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On the Transatlantic Migration of Knowledge: Intellectual Exchange between the United States and Sweden, 1930—1970

1. Introduction

This paper is an attempt to grasp the flow of knowledge and ideas between the United States and Sweden from the 1930s to the 1970s. This was a period when earlier Swedish ties with continental Europe were, in essence, replaced by a new intimacy in intellectual relations with the great power across the Atlantic. After the defeat of Germany and the weakening of the European economy in the wake of the second world war, the United States became the new intellectual center for many European countries — but perhaps especially Sweden. The previously inward-looking and isolationist America began to take on a new "imperialist" stance, actively spreading its visions and traditions around the globe. An important although neglected element of this transformation is the role of Europeans in the articulation of Americanism. In the active rediscovery of American democratic ideals that was so conspicuous in the 1930s and 1940s, it was often European intellectuals — from Charlie Chaplin to Gunnar Myrdal — who managed to say and see things about America that were missed by those born there. The mixing into the American "melting pot" of European perceptions and sensibilities provided central ingredients in the construction of a certain idea of America.

In this paper, we will focus our attention on one remarkably influential example of this European contribution in the analysis of American racial tensions by Gunnar Myrdal. The European scholar provided a mirror through which Americans could look at themselves, as well as a concept — the American creed — through which they could perceive their failure to realize their own guiding principles. We will then examine two important cases of knowledge transfer from the United States to Sweden: sociology, which was more or less created in Sweden on the American model after the war, and ecology, where a particular American approach more gradually came to dominate other more tra-

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ditional approaches. While in the one case, the assimilation was rapid and all-encompassing, in the other case the transfer was more selective. The different experiences were due to the relative strength of indigenous traditions and approaches, and to the relative compatibility of contextual environments.

Before presenting our cases, it is important to characterize briefly the historical and institutional contexts through which the transfers of knowledge took place. Sweden and America have always had a special relation. After the brief colonial adventure in the 17th century, Swedish immigration to North America came to play an important part in the history of both countries. Particularly in the late 19th century, when something like a quarter of the population fled poverty for a new life in America, the massive waves of Swedish and other Scandinavian immigrants who settled in the midwestern states around the Great Lakes created cultural pockets that could serve as the basis for later exchanges. It would be largely through links with colleges and universities in Minnesota, Wisconsin, Michigan, Illinois and Ohio that Swedish academics would establish the intricate patterns and networks that would facilitate the transfers of knowledge in the postwar period (cf Kastrup 1975).

By the 1920s, when immigration had begun to slow down, new types of relations developed. At the same time, intellectual life itself was changing dramatically in both countries. In the United States, with the so-called closing of the frontier, a new corporate internationalism was in the making, and primarily through the Carnegie, Rockefeller and Ford foundations, intellectuals were given support to further the interests, and the knowledge base, of capitalist industry. The foundations were one component of a corporate mode of knowledge production that took shape in the interwar years and came to dominate American intellectual life after the war. In the 1920s and 1930s the "progressive" expert with the technocratic ideal of knowledge came to the fore and challenged earlier intellectual traditions throughout American academic life. This process would become especially significant after the second world war, with the expansion of the universities and the substantial increase of state support for research and education. The corporations were the pioneers in what after the war came to be called science policy, the active integration of knowledge production into the economy and the state; and, as much as any particular subject matter, it was the model of professional expertise in the service of the corporate state that would be transferred around the world. In the United States, however, that corporate state was continually under attack by indigenous populists of both the right and the left, a tradition which has until recently been marginalized in most European countries, where political culture has been more directly divided along class lines (cf Eyerman 1991).

In Sweden, the interwar years witnessed the coming to state power of the social democratic party and the articulation of a Swedish "model" of social and economic development. After the war, Swedish intellectuals were also called to service, but it was more to serve the multifarious interests of the state than the direct needs of private corporations. What was unique about the Swedish model was the confluence of the private and public spheres in a common "folkhem"; but while the process came to represent and serve the interests of a somewhat larger proportion of the population than in the United States, the pattern of social engineering and managerial corporatism was strikingly similar in both countries. Indeed, perhaps because of its broader social base and the wider consensus that was, for a time, achieved regarding the model in Sweden, social engineering could exercise a strong and stable hegemony over intellectual life in a more comprehensive way than in America.

The 1940s initiated a rearrangement of the intellectual interaction between Europe and America. During the first quarter of the century, the first world war, the triumph of communism in Russia, and the rise of fascism and nazism in continental Europe contributed to an American interest in European ide-

ologies. This interest was in part supported and reinforced by the flow of European immigrants to the United States and the cultural transfer that came with it. In most academic fields, European universities continued to provide the main sources of inspiration, and in the arts and literature, the cafes and salons of Paris and Berlin were powerful magnets attracting ambitious, young Americans. A provincial, pragmatic America looked to Europe as the continuing center of western civilization. By the mid-1930s however, Americans were rediscovering America, as the changed economic and political situation in Europe encouraged the return home of intellectuals-in-exile, and the search for American alternatives in rediscovered native traditions began. D.H. Lawrence was only one of many disenchanted Europeans who roamed the southwestern deserts in search of authenticity amidst Indian folkways. Similarly, American writers and artists, who had flocked to Europe in the 1920s turned to the plight of their countrymen in socially realistic novels and films. A new wave of intellectuals, fleeing from fascist Europe, such as Hannah Arendt, Erich Fromm, Bruno Bettelheim, and Paul Lazarsfeld, joined in the process of giving American culture a more central position in defending and representing the values of western civilization (cf Coser 1984).

For some, of course, the new-found fascination with American "civilization" was a force of circumstance. The Jewish intellectuals who fled fascism and the Holocaust were not entering the U.S. by choice alone, and many — the Adornos, Brechts, Blochs and Horkheimers — left as quickly as they could. But others, especially those associated with expanding academic fields and the new culture industries, chose to stay on. In what was now called the West — in opposition to the eastern totalitarianism of the Soviet Union — intellectual life was coming to be more and more dominated by institutions of higher learning. Intellectual labor had suddenly increased its exchange value, both in the production of weapons to defend the west against communism as well as in the creation of a new "culture of abundance" with consumer products and suburban shopping centers (Susman 1986). With the rise of the U.S. to world supremacy, to a large degree based on superior economic and military power financed through government contracts, America and, in particular, American universities, were favored places, for Europeans as well as American intellectuals. The country bumpkin got sophistication, and a cornerstone in the rebuilding of Europe in the aftermath of the war was the transfer of American ideas and ideals to Europe to replace the fallen idols and ideologies.

After the war, intellectuals in the United States took on a new kind of social and political importance. With the expansion of the role of the state, and in particular the military, in the support and coordination of scientific research during the war, many natural and even social scientists became experts in government employ and central to the war effort. Both in the development of the atomic bomb, operations research, intelligence/espionage and "area studies", as well as in the study of the military itself, science was given a new place in American society. In the United States this expert role entered the social sciences with the help of private foundations, which sponsored a number of new institutions and academic orientations in the immediate postwar era. It was this role, even more than the particular theoretical perspectives, that was then transferred to many European countries, including Sweden.

In this transfer process, the foundations were important, as was the Fulbright program of academic exchange. In the years between 1960 and 1973, 174 Fulbright scholars visited Sweden, 74 of whom were "senior scholars" (Kastrup 1975, p. 782). For Sweden, the Swedish-American Foundation was an additional channel through which scholars from both countries were given the opportunity to visit each other. The ways in which ideas were transferred can be roughly grouped into three main categories: students, teacher training, and the exchange of established scholars. In the first case, students spent a year or more studying at an American uni-

versity; and many Swedish politicians, business leaders and intellectuals followed that route to Americanization. Olof Palme, Ingvar Carlsson, Princess Christina, and Antonia Axson-Johnsson are only some of the people who spent a year of college at an American university in the postwar years. Kastrup notes that in 1974 about 400 Swedish university students were in America on one or another exchange program while some 200 students from America were studying in Sweden. Special "bilateral" exchanges, such as that established between the University of Wisconsin and Sweden between 1953 and 1963, or, more recently, between the University of Lund and the University of California, have complemented the student exchanges organized through the American-Scandinavian Foundation.

In the second case, teachers from America spent time in Sweden, presenting their methods and approaches to Swedish students and teachers, and in the third, researchers travelled in both directions to communicate their ideas in what was, in many fields, an active process of internationalization. As the title of a volume on Swedish-American intellectual relations puts it, Sweden and America thus became "partners in progress" in the postwar period.

In what follows, we want to examine aspects of this transfer process in the fields of sociology and ecology. But before we present our main cases, we will briefly consider the prewar transatlantic migration of knowledge, by focusing on the example of Gunnar and Alva Myrdal, who personify the earlier, more personal and informal pattern of interaction that was gradually supplanted in the postwar era by more institutionalized, professional relationships.

2. Swedish-American intellectual exchanges in the 1930s: the Myrdals

The experiences of Gunnar and Alva Myrdal in the interwar period indicate how this context of interaction could produce important contributions to both countries' political cultures. As a young economist recently graduated from the University of Stockholm, Myrdal spent a year in the United States in 1929—30 on a grant from the Rockefeller Foundation. He and his wife Alva traveled widely in a country torn by economic depression, encountering innovative approaches to social science that the young couple would later bring back to Sweden. Two approaches would be particularly significant: the institutional economics of Thorstein Veblen and the so-called Chicago school of sociology, with its strong links to progressivism and pragmatic philosophy. It has recently been argued that those two intellectual traditions formed central components of the social democratic social engineering that Gunnar and Alva Myrdal helped develop in the course of the 1930s. "The young visitor was impressed by the Wisconsin idea of directing academic research toward social reform," and in the course of his visits with the sociologists William Ogburn and Ernest Burgess in Chicago and the institutional economist John R. Commons at the University of Wisconsin, "he was learning the entrepreneurial skills necessary for organizing large, collaborative research projects" (Jackson 1990, pp. 62, 63).

The American progressive social science tradition had a strong impact on the young, ambitious Swedish couple. While Gunnar wondered, in a letter to his Stockholm professor in 1930, whether it might not be possible "to develop in Sweden something like the 'Wisconsin idea' of Commons and other social scientists who studied social problems and contributed proposals to public policy debates," Alva was preparing to "put into practice in Sweden some of John Dewey's ideas for using education to strengthen democratic values in the society." As Jackson puts it, "even though they thought that many American intellectuals had lost their way since the Progressive Era and given in to pessimism and apathy, the Myrdals saw no reason why Swedes should follow suit" (Jackson 1990, p. 64).

Indeed, much of what the Myrdals propagated during the 1930s — from family poli-

cy to economic reform — drew on their American experience. The very role they played, within the social democratic party, as "rationalizing intellectuals" (Eyerman 1985) was itself derived from the progressive followers of Dewey in the United States. One of their most significant contributions to Swedish social democratic doctrine — *Crisis in the Population Question* (*Kris i befolkningsfrågan*, 1934) — is an attempt to translate American ideas on the family and on social change to Swedish conditions. The influence of the American feminist, Charlotte Perkins Gilman, and of the institutional sociologists on the Myrdal view of the family as a "changing institution" has recently been analyzed by Elsy Wennström. As it would later be for Gunnar Myrdal in his confrontation with American racial tensions, the American values were seen by the Myrdals in a certain idealistic, utopian way. The Myrdals, and doubtless many other European intellectuals in the interwar period, constructed their own idea of America, partly based on personal experience but also based on a kind of idealizing projection. America was, then as now, perhaps more important as an idea or vision than as a real society. In Wennström's words, "America made a powerful impression on the Myrdals, and they returned to America in 1938 when the grey reality of practical politics [in Sweden] was no longer permitted to climb the utopian heights" (Wennström 1986, p. 163).

Interestingly enough, while Gunnar and Alva Myrdal were using a certain idea of America to develop Swedish government policy, a handful of American intellectuals were beginning to use a certain idea of Sweden to further their own political programs. Particularly influential were the books by the journalist Marquis Childs, *Sweden: The Middle Way* (1936) and *This is Democracy — Collective Bargaining in Scandinavia* (1938), which sought to place Sweden's moderate reformism and social engineering between the free-market capitalists and the doctrinaire communists. The use of Sweden as a kind of "alternative capitalism" characterized the thinking of a number of New Dealers in and around the Roosevelt administration; the President himself commissioned teams of experts to visit Sweden in both 1938 and 1939 (Kastrup 1975, pp. 708—709). In his memoirs, John Kenneth Galbraith, an important American liberal economist — and like Myrdal, a Nobel Prize-winner — refers to his visit to Sweden in 1937 as a formative experience for his own thinking, and credits Swedish social democracy with achieving a countervailing power to industrial monopolies that would be an important element in his economic thought. "In a fair world, what has been called the Keynesian revolution would have been called the Swedish or Stockholm revolution. The Swedes failed of the honor partly because Sweden is a small country and more because the policy was put in effect far too peacefully" (Galbraith 1981, p. 82). In the course of the 1950s, the American image of Sweden grew increasingly dystopian, a cold, bleak country, and the unhappy land of the north, which President Eisenhower claimed, incorrectly, it seemed, to have the highest suicide rate in the world (cf Ruth 1984, p. 65).

Perhaps the most lasting result of this exchange of images between the two countries in the 1930s is the classic study, *An American Dilemma*, which Gunnar Myrdal produced together with a large number of American social scientists during the second world war. By the late 1930s, Myrdal had become an internationally respected professor of economics, and when the Carnegie Foundation was planning to launch a major project on American race relations, Myrdal was chosen to direct it because of his earlier American contacts, but also because he came from a foreign and neutral country. He could thus bring a fresh eye to a problem about which there existed no consensus — and, given the depth and scope of the problem, remarkably little interest — among American social scientists. In a period when social science was growing more professionalized and detached from practical politics, Myrdal could recall the moral zeal of the progressive tradition, now revitalized by his experiences with Swedish social engineering and govern-

ment policy-making. As Jackson puts it, "Myrdal's political perspective had been developed in the Swedish social democratic party in the 1930s, a period in which intellectuals had played an unusually strong leadership role in a workers' party during the struggle for a welfare state." As such, Myrdal could re-interpret American ideals of democracy and equality — what he called the American creed — through the perspective of a particular kind of European state reformism. In that way, "the book served as the careful, national investigation of the race issue that Roosevelt was afraid to commission" (Jackson 1990, pp. 196, 240).

An American Dilemma was the result of a large-scale research effort in the Chicago school tradition of community studies. It can be seen as a transition from the earlier case study approach of sociology to the large-scale survey that would take on hegemonic proportions in American sociology after the second world war (see below). Perhaps part of the reason behind the enormous influence that Myrdal's study could have in America was that it linked the two social science traditions, using the "modern" techniques of research collaboration and interdisciplinary teamwork to address deep-seated moral and political questions largely ignored by postwar sociologists. With a small handful of other "transitional" works, such as David Reisman's *The Lonely Crowd* (1950) and C. Wright Mills' *White Collar* (1951), Myrdal's study offered an alternative approach to sociology as much as a European reading of American racial tensions. What many Americans themselves were unwilling to discuss, Myrdal, the friendly outsider, could articulate, using the methods of social science to offer practical suggestions for economic and political reform.

An American Dilemma was unique in bringing a Swedish sensibility to the center of American society. It came at a turning point in Swedish-American intellectual relations, as the more personally-based networks, such as the one established by Myrdal on his first visit to America, were being replaced by more formalized, institutional ties. In many ways, it reflects the closing of an era, when one man could have a powerful impact on public policy and social science. After the war, social science, like science generally, would become incorporated into the mass society, and it would be teams of impersonal experts, armed with modern techniques of investigation, who would replace the strong individual scholar in the transatlantic exchange of knowledge.

3. The making of Swedish sociology

The academic discipline of sociology was created in Sweden in the context of the Cold War era and a new relationship between Europe and America. With the defeat of Germany and the fall of France, America became the new center of academic as well as political and economic dominance. Swedish academics turned to America as never before and when the first professorship in sociology was appointed in 1947 it was conceived in the American image. The chair was established after a government appointed Social Science Research Committee had recommended a new orientation for the social sciences, one that pointed to the empirical sociology being established in the United States. As a member of that Committee and recipient of the Chair, Torgny Segerstedt has written, "It is obvious that we who worked within the Committee had the American pattern in mind in describing our concept of modern sociology" (Segerstedt 1977, p. 298).

American textbooks soon became the dominant ones in newly established sociology courses at Swedish universities and aspiring sociologists traveled to America to attain the latest knowledge of sociological theory and methods. In his recollections of his student years in Uppsala in the early 1960s, Johan Asplund (who became the editor of *Sociologisk Forskning* when it was started in 1964 by the recently organized Swedish Sociological Association, itself modelled on the ASA) recounts how two of his teachers, Bo Andersson and Hans Zetter-

berg, commuted back and forth between Uppsala and Stanford and Columbia, and that "a book like James Coleman's *Introduction to Mathematical Sociology* had barely left the printers before we studied it in Uppsala" (Asplund 1987: 134). Even the classic works of the field, the texts of Max Weber, Emile Durkheim and Karl Marx, came to Sweden first from the U.S. Writing in 1966 and unable to conceal his relish Hans Zetterberg put it this way, "The fact that those contemporary Nordic sociology professors who are socialists did not treat Marx with respect until their American colleagues did only further reveals the dependent relation to American sociology that Nordic sociology finds itself in" (Zetterberg 1966, p. 2—3).

There are a number of factors to be considered here with reference to the hegemony of American sociology in Sweden in this immediate postwar period and throughout the 1950s. One such factor is the struggle that any new discipline encounters in seeking to establish itself in the academic world, a struggle in which certain orientations are favorable to others because they make it easier to identify the specific domain of the new field. Here the choice of empirical methods as they were then being developed and applied in America were helpful in mapping out the new field of sociology from its Swedish origins in moral philosophy and from other competing social science disciplines that made use of similar methods, but which focused on other areas or dimensions of social reality. Asplund recounts that despite its apparent elasticity, one central norm in Uppsala sociology under the guidance of Segerstedt and his young "Americans" (Andersson and Zetterberg) was that "sociology was an empirical discipline...above all what was meant was that in the research process the collection of data must precede theory" (Asplund 1987, p. 135).

Secondly, the empirical orientation and the use of quantitative methods fit nicely with the social engineering approach of the reformist social democratic government which played a key role in the establishment of the new discipline of sociology. In this respect, the American training that many social democratic politicians received — both Olof Palme and Ingvar Carlsson, for example, studied as undergraduates at midwestern colleges — also played a role in assimilating American methods into Sweden.

Such factors help explain not only the focus on American social science but also the lens through which American social science was perceived, for there was a lot more to American social science and even American sociology than its empirical orientation. The sociology that was transferred from America to Sweden in the postwar period was of a particular kind and this too needs explanation.

The time of this transfer was one of transition for American sociology. One of the most established traditions of empirical sociology was on the decline and another on the rise: the case study was being replaced by the use of large scale statistical data. The case study had been the core of the reformist trend in American sociology which had been dominant since its inception at the turn of the century when social workers like Jane Addams spoke at the annual national congresses. The early Chicago school of sociology, inspired by John Dewey and George Herbert Mead, had been characterized by an interest in urban reform and progressive politics; but as the field grew more academically respectable, the reformism gave way to an ever more detached professionalism, which brought with it newly perfected quantitative methods and statistical techniques that were considered both rigorous and objective. These were to be the key notions in the professionalization of a discipline previously considered by many to be soft and moralistic.

The central idea of the case study had been to reach into the life world of the actors it took as its research object, into the persons, neighborhoods, and communities of America in order to disclose how they worked from the inside. This was a sociology that sought the other America, of which middle class academics had little direct experience. It was in the 1920s that the case

study first appears in sociological textbooks as a distinct method of research. Studies in this period concerned the marginal and the poor, from Polish immigrants to hobos and from dance hall performers to street corner gangs, all of whom were likely to have contact with social agencies of various kinds, thus providing the researcher with a background life history already recorded. The prime data however, as the case study developed an autonomy of its own in academic circles, came from the interviews in which the researcher entered, in varying degrees, into the life situation of his/her subject-object. Emphasis was placed on gaining access to the individual's own perceptions, meanings and influences, within the settings in which they were formed. It was this tradition of sociology that Gunnar Myrdal drew upon in his study of American race relations.

An early and consistent opponent of the case study method was a man who would prove influential in the transfer of American sociology to Sweden, George A. Lundberg, himself a child of Swedish immigrants. As early as 1926, Lundberg wrote an article in which he stated what would become the standard objection to the case study as a scientific method in the field of sociology. The only real question, Lundberg contended, was whether the generalization from data should be derived from a qualitative and subjective method of observation, or through a quantitative and "objective" statistical method. Lundberg was not only a critic of the case study as a sociological method but an advocate of statistics as the basis for the discipline.

Segerstedt has written that, "Our perspective on empirical sociology was strongly influenced by American sociology, not least by George Lundberg...(who) was of Swedish parentage and travelled often to Sweden and Uppsala. In this way he had a direct and personal influence upon us" (Segerstedt 1987, p. 14). Georg Karlsson has noted how "in 1948 I got a stipendium and went to the U.S., to Seattle and George Lundberg. His book on sociological methodology was our first introduction to how to deal with data and his positivism was attractive to philosophers who wanted to learn how to work empirically" (Karlsson 1987, pp. 48—9).

The transition from the case study to statistical methods was spurred along by external factors. In the words of Neil Smelser, "The 1920s, in particular, epitomized by the presidency of Herbert Hoover, the engineer, marked an era of businesslike, practical and scientific approach to the solution of social problems on 'facts'. And later, while New Deal leaders abandoned this everyday, businesslike approach in favor of a style of political heroics, they nevertheless ushered in a great array of social programs, generating in their own turn great public bureaucracies, which developed a way of justifying their intended programs and rationalizing their ongoing programs by reciting evidence in the form of 'facts'" (Smelser 1988, p. 13). Stimulated by the propaganda efforts during the war as well as by the developing mass media and national markets, market research was rapidly developing as a field and was replacing the concerns upon which the case study had originally been based: gaining inside knowledge of the needs and attitudes of "the other half". The needs of market research helped encourage the development of quota and cluster sampling by Paul Lazarsfeld at Columbia University and at the Princeton radio research laboratories.

Sweden thus imported American sociology at a particular historical conjuncture, when the case study had all but disappeared from the leading departments of sociology. One of those leading departments in the 1950s was Columbia University, where Robert Merton and Paul Lazarsfeld held sway and the elderly Robert Lynd had become more or less marginalized. In the early part of the century, Columbia University had been the center of the statistical method in the fight against the case study, and one of the quantitative advocates who received his education at Columbia, F. Stuart Chapin had moved to the University of Minnesota, the home away from home for many Swedes coming to the United States. One of Chapin's graduate students in Minnesota was Hans Zetterberg. In the introduction to the

second edition of *Theory and Verification in Sociology*, Zetterberg writes that it was through Chapin that he became acquainted with what he called the "rigid methodological ideas" of George Lundberg.

James Coleman has recently described this transition in the following way:

> In the early 1950s sociology was undergoing a change, and Columbia was on the forefront of that change. The watershed at Columbia came with the decline of Lynd and the arrival of Lazarsfeld.... Lazarsfeld's work in radio research, and mass-communications research more generally, was a major force for this new individualist direction at Columbia (Coleman 1990, pp. 90—92).

Lazersfeld's individualist model was also transferred to Sweden — and institutionalized outside the university — in SIFO, the Swedish Institute for Survey Research. When Zetterberg was called back to Sweden to head the Riksbankensjubileumsfond he brought back with him a particular brand of American sociology. He travelled around to the country's sociology departments and interviewed promising graduate students about the sorts of projects they would like to carry out. His aim was to shape Swedish sociology in a particular fashion, a fashion which would fit the practical orientation of Swedish welfare politics as well. Eventually Zetterberg left the fund and took over SIFO which applied American opinion and marketing research in the non-academic Swedish context.

The transfer of a particular American model of empirical sociology, the individual orientation being developed in the 1950s was made possible not only by the active participation of Swedish sociologists in the United States and their return home, but also by the elimination of older traditions. In *On Theory and Verification*, from 1965, Zetterberg distinguishes history and sociology and places the case study within the proper field of history not sociology. The reason: it allows no general propositions, no laws are possible to construct on its basis.

The holistic perspective, which viewed society as an interrelated totality of institutions and processes, had served its purpose in Sweden. In the 1930s and early 1940s this perspective helped ground the new interventionist politics of the social democratic party. It also helped legitimate the social sciences as arms of this intervention (Eyerman 1985). By the late 1940s however, as the state sector was expanding its role, more specialized and narrow forms of knowledge were required. Here Myrdal had little to offer. It was not the universal characteristics of 'society' that were now important, for these had already been mapped, described and taxonomized, but rather the specific problems in particular groups and areas of the population. Thus Swedish sociologists were encouraged to go out and gather data, to attack an issue, and then to build an explanation and construct a theory.

In the United States, especially in the early 1950s, conflicts among social scientists were very much internal affairs, matters of concern to the profession alone. In Sweden, because of the close linkages between the universities and the state, which were especially acute for the social sciences in this period, and because of the relative smallness of the country and the tightness of the academic community, such debates took on another dimension. In the United States, even when one can speak as Coleman does of one dominant sociology or a dominant figure in a sociology department there always seemed to exist alternatives. As Zetterberg put it, "American sociology has shown a plurality and richness that just could not be imported to the Nordic universities. In the USA each department has several professors; a Parsons is complemented by a Stouffer, a Merton with a Lazarsfeld, a Goffman with a Bendix, a Martindale with a Rose, a Hughes with a Hauser, and so on" (Zetterberg 1966, p. 3). In Sweden this was not the case. The country was perhaps too small, the culture too unified and the links to the state too great to permit or allow such diversity. Perhaps because of all this, especially the linkages with the state which seemed to encourage

conformity, deviants had to be quashed. Conflicts then were not merely internal, they involved a range of social actors and concerns far outside the discipline and the profession.

There is thus an ideological as well as organizational explanation for the transfer of a particular brand of American sociology to Sweden in the postwar period. In his account of the emergence of Swedish sociology, Edmund Dahlström focuses on the former when he writes, "The interest for using social science in the rapidly expanding planning both in private and public organizations influenced the orientation of the emerging sociology. Many of the coming sociologists made their living in practical political research outfits for an initial period. The institutional basis for sociology as a 'pure social science' was laid with the establishment of positions at the university and funds for basic social sciences (Samhällsvetenskapliga forskningsrådet, etc)" (Dahlström 1991, p.10). But the ideological dimension (explanation) seems just as important as the organizational. Why was conformity so important, why did deviants have to be quashed? One possible explanation is that the linkage to the state, where funding was funneled through state agencies and through research councils which acted also as a means of internal control, filtered out non-conformist ideas and persons as a form of self-protection: deviants, i.e. "non-scientific", non-instrumental and operationalizable research could threaten the standing of the discipline *vis a vis* other disciplines in the struggle for funding. E. H. Thörnberg who lived on the margins of society and who investigated the darker sides of life in the Chicago tradition might do as a forbearer of Swedish sociology, but certainly not as an example of proper research behavior in the new post war expansion of the state sector and scientification of the academic world.

As Segerstedt recounts, it was the belief that science could indeed save us, a belief that came to Sweden in the course of the second world war, that led to the founding of sociology as an academic discipline on its own right in the first place. He writes, "The background to the decision in 1947 to create a professorship in sociology was the following: during the war the idea emerged that it was scientific capability that would be the deciding factor in victory or defeat. The idea grew internationally, and in Sweden it was put forward most especially by Tage Erlander and his advisors. It was first of all natural science and technology that was referred to, but Erlander was convinced that society was rapidly changing and that a deep understanding of the processes involved required social scientific knowledge as well. This would require basic research" (Segerstedt 1987, p. 13).

Another actor in this drama, often forgotten, is the business community which also had an interest, not to say a faith, in the development of science, technology and knowledge. Swedish industry emerged from the war unscathed and in a good position to benefit from the destruction in other parts of Europe. Science and technology, including social science, was here seen as a potential source of profit-making or at least problem-solving knowledge. It is not by accident that many of the first sociologists in Sweden concerned themselves with issues relating to work and industrial relations. Many sociologists were employed or at least had their research financed by private agencies like Studieförbundet Näringsliv och Samhället (SNS).

One of the earliest studies carried out by Segerstedt in his new role as professor of sociology concerned just industrial relations. The study, entitled *Människan i industrisamhället* (Man in Industrial Society), was undertaken in 1948 and involved several corporations in Huskvarna and Katrineholm; SNS played a significant role in both the financing and the administration of the project (Gunnarsson 1980, p. 14). This was the first of many studies concerned with industrial relations financed by SNS; the list includes some of the first doctoral dissertations in Swedish sociology.

Swedish sociology had to be scientific as well as practical, but most of all, it had to be

American. The model for this was a particular brand of sociology that would soon emerge as a dominant force in the United States as well. The fact that one early proponent of this positivist sociology, which was behavioristic and individualistic in approach, being concerned primarily with the measurement of attitudes and behaviors, was of Swedish origin did not hurt the transference, but is certainly not sufficient to explain its impact in Sweden. Just as in America, other models of science and other views of society and of sociology had to be marginalized or eliminated altogether. This was accomplished, for a time at least, through marginalizing the individual sociologists who represented competing views. The mechanisms of this marginalization cannot be covered in detail here. Suffice it to say that the control of key positions in the departments of sociology, the professorships and the graduate research-teaching jobs, as well as the flow of research money through the newly established research councils which distributed it are obvious ways of achieving hegemony and of marginalizing deviants. Another is through the printed word, where the alternative viewpoints are taken apart from the point of view of the challenger. In Sweden this criticism was given added force since it was done in the language of the donor country, in a work that has the prestige of even being published and in some circles well received there as well. But in this case, the more ideological field clearing came as a sort of mopping up operation, after the main organizational and institutional work had already been accomplished, as a sort of icing on the cake. When Segerstedt announced the Uppsala School of sociology in the 1950s it was an acknowledgement of the success of the project.

Thus while Sweden and America emerged from World War Two differently, the one the new world power and the other also unscathed but as a smaller nation, still in a very dependent position as receiver, not giver of knowledge and power, they had much in common, or at least did so in the eyes of many who would become Swedish sociologists. What was thought to be common was the new type of society, the advanced industrial society, where work and industry as well as science and technology would play a more central role than had previously been the case. In this the new social sciences, in particular sociology, had an important role to play. The steering mechanism in this new society would be the newly christened welfare state.

4. The transfer of systems ecology

It is interesting to contrast the experience in sociology with that in ecology, for here the inflow of American ideas to Sweden followed a somewhat different trajectory. Ecology, like many of the other biological sciences, had a rich heritage in Sweden, and pioneering work in the new science had been done in both Uppsala and Stockholm already in the 19th century. Indeed, it is even possible to go further back and label the 18th century biologist, Carl von Linne, an early ecologist, or, at the very least, an early exponent of ecological thinking (cf Worster 1979).

In any case, ecology was a field with strong indigenous traditions, and, perhaps most importantly for our purposes, strong connections to other important Swedish institutions. The field was of interest to the important forestry industry; and research projects, and a chair in "plant sociology" in Uppsala were supported in the late 19th and early 20th centuries by the forest industrialist Frans Kempe. The early efforts of the Swedish state to catalog natural resources and plan the development of the country's various regions was also important in supporting ecological research at both the universities, as well as at the Forestry and Agricultural Colleges. And, particularly with the formation of the Swedish Society for Nature Conservation in 1909 and the active role that the society played in state conservation activities, Swedish ecologists — many of whom were active conservationists — were also intimately involved in environmental protec-

tion, even before the postwar period (cf Haraldsson 1987, Söderqvist 1986). All of these early developments provided a certain institutional framework, as well as a relevant set of conceptual tools, for the emergence, in the interwar period, of a rather substantial amount of work in ecology. International connections were not insignificant, but they were by no means as important as in the social sciences. In this respect, ecology was more similar to physics and chemistry, where the first part of the 20th century was marked by conscious attempts by Swedish scientists to develop their own internationally-respected schools in the world of science.

Even ecology, however, could not withstand the pressure of Americanization after the second world war. As with most of the other natural sciences, international ecology was strongly affected by the transition from little science to big science that was so prominent in the United States after the second world war. It was in postwar America that ecology took on the pretensions of a "hard" science, and it was in this version, better known as systems ecology, that it would be transferred to Sweden in the 1960s and 1970s, and, for a time, dominated all the other approaches to ecology. The transformation from little science to "big science" during and after the second world war was first and foremost a change in scale and organization — from small, individual research projects to large, collective, "industrial" organizational forms.

The shift to big science also represented a change in social prestige and status, especially in the United States, where the atomic physicists were seen by many as the heroic bearers of a new postwar era. On the one hand, science became for society at large the substitute for the frontier, a new, unlimited space for exploration and opportunity: the "endless frontier" of Vannaever Bush. On the other hand, many scientists became self-consciously aware of their new responsibilities and authority, and, in many fields, a corporate, or industrial, mentality came to challenge traditional academic values and traditions.

Partly as a result of this transformation, business metaphors took on a new prominence in many scientific fields, and a management perspective came to dominate not just the social scientific disciplines where it perhaps belonged, but many natural scientific disciplines, as well. Nature came to be conceived in terms of a productive, economic enterprise. In Donald Worster's colorful language, "as a modernized economic system, nature now becomes a corporate state, a chain of factories, an assembly line....it was probably inevitable that ecology too would come to emphasize the flow of goods and services — or of energy — in a kind of automated, robotized, pacified nature" (Worster 1979, p. 313).

In the emergence of systems ecology, two conceptual changes were especially important. One was the emergence of cybernetic language, with its talk of feedback loops and mechanisms and systemic interconnections. The other conceptual change that was central to the development of systems ecology, and that, in the immediate postwar era, was also somewhat specific to the United States, was the shift from nature conservation to environmental protection.

The development of atomic energy — and in particular, the understanding of the implications of radiation on natural ecosystems — was perhaps the single most important motive for the emergence of systems ecology. Eugene Odum built up an institute of ecology at the University of Georgia with the help of funding from the Atomic Energy Commission. While working on projects on radiation ecology, sponsored by the Atomic Energy Commission, Eugene Odum put the ecosystem ideas that had been developed by Tansley, Lindemann and Hutchinson into practice; most importantly, however, Odum produced his textbook, *Fundamentals of Ecology*, in 1953, that promulgated the ideas of systems ecology for a new generation of students. In this period, ecosystem ecology challenged the evolutionary focus of what might be termed traditional ecology. It applied the concepts of cybernetics and, in particular, of causal, biogeochemical cycles

to analyze the environmental consequences of atomic waste. That is, the concepts of ecosystem and energy cycles were operationalized in both empirical research and an influential textbook.

In the course of the 1950s, systems ecology grew more mathematical. Howard Odum, following ideas that Alfred Lotka had developed in the early part of the century, wrote about the circuits and functions of biogeochemical cycles in papers written in the early 1950s, after he completed his doctorate at Yale in 1950 on the "biogeochemistry of strontium". Odum would be influenced by the "technocratic optimism" of the times, as well as by his childhood interest in electricity, to conceptualize nature in terms of a giant electronic switchboard (cf Taylor, 1988). His particular brand of systems ecology sought to develop a powerful technique of social engineering in order to regulate and control the flows of pollutants and other human interventions through large scale ecosystems. The contributions of the Odum brothers, would be particularly significant in the 1960s and 1970s, as systems ecology joined forces, for a time, with broader environmental movements to try to "solve" the environmental crisis.

The American interest in managing nature, which characterized both the early efforts at conservation in the progressive era as well as the regional planning programs of the 1930s, encouraged ecologists in America to develop an approach that would lend itself to large-scale environmental control and management. The vision, or project, of systems ecology, namely to be able to foresee the consequences of pollution and, for that matter, all other forms of human intervention in natural processes, drew on a legacy of American "pragmatic planning". In this regard, the competitive, economic system of the United States has exercised a metaphorical and linguistic influence on the thinking of ecologists.

In the 1960s, ecology went public. In the United States, the concern with nuclear weapons, and, in particular, the radioactive fallout from nuclear weapons tests, had inspired a public information "movement" among some scientists, ecologists included. With the signing of the test ban treaty in 1959, a number of other environmental problems suddenly started to be discovered. Particularly influential were the writings of Barry Commoner and Linus Pauling, and especially Rachel Carson, who added to the "ecological" evidence a literary skill and emotional pathos that placed the environmental crisis high up on the national agenda. There was also a growing international discussion taking place within the international conservation organizations and in UNESCO, where scientists were trying to develop collaborative programs in environmental research.

In Sweden, the systems ecology program was "transferred" as a more or less comprehensive package; and for a time provided a common denominator for both scientific and political ecologists in their efforts to "ecologize" Swedish society (cf Söderqvist 1986). Although Sweden had what might be termed an indigenous developmental trajectory toward environmentalism, the influence of knowledge transfer from the United States was significant in the formation of what we have termed the new environmental consciousness (cf Jamison et.al. 1990). As elsewhere, it was Rachel Carson's book that did most to awaken the Swedish public to the new problems, even though Swedish writers and conservationists had produced a steady stream of literature on environmental themes since the 1940s. What marked the Swedish response to the environmental crisis, compared to other European countries, was the speed and effectiveness with which the political parties and the state administration — and the established conservation societies — reacted to the warning signals. Also important for understanding the reception that systems ecology received was the coordinated and relatively substantial effort that was already being devoted to environmental research within the Swedish societal and regional planning activity. In any case, as the 1960s progressed, the influence from the United States came to be increasingly dominated by ecological science, and,

in particular, systems ecology. It was systems ecology, as it had developed in the United States into a technique of environmental management and planning, as well as a new holistic political philosophy, that came to be seen as one of the most important solutions to the new environmental problems.

In his history of Swedish ecology, Thomas Söderqvist has pointed to the importance of the Field Biologists (*Fältbiologerna*) as a breeding ground for the generation of ecologists who would be attracted to systems ecology in the 1960s. The Field Biologists, which were created in 1948 as the youth association of the Conservation Society, provided young Swedes with a practical training in environmental research, as well as with a firsthand encounter with the transformations taking place in the Swedish landscape. It was on such student excursions that some of the signs of the emerging environmental crisis were first identified, and the shared experience of nature study and activism would remain a common source of identity for many Swedish systems ecologists. While the older generation of ecologists had considered nature something outside of society, to be preserved and studied for its own intrinsic value, the postwar generation more easily conceived of nature and society as an interrelated system, and were thus more amenable to the interventionist program of systems ecology. At the same time, they had grown up in a society dominated by the Swedish model of state management. As such, the traditional "pure" research ideal of the older generation seemed to most of the younger ecologists hopelessly old-fashioned (cf Söderqvist 1986). Their ambitious effort to ecologize Swedish society was thus indigenously grounded in the postwar political culture; the soil was prepared for the seed of the new systems ecology to be imported from America.

The transfer of systems ecology to Sweden occurred through three main channels, or, more accurately perhaps, through three main audiences. On the one hand, Odum's textbook introduced many students to the concepts and approach of systems ecology. In the 1950s and 1960s, it was used throughout the world and went through several editions. In 1963, he wrote a lower-level college textbook, *Ecology*, that was translated into several foreign languages including Swedish (in 1966). Odum also wrote a number of programmatic, popular articles in the 1960s, served as president of the Ecology Society of America, and gave many lectures and talks at environmental teach-ins. It was he, perhaps more than any other single scientist, who diffused the systems ecology approach through his writing and speaking.

The second channel of transfer was technological. Here Howard Odum's simulation models and programming methods were extremely useful as techniques that could be used in the formulation of environmental research and monitoring programs (cf Jansson 1977). In Sweden, Odum's methods were presented to ecologists and environmental officials when they were drafting a new environmental research policy and environmental control administration in the 1960s. Later, Swedish ecologists were trained in the United States by Odum, and developed large-scale ecosystem studies (on the Baltic Sea and on the coniferous forests) that applied his methods. Sweden provided a particularly congenial institutional context for the kind of large-scale endeavor that systems ecology proposed. Important in this regard was the Swedish involvement in the International Biological Programme; from 1967 to 1974, Swedish scientists carried out seven projects within the IBP. But equally, if not more important, was the general compatibility between systems ecology and Swedish biologists' world-view, including both their attitude to nature and approach to ecological research. In the land of Linneaus, biologists tended to be receptive to systematic thinking, and an important beginning in large-scale ecological research had already been made at the Askö laboratory outside of Stockholm, where scientists had come to conceptualize the Baltic Sea as one coherent ecosystem. After Howard Odum

visited the Askö scientists in 1970 and his inspirational seminar lasted through the night, the group's "rapid adoption of Odum's ideas soon became part of the national ecological gossip." Together with other ecologists, who combined a scientific interest with a more political environmental concern, the Askö scientists lobbied for and soon obtained substantial government support for systems ecology. As Thomas Söderqvist has put it, "the authorization of the national social order of ecology was largely identical to the establishment of the large scale ecosystem projects. In other words, the ecologization of Swedish natural science was carried through by the launching of ecosystem analysis as the instrument for the salvation of the Swedish environment" (Söderqvist 1986, pp. 261, 266). The problem was that the scaling-up from rather small, isolated ecosystems to much larger and more complicated, and relatively open, ecosystems was extremely difficult, if not impossible. As a technique, systems ecology proved to be much more limited than its proponents had reckoned with.

Thirdly, systems ecology was transferred as an ideology, or world-view, that could help inspire students and other activists to band together in new kinds of movement organizations. This occurred both through writings, as well as through more popular versions of the systems ecology message, as they began to be promulgated in the late 1960s and early 1970s. The ecological perspective that came to be associated with environmentalism stressed the interconnections of nature and society, as well as the various holistic and systemic principles of systems ecology. In Sweden, this ideological use of systems ecology was especially pronounced, and was expressed in a number of political party programs and pamphlets, as well as in popular books and articles (cf Jamison et. al. 1990). In time, there developed a gap, or distance between the systems ecology of the scientists and the social or political ecology of the movements, but in Sweden the interesting thing is that the convergence could last as long as it did.

Eventually, by the late 1970s, the active involvement of scientists in environmental activism had largely disappeared, partly as a result of the failure of systems ecology to contribute very much to the actual solution of environmental problems. The ambitions of the Odum brothers and their followers were somewhat too all-encompassing; systems ecology, quite simply, was not able to achieve what had been envisioned. Many scientists began to see the difficulties, even inherent limitations, with computer simulation and modelling of large-scale ecosystems; and there were also some who criticized the internal contradictions in some of the systems ecological theoretical ideas. By the late 1970s, systems ecology had lost much of its public appeal, although it continued to develop as a research program. Within ecology, however, new evolutionary approaches had become increasingly popular, so that systems ecology today is only one of a number of competing ecological paradigms. Perhaps the main recent developments have been in human ecology and ecological economics, where the systemic influence remains strong, both in Sweden and the United States.

Even though the influence of systems ecology is no longer what it was in the 1970s, it is nonetheless significant that systems ecology played a far more important role in Swedish science and politics than it did in many other European countries. The reasons for this successful transfer process are not difficult to find. We can say that there was a positive assimilation climate. The dominant Swedish cosmology, or attitude to nature, was sympathetic to systems ecology. Both the managerial control and the holistic reductionism that were central ingredients of systems ecology's worldview had long traditions in Sweden; it is not by chance that Worster traces the origins of Baconian ecology back to Linnaeus in the 18th century. At that time, Linnaeus was only one of a group of Swedish noblemen and scientists who were seeking to impose systematic order on natural processes and make more effective use of Sweden's natural resources.

The technological and mathematical fascination that is so central to systems ecology is also a characteristic trait of the Swedish national culture. Instrumental pragmatism and mechanical ingenuity is often given as an important explanation for Sweden's impressive industrial achievements; and the industrialization process, as a whole, was based on a number of key technical innovations in the 1870s and 1880s. Interestingly enough, the inventions themselves were, for the most part, made outside of Sweden; but the high level of technical interest and competence led to significant improvements and refinements. As with systems ecology, Swedish scientists and engineers have been successful improvers of discoveries made elsewhere. The technocratic optimism of postwar America had its counterpart in Sweden, which, like the United States, had been spared much of the destruction of World War II, and was able to take a lead in postwar industrial reconstruction. In any case, there is no doubt that, compared to other European countries, Swedish environmentalist thought and debate has been particularly technical and instrumental. This technical orientation was also noticeable in the way in which Sweden responded to the energy crisis of the 1970s and, again, to the "high" technologies of microelectronics and genetic engineering in the 1980s (cf Jamison 1991).

Institutionally, Swedish culture was also peculiarly amenable to the large-scale, cooperative, and highly planned approach of systems ecology. The so-called Swedish model of rational, consensual decision-making which pinned on Sweden the image of being both/either a middle way between capitalism and socialism, and/or a new form of totalitarianism, provided, in spite of the frequent exaggeration, a congenial environment for social engineering, planning and reform. Especially in the 1950s and 1960s, when the social-democratic government was in the middle of an uninterrupted 40 year reign, the continuity and effectiveness of Swedish public administration were internationally recognized. The model, we might say, gave rise to a certain mythology of Sweden both inside and outside the country, but there was, at the same time, a real system of active, state interventionist policy making that was more than merely a myth. The integration of environmental research and environmental policy into the Swedish model was not particularly surprising; if anything, it is more difficult to understand why the system and the model have decomposed as rapidly as they have in recent years. In any case, in the 1970s, Sweden had an institutional structure, with a strong state involvement in natural resources, regional planning, social welfare, and environmental protection that provided an extremely congenial context for the promulgation, in both research and political discourse, of the systems ecological paradigm.

5. Conclusions

The transfer of knowledge from one nation to another is never a simple process. As we have indicated in this paper, successful transfer depends both on intellectual, as well as broader social and historical, factors. The longstanding interest in Sweden in collecting data about its citizens, derived from a more general empirical bias or emphasis throughout the sciences, obviously contributed to the receptivity of Swedish intellectuals to the approaches that we have discussed in this paper. An empirical, individualist sociology — along with similar and equally American-dominated orientations in economics, political science, and psychology — found fertile ground in the Swedish academic environment; and with the literal disappearance of "alternative" orientations from France and Germany because of the second world war, the growing fields were all but free from competition.

In ecology and other natural sciences, as well as in many humanities disciplines, indigenous traditions were more strongly rooted. This meant that the transfer of knowledge took a longer time and had comparatively less impact on the Swedish academic landscape. Systems ecology, for example,

never came to dominate its field in the same way as empirical sociology. Indeed, it can even be suggested that the strength of indigenous intellectual traditions determines the quality of the transfer of knowledge. Postwar American sociology met so little resistance that the result was a largely imitative and dependent — and highly selective — copy of the original, while ecology took on its own Swedish style, as American approaches were combined, often in creative "hybrids", with other traditions.

The transatlantic migration of knowledge drew also on earlier relations between Sweden and the United States, in particular the massive emigration of the 19th century and the continuing personal and institutional networks that grew out of it. In the 20th century, these networks were strengthened by the new agents of corporate knowledge production, the private foundations, and somewhat later, the state-supported research councils and exchange programs. The establishment after the war of a scientific-technological state in both Sweden and the United States provided similar contextual frameworks for developing more formalized transfer mechanisms. Both countries pursued policies of social engineering and technocratic planning, and thus fostered an interest in similar approaches to science; although their policies had somewhat different ideological justification, there was nonetheless a strong common "scientistic" interest in both Sweden and the United States.

It was another war, in Vietnam, that slowed down the transfer process between the two countries. The rise of an anti-war movement brought with it a revived interest in French and German social theory. In addition empirical social science was attacked for its scientistic and positivist assumptions. While new critical winds also blew in from North America, in stimulating both the environmental and feminist movements, the links with America came to be weakened, and new ties with Europe were developed. In the 1980s, those new ties have been institutionalized through the educational and research programs of the European Community, and the "special relationship" between Sweden and America that was so characteristic of the immediate postwar period seems increasingly to look like an historical parenthesis.

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