagues at the workshop on Political Theory and Policy Analysis at Indiana University on drawing on political theory, experimental methods, and field surveys to develop institutional design principles (Ostrom 1990, 1998 and 2000; Ruttan 2003: 125-128); and (e) Robert Rhoads on collaboration between social scientists, and agronomists and engineers in the design and diffusion of improved methods of household potato storage in highland Peru (Rhoades 1984). For a bibliometric analysis of the patterns of collaboration by social scientists at the International Food Policy Research Institute see Pardey and Christian (2002).