

Sociologia în cadrul
științelor sociale

SOCIOLOGY AMONG THE SOCIAL SCIENCES

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The contemporary social sciences have experienced a process of fragmentation of formal disciplines, by increasing specialization and recombination of specialties in new hybrid domains. Hybridization implies an overlapping of segments of disciplines.

The relationship between sociology and the other social sciences is in reality relationship between sectors of different disciplines, not between whole disciplines. Sociology is one of the most open disciplines toward other disciplines. This openness is manifested in the citation patterns in academic publications, which allow one to measure the degree of coherence of a discipline, the relationship between specialties within a discipline, and the interactions among disciplines. If specialists in a subdiscipline tend to cite mostly or exclusively specialists in the same subdiscipline, and if relatively few authors cite outside their own subdiscipline, then as a whole the discipline has a low degree of internal coherence. It could be compared to watertight compartments or containers in large ships. In this case, the real *loci* of research are the specialties. If, by contrast, a significant proportion of authors, cross the borders of their specialties, the discipline as a whole can be considered an integrated territory.

As can be seen in the analytical and alphabetical indices of most compendiums and textbooks, sociology has a weak core. The fragmentation of the discipline into isolated specialties can be seen in most sociological treatises: "We divide up the discipline into a number of topics, each the subject of a chapter. These chapters are minimally integrated" (Calhoun, 1992, p. 185). Theoretical sociology is presented as a subfield disconnected from substantive domains: "General sociology has been relegated primarily to introductory textbooks and to a lesser extent to a sort of social theory that most practicing sociologists use but little in their work" (idem). For instance, in the *Handbook of Sociology* edited by Neil Smelser, the 22 chapters represent autonomous specialties, that are only weakly related to each other.

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Few of the 3 200 authors cited in that work are mentioned in more than one specialty (Dogan, 1997). This lack of consensus among sociologists has been emphasized in a symposium devoted to this *Handbook* (Calhoun and Land, 1989).

In the general works in sociology published in the last two decades, the most frequently cited authors are ancestors, not contemporary sociologists. With some exceptions such as Parsons, Merton, Lazarsfeld, Mills, few mentors belong to the immediately previous generation. Nowadays, sociologists in their pattern of references are like children elevated by their grandparents. This cult of the ancestors is surprising, because "following advances in the division of labour and specialization, the works of the classics ceased to be directly useful to an average sociologist. To do correct research in a specialized branch of sociology one does not in fact have to read the works – bulky, often abstruse, and semi-philosophical in nature – written by Marx and Spencer, Simmel and Weber, Mead and Znaniecki. To do such research it suffices to master, on the basis of a possibly recent handbook, the standard techniques and the current theories of the middle range" (Szacki, 1982, p. 360).

The fragmentation of sociology can be explained, in part, by the absence of any consensus on a dominant, integrative theory, or a widely-accepted paradigm. If a consensus could be reached among sociologists, it would be that sociology has today a small, soft and old core, that is not a centripetal discipline, and that it expands in all directions. Its territory looks very much like the decaying Roman empire when most soldiers were at distant frontiers, without an army in the capital. Openness to what? To other disciplines.

There is very little communication between the fifty specialized domains recognized by the International Sociological Association, and between the thirty sectors of the American Sociological Association. If cooperation among the specialized fields is weak or absent, in

revenge, a vivid traffic can be observed between each specialized sociological domain and one across disciplinary borders: the cognate specialized group of scholars belonging formally to other disciplines, particularly specialties rooted in social psychology, social demography, social anthropology, social history, social geography, social ecology, some branches of political science, political economy and socio-linguistics. A double phenomenon appears in the sociological literature of the last two decades: a division of the discipline into non-communicating specialties, and an opening of the disciplinary frontiers to specialties from different disciplines.

Bridges are built over the disciplinary borders. The circulation on these bridges is almost as important as the circulation along the internal arteries of formal sociology. The importance of this "foreign" trade can be measured. In a study covering four decades from 1936 to 1975 it was found that sociologists cited articles in sociology journals only 58% of the time; political scientists cited only 41% of the time scholars from their own discipline; anthropologists referred 51% of the time to their colleagues; psychologists referred 73% to their own kin, and 79 % of the economists did the same (Rigney & Barnes, 1980, p. 117). These figures indicate that in each social science a significant proportion of theoretical, methodological and substantive communication has been with other disciplines, the most open discipline being sociology, and the most autonomous being economics.

In an analysis of journals identified as belonging to sociology and economics there was a significant shift from sociology to "interdisciplinary sociology" and from economics to "interdisciplinary economics", between 1972 and 1987. The criterion for interdisciplinarity was the proportion of cited references in the journals of the respective disciplines (Crane and Small, 1992, pp. 204-205). An analysis by the same authors in terms of clusters of references shows a clear increase in interdisciplinary relationships.



In addition to this crossing of disciplinary borders, another important trend in the last fifteen years has been the multiplication of new hybrid journals that cross disciplines and specialties. More than three hundred hybrid journals in English, concerning sociology directly or indirectly have been established in this period, along with many others in French and German. Most of these new journals have a limited circulation and are addressed to readers in highly specialized subfields.

From Specialization to Fragmentation to Hybridization

The fragmentation of disciplines is generated by an inevitable and growing process of specialization. All the sciences experience such specialization.

As a discipline grows, its practitioners generally become increasingly specialized, and inevitably neglect other areas of the discipline. The division of physics into physics and astronomy, and the division of chemistry into organic chemistry and physical chemistry are examples in the natural sciences. In the social sciences, what was originally the study of law divided into law and political science; anthropology split into physical anthropology and cultural anthropology; and psychology broke up into psychology, social psychology, psychotherapy, and psychiatry.

Each formal discipline gradually becomes too large and unmanageable for empirical research. No theory or conceptual framework can encompass the entire territory of sociology. Talcott Parsons was the last one to attempt such a unification, but his ambition was unrealistic (Johnston, 1997). Contemporary theories are influential only within their particular subdiscipline. The process of fragmentation and specialization is, sooner or later, followed by a process of recombination of the specialties into new hybrid domains. These recombinations correspond to the logic of

multiple and concatenated causality in the social sciences.

The more renowned new hybrid domains hoist their own flags; for instance, political sociology, which is a fusion of sectors from both of its parent disciplines; social psychology, which is already autonomous; political economy, which detaches large sectors from economics and political science and smaller sectors from sociology; and historical sociology, which has revived on both sides of the Atlantic. None of these four subfields were mentioned three decades ago by N. Smelser in his *Sociology and the Other Social Sciences* (1967). This absence shows the changes that have occurred since then.

It is pointless to lament about the fragmentation of sociology or any other social science, because the interaction between specialties in different disciplines is beneficial. All social sciences, sociology in particular, have grown in depth and breadth through exchanges with cognate specialties born into other disciplines. What some scholars perceive as dispersion is in reality an expansion of knowledge and an inevitable trend.

In the history of social sciences, the progression from fragmentation to specialization to hybridization has taken one of the following six forms:

1) Scissiparity of disciplines, by division in two parts, like amoebae, by bifurcation. The history of the sciences is a long chain of divisions. One of the oldest, going back to Aristotle, is the separation of philosophy and political theory. One of the most recent is the divorce of cognitive science from traditional psychology.

2) Changing boundaries of formal disciplines. The growth of specialties at the interstices between disciplines has as a consequence the shrinking of the borders of the parent disciplines. When social psychology became independent, old psychology had lost an enormous territory. One of the borders of economics retracted when political economy was emancipated. Anthropology has seen its frontiers retract as a result of modernization, industrialization and urbanization; consequently

urban studies expanded. The margins of political science are in perpetual change. In some areas of natural and social sciences, enormous icebergs detach themselves from the ice-floe.

3) Migration of individual scholars from one formal discipline to another, or to a new territory. The founders of sociology have moved away from philosophy, such as Durkheim, or from history, such as Max Weber, or from economics, such as Pareto.

4) The convergence of two domains in a new hybrid field, consisting in the recombination of fragments of sciences. One of the most recent examples in medical sciences is the intermingling of fragments of cardiology with fragments of pneumonology. The nomenclature of social sciences is full of such hybrid fields, frequently at the second or third generation of hybridization.

5) Outgrowth from the mother-discipline for pragmatic reasons, to the point of being grafted into another formal discipline. For instance, sociology of medicine, the most populated sociological sub-discipline, is today located more often in hospitals than in departments of sociology; it has become a problem-solving sub-discipline.

6) Borrowing from neighboring disciplines, and exchanging concepts, theories, methods, practices, tools, and substance. This borrowing and lending process is an important route of hybridization. All the social sciences share concepts, theories and methods. The contribution of sociology to this treasury is impressive. Sociology has devised and exported many more concepts to neighboring disciplines than have borrowed from it (Dogan, 1996). Most theories formulated in a discipline, sooner or later spread to other disciplines. The diffusion of theories across disciplinary borders is one of the arguments that could be invoked by those who advocate more interdisciplinary strategies in the social sciences. The borrowing and lending of methods among disciplines have different itineraries than those for the spread of concepts and theories. According

to an inventory of contributions to the methodology in social sciences, the most productive disciplines were, until recently, psychology, econometrics, social psychology and statistics. For concepts and theories, the most creative disciplines are sociology, political science, economics, anthropology and philosophy.

A distinction must be made between interdisciplinary amalgamation and hybridization through recombination of specialties belonging to different disciplines. A "unified sociology" existed only in the early phase of sociological development. Hybridization of specialties came later, after the maturation of the process of the internal fragmentation of disciplines. The word "interdisciplinary" is misleading when used to describe contemporary trends, because today only specialties overlap, not entire disciplines. The word "hybridization" may seem to be imported from biology, but it has been used by social scientists such as Piaget and Lazarsfeld.

Sociometric studies show that many specialists are more in touch with colleagues in other disciplines than with colleagues in their own disciplines. The "invisible college" described by Robert Merton, Diana Crane, and other sociologists of science is an eminent multispecialty institution because it ensures communication not only from one university to another and across all national borders, but also, between specialists attached administratively to different disciplines. The networks of cross-disciplinary influence are obliterating the old classification of the social sciences.

Recombination of Sociological Specialties with Specialties in other Social Sciences

Sociology has exchanged concepts, theories, methods, practices and substance, most intensively with three

other disciplines: political science, history and economics. The analysis here will focus on these three "parentages". The well-known dominion of social psychology can be surveyed briefly. The relationships between sociology and social geography have long been difficult and poor. What happens in the absence of intermingling? Other specialties intervene in the empty space, as in case of ecological geography. Because of space constraints, I have to forgo the overlapping areas between sociology and social anthropology, social demography, ethnology and sociolinguistics, but the comments on the process of fragmentation of disciplines, on multiplication of specialties, and on recombination of the specialties in new hybrid fields are also applicable to them.

Relations with Political Science

A double phenomenon can be observed in the relationship between sociology and political science. First, there is a weak communication within each of these two disciplines among the multiple specialized fields: an impermeability between the specialized research subfields that belong formally to the same discipline. The disciplines appear like watertight compartments in large ships (Dogan, 1997). Typically, there is relatively little scholarly exchange between a student of the American Congress and a specialist in Middle Eastern politics, between a political philosopher and an expert in statistical analysis, between an Africanist and an expert on welfare states. However, most of these scholars are likely to have relationships with cognate specialties in neighboring disciplines. The diversity of methodological schools contributes to the fragmentation of each discipline.

Second, across disciplinary frontiers there is a vivid traffic between special fields or subfields belonging to one discipline and the similar or cognate fields in the other discipline. A convincing way to show the importance of these cross-disciplinary bridges is to rank on two columns the fifty research committees of the ISA

and the forty committees of IPSA. For each area of research in one discipline there is a homologue in the other discipline: religion, ethnicity, generations, gender, mass-communication, elites, socialization, crime, social inequality and so on. To these interminglings should be added theoretical and methodological pairs: all major schools and sects are represented in both disciplines – from rationalists to marxists, and from qualitative methods to proponents of over-quantification.

The relationships between sociology and political science can be observed, by counting the proportion of authors belonging to a discipline who cite articles from other disciplines. Such an analysis of footnotes in major journals shows the trade across disciplinary frontiers and the changes in trade routes over time. In terms of import-export balance, political science has borrowed from economics, sociology and social psychology, and has exported mostly to sociology.

There has been a change in the cross-fertilization of political science. In the 1950s and 1960s, sociology was the major lender to political science, making such important contributions such as group theory, political socialization, social cleavages, and systems theory. In the 1970s and 1980s, economics was the major cross-fertilizer of political science, especially with theories of public goods and collective action, game theory, social choice, and international trade theory. Psychology has been a constant exporter to political science and sociology, but at a lower level. In the 1960s, its major contributions came from personality theory and the study of values.

One domain of sociology – political sociology – and one domain of political science – comparative politics – have privileged relations, in some cases achieving a real fusion. In the history of comparative research, there was a privileged moment of cooperation and convergence between political sociology and comparative politics. Between 1958 and 1972, three dozen important books and articles were published, that shared three

characteristics: comparison by quantification, hybridization and cumulative knowledge. That a combination had never previously been achieved in the history of sociology and political science (Dogan, 1994, 39). This privileged moment also marks a break with European classical comparisons in the sociological style of Tocqueville, J.S. Mill, Marx, Weber and Pareto.

The alarm over the parochial state of comparative politics – after the subjugation of all social sciences during the period of totalitarianism in Europe (Scheuch, 1991), and before their renaissance in the United States – was raised by Roy Macridis in 1955. At the same time (1954) the Statistical Bureau of the United Nations started to publish "social statistics" on demographic variables, income, standards of living, social mobility, sanitary conditions, nutrition, housing, education, work, and criminality. These sources facilitated the encounter between political sociology and comparative politics.

In 1957, *Reports on the World Social Situation* began to be published by the Department of Economic and Social Affairs of the United Nations. The chapters in these publications in 1961 and 1963 on "the interrelations of social and economic development and the problem of balance", and on "social-economic patterns" are contributions that can be read profitably today by sociologists interested on developmental theories. Lipset's *Political Man* (1959) borrowed from all social sciences. A year later, Karl Deutsch produced his "manifesto" (Deutsch 1960), followed by a seminal article a few months later (Deutsch, 1962). Both articles dealt with comparative indicators. The following year, an important article by Ph. Cutright (1963) was published that appears in retrospect to have been prophetic. In the same year, Arthur Banks and Robert Textor published *A Cross-Polity Survey* (1963) in which the majority of the 57 variables are of direct interest for sociologists. Shortly after ward, the *World Handbook of Political and Social Indicators*, by B. Russett *et al.*, discussed

75 variables, the majority with sociological significance. In *Comparative Politics* by G. Almond and G. Bingham Powell (1966), several social sciences, particularly sociology and social anthropology, are seen in the background. From that moment on, the field of international comparisons became bifurcated, with both trends being related to political sociology. One road continues with quantitative research, in which contributors constantly use non-political factors in their analyses of the correlates of democracy and transition to democracy. An important contribution comes again from the Development Program of the United Nations, the *Human Development Report* (1990 *et seq.*). In this publication GNP *per capita* is "dethroned" and is replaced by a new indicator: Purchasing Power Parity (PPP).

The other road gave priority to sectoral comparisons, for instance, the eight volumes on development, published by the Princeton University Press, where politics is most of the time a dependent variable explained by social economic and cultural factors. About a thousand books and articles appear in a selected bibliography of sectoral comparisons published during the last three decades. About half of their authors belong administratively to political science, a quarter belong to sociology, and a quarter are hybrids scholars.

As we can see, comparative political sociology does not consist only in cross-national analysis. It is also a cross-disciplinary endeavor, because in comparative research one is crossing units (nations) and variables (numerical or nominal). The variables are usually more numerous than the units. The relations between variables are often more important for theoretical explanations than are discoveries of analogies and differences between nations. In comparative political sociology, there is not a single major book that attempts to explain politics strictly by reference to political variables. Of course, the amount of hybridization varies with the subject and the ability of the author to omit what should be implicitly admitted.



In the last three decades, more than two hundred contemporary European and American scholars, have held a joint appointment in the departments of sociology and of political science, or have moved from one to the other. Some comparativists cannot be locked in only one of these two disciplines.

Historical Sociology and Social History

History is the most heterogeneous discipline in the social sciences, dispersed in time and space. It is divided into a nomothetic part and an ideographic part. The dispute over the role and borders of history, which in France goes back to Durkheim, Simiand (1903), and Seignobos, does not seem to have ended. Three generations later, history has been excluded from the social sciences under the authority of an international institution: it is not numbered among the so-called nomothetic sciences covered in the first volume published by UNESCO, *Main Trends in the Social and Human Sciences*. Historians do not appear to have reacted vigorously to this affront. Indeed some have come to terms with it. "The progress of history in the last 50 years is the result of a series of marriages: with economics, then with demography, even with geography... with ethnology, sociology and psychoanalysis. When all is said and done, the new history sees itself as something like an auxiliary science of the other social sciences" (Chaunu, 1979, p. 5). And here we have the word "auxiliary" which was previously such a sore point, used this time by an historian. This is clearly not the opinion of the other historians (*Annales*, 1989, p. 1323), who are resolutely committed to interdisciplinarity: "History will progress only in the context of interdisciplinarity".

As long as the focus is on the long time span and the comparative approach, there is agreement between Durkheim and Braudel. At a distance of 60 years, using different words, they say much the same thing: "History can be a science only in so

far as it compares, and there can be no explanation without comparison... Once it starts comparing, history becomes indistinct from sociology" (Durkheim in the first issue of *l'Année Sociologique*, 1898). Braudel is just as accommodating: "Where the long time span is concerned, the point is not simply that history and sociology tie in with each other and support each other, but rather that they merge into one" (Braudel, 1960, p. 93). However, this refers only to the part of history that compares while considering the long time span; other fields of history have very little to do with sociology. Similarly, many sociologists do not need to have recourse to history to resolve problems with which they are concerned. Durkheim and Braudel would have been more explicit if, instead of considering their disciplines as a whole, they had referred clearly to their common territory, which is now called comparative social history or historical sociology. Once it is accepted that history and sociology overlap only in certain areas, the long territorial dispute between history and sociology will become a thing of the past. However this is only one sector of history brought face to face with a sector of another discipline. Exchanges with economics have thus generated economic history, which is of interest to enough historians and economists to provide material for several major journals. Each human activity has its historian, who, in order to perform his or her task, has to hunt in other people's lands.

On the other side of the Atlantic, as soon as their disciplines had begun to fragment, innovative historians and sociologists reached out to one another. Frederick Jackson Turner's study of the American frontier was a marriage of sociology and history with the benediction of geography. Later, sociologists such as R. Bellah (*Tokugawa Religion*, 1959) and S.M. Lipset (*The First New Nation*, 1963) were joined by a new generation of historians, for instance Charles Tilly's and Barrington Moore. This interweaving of sociology and history continues to the present day.

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"Most sociologists and historians have no clear understanding of what historical sociology really is." (Aronson 1969, p. 294). Unlike economics, political science, or linguistics, the distinction is not based on subject matter. Many have attempted to clarify the differences between the two disciplines, leaving no two authors in agreement (see Boudon 1979; Lipset and Hofstadter, 1968; Tilly 1981). The reason for the lack of consensus is clear: the remarkable diversity of the historical sociologies, to say nothing of their parent disciplines, makes any unidimensional characterization of the issue unsatisfactory.

The comparative method is a very useful way to unify general statements of causality of historical events. One of the first to take this path was the French school in the journal *Annales*, which developed an approach to social history which was both sociological and comparative. Marc Bloch was one of the most influential figures in the development of this school, both in his programmatic statement, *Pour une histoire comparée des sociétés européennes* (1928), and in *La société féodale* (1939-1940). For some historians it is impossible to assess the validity of any causal interpretation on the basis of a single case, making a comparative approach absolutely necessary for useful explanation. (Cahnman and Boskoff 1964, p. 7). Comparative history overcomes the fragmentation of specialized (and especially national) history. Examining similar causal processes in two or more specific contexts can illuminate the nature of the causal forces at work and improve one's understanding of the events being studied.

The dialogue between the specific and the general is an important issue explored by many who discuss historical sociology. Along these lines, Peter Burke (1980) isolates two different aspects of the contributions history can make to sociology, one negative and one positive. The negative contribution entails picking away at the edifice constructed by others by showing how a theory does not fit one's society. This entails tests that are hazardous for any theory, but theories that

can survive are proved to be of greater value. The positive contribution involves working out from the general to the particular in order to construct a revised general theory. This task is especially valuable because a sociologist's generalizations often appear vacuous to an historian. Historians have invalidated without pity many beautiful theories built by sociologists and political scientists.

When posed in this fashion, the social sciences' insistence on generalization can be helpful for historians. In the words of a sociologist turned-historian, "Whatever else they do, the social sciences serve as a giant warehouse of causal theories and concepts involving causal analogies; the problem is to pick one's way through the junk to the solid merchandise." (Tilly 1981, p. 12). When one finds solid ground, a simple application of sociological theory to historical problems can be innovative.

Peter Knapp (1984), suggests that historians can help overcome the inattention to context of most social theory. He argues that one of the major problems in sociological theory is the implicit or explicit *ceteris paribus* clause. Since all other factors are never the same in the real world, such theories are repeatedly disconfirmed and often appear vacuous. "When sociologists (or political scientists, economists, or anthropologists) decide that concern with theory absolves them from concern with history, their product will not only be irrelevant historically, it will not even be adequate as theory." (Knapp 1984, p. 34). When theories are opened up to allow variation in the *ceteris paribus*, they can be applied to specific historical contexts. Historians who are most familiar with the peculiarities of "their" period or country, have much to add to social theory in this type of research.

Contrary to what is generally believed, historical sociology sometimes is not based on quantified research. Nonetheless, quantification is so ubiquitous in most social sciences that it is easy for historians to misunderstand the nature of the field. As Tilly points out, "In field after



field, the leading edge of the change was some form of quantification. Because of that uniformity, many non quantitative historians mistook the prow for the whole ship." (Tilly, 1981, p. 34). Quantified data is for most sociologists what primary sources are for historians. If some historians cannot resist quoting diaries, some sociologists cannot resist quantifying. Both kinds of evidence have advantages and disadvantages, and each discipline can gain from making greater use of the kind of evidence most useful to the other.

In addition to a difference in method, history and sociology often are distinguished by their conceptual inventories. There are a number of sociological concepts historians can use to their advantage, such as structure, function, social role, kinship, socialization, deviance, social class and stratification, social mobility, modernization, patrons and clients, and factions. The breadth of this list makes it clear that there is much room for hybridization of subfields across the disciplinary boundaries. For instance the concept of "development" is central in several social sciences (Riggs, 1984).

Relations with Eclectic Economics

To discuss the relationship between sociology and economics, it is necessary to distinguish several varieties of economists: econometricians, monodisciplinary monetarist theorists, landless theorists, and eclectic transgressors of borders (a fifth variety, the economic historians, have been "expelled from the garden of economists"). The first two varieties have well-known physiognomies. Landless theorists (I borrow this label from Richard Rose, 1991) are economists who believe that they do not have to deal with nation-states, and tend to reduce all countries to a single model. They travel at a stratospheric level of landless economies. One may assume that the first three varieties are outstanding contributors to scientific knowledge, since so many of them have been awarded Nobel prizes, but here only the last variety interests us because it is the

only one which entertains good relations with the other social sciences.

Eclectic economists denounce the reductionism advocated by other economists. Four decades ago, F.A. Hayek wrote that "the economist who is only an economist is likely to become a nuisance if not a positive danger" (Hayek, 1956, p. 463). For the Nobel prize laureate James Buchanan, "it become increasingly clear that the channels of effective communication do not extend throughout the discipline that we variously call "economics", and that some "economists" are able to communicate far more effectively with some scholars in the noneconomic disciplines than with those presumably within their own professional category" (Buchanan 1966, p. 181). Another Nobel prize laureate asked: "Why should economics be interdisciplinary? The answer is, presumably, because otherwise it will make mistakes; the neglect of all but the narrowly economic interactions will lead to false conclusions that could be avoided" (Solow, 1970, p. 101). Many economists state that "it is necessary to reduce the use of the clause *ceteris paribus*, to adopt an interdisciplinary approach, that is to say to open economics to multidimensionality" (Bartoli 1991, p. 490).

Economics is also divided, but to a lesser degree than the other social sciences. It has maintained some coherence but has had to pay a high price for this by considerably reducing its field. At one time, economics reached a fork in the path: it could have chosen intellectual expansion, and the penetration of other disciplines, at the cost of heterogeneity and diversification and at the risk of dispersal (a risk taken by sociology and by political science); it chose instead to remain true to itself, thereby forfeiting vast territories. Many economists consider that the choice of purity, methodological rigor and hermetic terminology was the right choice.

It is thus clear that self-sufficiency, eventually, leads to a shrinking of borders, but this does not mean general impoverishment, since the lands abandoned by economists were soon cultivated by

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others. Those lands now have their own departments, research centers, and professional schools (management, political economy, development science). The position of economics in the constellation of the social sciences today might have been more dominant if so many economists had not withdrawn into monodisciplinarity.

This situation is surprising in that "few classical sociologists have failed to assign a central place in their theories to the relationship between economy and society: from Marx and Weber to Schumpeter, Polanyi, Parsons and Smelser" (Martinelli and Smelser, 1990), not forgetting Pareto.

If many economists have locked themselves in an ivory tower, and allowed whole areas to escape from their scrutiny, other economists have advocated an "imperialistic expansion of economics into the traditional domains of sociology, political science, anthropology, law and social biology" (Hirschleifer 1985, 53; Radnitzky and Bernholz, 1987). Several of these economists are famous scholars, including several Nobel laureates. A kind of manifesto has been published in *the American Economic Review*:

"It is ultimately impossible to carve off a distinct territory for economics, bordering upon but separated from other social disciplines. Economics interpenetrates them all, and is reciprocally penetrated by them. There is only one social science. What gives economics its imperialist invasive power is that our analytical categories are truly universal in applicability. Thus economics really does constitute the universal grammar of social science. But there is a flip side to this. While scientific work in anthropology and sociology and political science and the like will become increasingly indistinguishable from economics, economists will reciprocally have to become aware of their functions. Ultimately, good economics will also have to be good anthropology and sociology and political science and psychology" (Hirschleifer, 1985, p 53).

This view is anachronistic, but many outstanding economists have

succeeded not only in "exporting" their knowledge to other disciplines but also in "invading" them with their methods and theories and achieving innovative research. Arrow's *Social Choice and Individual Values* (1951) led mathematically trained economists to apply game theory to a variety of social conflict situations. Several works, in quick succession, made such applications, including Anthony Downs's *An Economic Theory of Democracy* (1957), Duncan Black's *The Theory of Committees and Elections* (1958), Buchanan and Tullock's *The Calculus of Consent* (1962), Riker's *The Theory of Political Coalitions* (1962), and Olson's *The Logic of Collective Action* (1965). Since then, many social scientists have borrowed ideas and techniques from economists and applied them to the analysis of various processes and situations. The economists were the first in the field because they had a longer tradition of mathematical training, and used more abstract, and thus more widely applicable concepts. The other social sciences had learned statistics in order to handle the interpretation of their empirical data, but were much slower to learn advanced mathematics. In a number of important graduate schools, economists hold joint appointments with other social science departments.

Some economists continue to spread the application of their analytic techniques to outside fields. Gary Becker wrote a book on discrimination and prejudice, and in *Treatise on the Family* (1981) applied economic analysis to topics such as the incidence of marriage, divorce and childbearing. He was awarded the Nobel prize in Economic Sciences in 1992 for his work applying economics to different areas of human behavior, particularly the family, a traditional stronghold of demography. Gordon Tullock's *The Economics of Non-Human Societies* deals with ants, termites, bees, mole rats, sponges and slime molds. Many similar examples could be given (Szenberg, 1992): "The fields to which the economic approach or perspective has been applied



over the last thirty or forty years include politics, sociology, ethnology, law, biology, psychology" (Radnitzky and Bernholz, 1987). An examination of recent issues of journals of economic literature shows that some economists explore a wide range of issues. Among these eclectic economists there are a few who behave like academic cowbirds who lay eggs in the nest of another discipline, and return immediately to their home discipline. The economist Michael Intriligator (1991) has presented in a schematic way the patterns of cross-fertilization among the behavioral sciences by identifying concepts and theories developed in economics and adopted by others. He traces in terms of input-output the itinerary of social choice theory, structural models, decision theory, organization theory, bounded rationality, utility theory, game theory, the concept of balance of power, and anomie.

The interferences between economics and political science are deeper than those between economics and sociology. Many economists are better known in political science than in economics, particularly in the domain of political economy. In the *New Handbook of Political Science* (Goodin and Klingemann, eds, 1996), the new economic sociology receives great attention, but it is not clear how it is different from the older political economy. This *Handbook* should be confronted with *Handbook of Economic Sociology*, edited by N. Smelser and R. Swedberg (1994). For instance, Claus Offe describes the "asymmetry" between the two disciplines: "Political economists do have an economic theory of institutions and tend to disregard this demarcation line separating spheres. Sociologists have perhaps only the rudiments of a sociological theory of what is going on in markets and firms, while the most ambitious argument that sociologists do have to offer effectively demonstrates that non-economic spheres of society are not only constituted in different ways than the economy, but that the economy itself depends on non-economic spheres" (Offe, 1996, p. 687).

Social Psychology

Most sociologists are not involved in the kind of research that interests most psychologists, and vice versa. For the majority of sociologists and the majority of psychologists, their respective territories are clearly separated. Nevertheless, between the two disciplines there is a condominium; social psychology, inhabited by hybrid scholars, some of whom have begun their scientific activity in one of the two disciplines while others started as "hybrids". In addition, for many sociologists who are not social psychologists, psychology is the nearest and most important disciplinary neighbor. We can therefore be brief on this old and familiar parenthood. What Alex Inkeles wrote three decades ago is still valid today: "It would not be at all difficult to assemble a set of fifty or one hundred recent articles in social psychology, chosen half from the psychological and half from the sociological journals, which would be so much alike that no one, judging without knowledge of source or author, could with any precision discriminate those written by professional sociologists from those written by psychologists. Several considerations follow from this simple fact. Clearly, the two disciplines cannot be defined in terms of what psychologists and sociologists respectively do, since they so often do the same thing" (Inkeles, 1970, p. 404).

The growth of social psychology during the last two generations makes Durkheim's arguments in favor of the supremacy of sociology over psychology irrelevant along with the old debate about the individual-society dichotomy. "The claim to a principled distinction of sociology from psychology based on the distinction of individual from society is challenged by the substantial attention that at least some sociologists pay to individuals, by difficulties in describing psychology as the study of individuals, and by difficulties in the very conceptual distinction of individual from society" (Calhoun, 1992, p. 175). At the early stages of the discipline's postwar history, psychology had

been the most cited cognate discipline by sociologists, but during the last two decades, it was partly overtaken by political science and economics. Meanwhile social psychology has become an autonomous discipline.

Relations with Ecological Geography

As a reaction against the exaggerations of the sociologist Ellsworth Huntington (1924), who was rightly criticized by Pitirim Sorokin in 1928, an entire generation of American sociologists was dissuaded from taking geographical factors into consideration. Even today, most sociologists and geographers are ignoring each other.

Until recently, sociologists neglected environmental and climatic factors, but many prominent hybrid scholars did not remain silent. W. Arthur Lewis noted in his *Theory of Economic Growth* that "it is important to identify the reasons why tropical countries have lagged during the last two hundred years in the process of modern economic growth" (Lewis, 1955, p. 53). Kenneth Galbraith wrote: "If one marks off a belt a couple of thousand miles in width encircling the earth at the equator one finds within it no developed countries - Everywhere the standard of living is low and the span of human life is short". (Galbraith, 1957, pp. 39-41). The book published by Andrew Kamarck, as the director of the Economic Development Institute of the World Bank, *The Tropics and Economic Development*, challenges the common perception of tropical areas. Trypanosomiasis, carried by the tsetse fly, prevented much of Africa from progressing beyond the subsistence level: "For centuries, by killing transport animals, it abetted the isolation of Tropical Africa from the rest of the world and the isolation of the various African peoples from one another" (Kamarck, 1976, p. 38). An area of Africa larger than the United States thus had been denied to cattle (idem: 39). Agricultural production in humid tropics is limited by the condition of the soil, which has become laterite (idem: 25). Surveys by the

World Health Organization and the World Food Organization estimated that parasitic worms infected over one billion people throughout the tropics and sub-tropics. Hookworm disease, characterized by anemia, weakness and fever, infected five hundred million in those areas (idem: 75).

These ecological factors are confirmed by a considerable amount of research in tropical areas during the several last decades by geologists, geographers, biologists, zoologists, botanists, agronomists, epidemiologists, parasitologists, climatologists, experts of the World Bank and several agencies of the United Nations, and hybrid scientists well versed in tropical agriculture, the exploitation of minerals, and sanitary conditions in those countries. The situation has improved, according to dozens of reports prepared by international organizations. To explain the economic under-development of tropical Africa and some other tropical areas, natural sciences and demography are brought into the picture. Dependency theory may be of some help for Latin America and Eastern Europe, though much less so for tropical Africa.

The literature on the ecological parameters of the tropics can be contrasted with the literature on the transfer of flora and fauna from one temperate zone to another. For instance, Alfred Crosby's, *Ecological Imperialism: the Biological Expansion of Europe 900-1900* (1986), casts new light on the building of American power.

This is an example of what can happen when a discipline neglects an important topic. The vacuum left by the absence of sociological studies of this geographic-ecological-economic issue has been filled by eclectic economists and hybrid ecologists.

Sociologists and geographers have met not in vast "interdisciplinary" work but in a series of individual fields, such as urban studies. In the history of this hybrid in the USA, important work came from sociologists in the subfields of "human ecology" (Robert E. Park, Ernest W. Burgess, Louis Wirth, A.H. Hawley, O.D.



Duncan, Foley, W. Firey, and L.F. Schnore), geographers influenced by sociologists (Harris Platt, Edward Ullman), and scholars in both disciplines working on spatial statistics. Once a hybrid, "urban studies" is now a department of its own at many large universities in Europe and USA.

Urban studies as a quasi-discipline includes subfields that overlap specialties in sociology, geography, and anthropology. It also encompasses architecture, which covers engineering (building design and methods), the natural sciences (climatology, energy conservation), the social sciences (social-physical research), the humanities (history of architecture) and some hybrids of its own (urban planning). Some architects remodeling cities, building airports, cultural or commercial centers are famous, from Rotterdam to Brasilia to Osaka. Their fame is based on facilities which span engineering, the natural sciences, the social sciences, the humanities, as well as urban planning.

Urban studies also has been influenced by economics and economic geography. This hybrid has made its major contribution in the area of location theories for agricultural, industrial, and commercial activities. Communication seems to be much better with geographers and even sociologists than with economists, partly because the inductive nature of much of their work makes it difficult to integrate into deductive economic theory.

Other sociologists have drawn from sectors of geography in conjunction with history and economy. Stein Rokkan (1975) has suggested a conceptual framework for comparative political analysis. He weaves together Parsonian pattern variables, the sequence of various kinds of "crises", and the typically Scandinavian notion of center-periphery relations into a geographical schema built around the main Hansa-Rhine-Italy trade routes, the notion of a country's distance from Rome, and whether a state faces seaward or is landbound. This schema is suggestive, not only because it can clarify the different political outcomes in the states of modern

Europe, but also because it can help us understand why many once-powerful states have disappeared, such as Scotland, Wales, Brittany, Bohemia, Bavaria, and Aragon.

Today, geography's breadth can be seen in the multiplication of hybrid subfields. The discipline now encompasses the subfields of human geography, cultural geography, biogeography, geomorphology, climatology, medical geography, economic geography, political geography, urban geography, environmental science, regional geography, and cartography. Each subfield relates directly to specialties outside the discipline. Different interests have favoured closer contacts sometimes with one field, and sometimes with another. These outside fields have made some of geography's most important advances.

As a result of all these trends, there is an incredible fragmentation that has made geography span large areas in both the natural and social sciences, with a general tendency to drift from the former to the latter. From studying habitats, geographers have turned to studying the societies themselves. Many traditional geographers have become social scientists.

As in other disciplines, interaction has kept geography on the move. Many geographers have developed their method and have penetrated other disciplines to such a degree that they have become specialists in another discipline (geology, hydrology or ethnology) or of one sector of another discipline. Such emigration naturally leaves the old core of the discipline empty. At a symposium on the social sciences in Paris in 1982, a geographer asked, "With the progress of the other social sciences, what remains proper to geography? A residual part, or a boring nomenclature? Does geography still have its own domain, or is it a relic of an old division of labor? Has geography an identity and, if so, of what is it made?" (Brunet, 1982, 383, pp. 402). As is true for the other social sciences, its identity can be found in hybrid specialties, not in disciplinary unity.

Conclusion

The contemporary social sciences have experienced three major trends: rapid expansion, fragmentation of formal disciplines by increasing specialization, and recombination of specialties in new hybrid domains. The social sciences have expanded enormously over the last four decades. During the years 1956-60 the number of citations in the *Social Science Citation Index* (SSCI) for all social sciences amounted to 2,400,000. Thirty years later, in the quinquennium 1986-90 the number of articles cited in this thesaurus rose to about 18,000,000, a multiplication by a factor of 7.5 (SSCI, 1994, "Comparative Statistical Summary 1966-1994", 61-63).

It is difficult to evaluate the number of articles rooted in sociology or relevant for sociologists even if one can locate the origin of the articles, and adopt criteria for what is relevant and what is not. The main difficulty comes from the ambiguity and arbitrariness of the borders of these disciplines. Between one quarter and one third of the articles cited by sociologists in the last few decades were written by economists, political scientists, psychologists, historians, geographers and other social scientists.

In 1994, the SSCI contained almost two million citations involving 400,000 authors from 15 disciplines and from many countries, an average of five citations per author. Among these two million citations, between 5 and 8 percent referred to articles written by sociologists. Obviously, no one can master the entire spectrum of sociology. There are no paradigms in the discipline, only partial and contested theories, and moving borders. One can succeed nevertheless without too many difficulties finding one's way in the bibliographical labyrinth, because the scientific patrimony is structured in sectors, subdisciplines, areas, fields, subfields, specialties, topics and niches, in spite of the fact that the borders are blurred. This increasing specialization within sociology is the main route of scientific advance-

ment. Some scholars recommend an interdisciplinary approach. Just as some seem to believe that the social sciences can be neatly categorized, many others persist in pursuing interdisciplinarity. That recommendation is not realistic because it overlooks an essential phenomenon in the history of science: specialization through a process of fragmentation.

To understand scientific creativity, another phenomenon is even more important than the expansion of the scientific literature and the increase in specialization: the recombination of specialties into new hybrid domains, a phenomenon called the hybridization of scientific knowledge.

A hybrid scholar is a specialist who crosses the borders of her or his home discipline by integrating into his or her research: factors, variables, theories, concepts, methods and substance generated in other disciplines. Different disciplines may proceed from different *loci* to examine the same phenomenon. This multidisciplinary implies a division of territories between disciplines. On the contrary, hybridization implies an overlapping of segments of disciplines, a recombination of knowledge in new and specialized fields. Innovation in each discipline depends largely of exchanges with other fields belonging to other disciplines. At the highest levels, most researchers belong to a hybrid sub-discipline. Alternatively, they may belong to a hybrid field or subfield.

An innovative recombination is a blending of fragments of sciences. When old fields grow they accumulate such masses of material in their patrimony that they split up. Each fragment of the discipline then confronts the fragments of other fields across disciplinary boundaries, losing contact with its siblings in the old discipline. A specialist in urbanization has less in common with a sociologist studying elite recruitment than he does with a geographer doing research on the distribution of cities, who at his turn has more in common with a colleague in economics analyzing urban income inequality.

Most hybrid specialties and domains recognize their genealogical



roots: political economy, social psychology, social geography, historical sociology, genetic demography, psycho-linguistics, political anthropology, social ecology, biogeography and many others. The hybrid specialties branch out in turn giving rise, at the second generation, to an even larger member of hybrids (Dogan and Pahre, 1990, pp. 63-76).

Among the ISA research committees and study groups, about half are focusing on hybrid specialties. The number of sociologists who work across disciplinary borders is so high that there is more communication between various fields of sociology and their cognates outside the discipline than there is between fields within sociology.

One can find in the literature of each social science (with the possible exception of linguistics and econometrics) complaints about the "lack of core", like this one, concerning sociology: "the substantive core of the discipline may have dissolved" (Halliday, 1992, p. 3). Dozens of similar testimonies could be collected. If so many scholars formulate the same diagnosis, that means that most disciplines are facing a problem of self-identity. However, if one considers that the real world cannot be cut into disciplinary pieces, this issue of disciplinary identity may appear fallacious.

It is difficult or impossible to inquire into the large social phenomena within a strictly monodisciplinary framework. Only by taking a position at the crossroads of many branches of knowledge can one explain the impact of technological advancement on structural unemployment in Western Europe, the proliferation of giant cities in the Third World, the economic decline of the United Kingdom and the economic growth of Japan, or how a child learns to speak. Whenever a question of such magnitude is raised, one finds oneself at the intersection of numerous disciplines and specialties. All major issues cross the formal borders of disciplines: war and peace, generational change, the freedom-equality nexus, individualism in advanced societies and fundamentalism

in traditional societies. Most specialists are not located in the so-called core of the discipline. They are in the outer rings, in contact with specialists from other disciplines. They borrow and lend at the frontiers; they are hybrid scholars. The notion of hybridization does not mean "two whole disciplines in a single skull", but a recombination of two or several domains of knowledge originating from different disciplines.

Most classical sociologists were interdisciplinary generalists, but in recent times, cross-disciplinary advancements have been achieved not by generalists, but by hybrid specialists. The hybrid specialist today may be, in reality, a "marginal" scholar in each of the disciplines from which he or she borrows, including his own original discipline, but such a specialist becomes central to the intersection of two or several disciplines (Dogan, 1999).

Today, most social scientists admit that the best alternative to the difficulty of experimentation in their disciplines is the comparative method, which is one of the few ways to validate or to falsify generalizations in the "soft" sciences. The comparative method is the key to circulation among sciences.

Comparative sociologists and comparative political scientists have developed methods to a greater extent than have other social scientists. One of them wrote: "There is no noncomparative sociological theory. All scientific analyses are a subset of the general set entitled comparative analysis... any generalized statement involving variables implies a comparison" (Levy, 1970, p. 100).

Major social phenomena cannot be explained in a strictly monodisciplinary framework, nor in the absence of a comparative perspective. It is only by taking up a position at the crossroad of various branches of knowledge and simultaneously adopting a comparative perspective that social scientists can advance knowledge. The intersections of hybrid specialties and comparative approaches are privileged sites in the social sciences.

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