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A decorative graphic in the bottom left corner consisting of several overlapping, semi-transparent green lines that form a complex, swirling pattern, resembling a stylized network or a series of overlapping circles.

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Abstract

Today, social networks analysis has become a cross-disciplinary subject with applications in diverse fields of social and economic life. Different network designs provide different opportunities to communicate, to receive information and to create different structures of cultural capital. Network analysis explores modes and contents of exchanges between different agents when symbols, emotions or goods and services are exchanged. The message of the article is that social network analysis provides a tool to foster the understanding of social dynamics, which enhances recent debate on a micro-macro gap and on limitations of the cognitive and explanatory potential of economics.

Introduction

Many social sciences, but especially economics and sociology, are arranged in faculties, courses, and textbooks on the basis of macro and micro analysis. Research on the connection between micro and macro perspectives has been scarce and the subject is virtually neglected (see Hoover 2009, 2010, Colander 1993). In economics, no consensus exists, whether macro follows micro or vice versa. While a macro perspective dominated for a long time since Wicksell “more or less founded macroeconomics” (Blaug 1986, 274), recently Rodgers (2011, chapter 2), who puts some of the discussed theoretical trends in a wider social perspective of thought, argues that micro views have gained some advantages nowadays.

In many respects, network analysis may be a tool to bridge both perspectives. Social embeddedness seems to have become “economic sociology’s most celebrated metaphor” (Guillén et al., 2002: 4). Social network analysis may be able to translate and to exemplify those popular formulations. Different network designs provide different opportunities to communicate, to receive information and, as a result, they create different structures of social contacts and an unequal distribution of knowledge, which serve as a kind of social capital for individual agents. Network analysis enquires of the modes and content of exchanges between people, where symbols (concepts, values, and norms), emotions (love, respect or hostility) or goods or services (especially financial subsidies and gifts) are exchanged. Network research has become an evolving cross-disciplinary subject with applications in many diverse fields of social and economic life. Even physicists show an increasing interest in network research (Scott 2011).

The aim of the article is to present a compelling argument for social network analysis as a valid way to illuminate the idea of social embeddedness, since it provides dynamic aspects, which are inherent in structures often commonly treated as blueprints. Social network analysis sits comfortably alongside recent discussions within the field of philosophy of economics, examining the limitations of mainstream economics. It has been argued that economics should be open to the integration of behavioral and cognitive elements (Akerlof 2007; Akerlof and Kranton 2000; Akerlof and Shiller 2009; Kahneman 2003) in order to assist the movement of economics from the world of abstract modeling to real world phenomena. Viewing economics as a box of tools (Schumpeter 1954, preface) permits one to identify social network analysis as an economic technique with the potential to map with economic behavior, institutions and economic and social change. That is because social

network analysis will foster a shift from abstract economics towards an economics dealing with real people.

If sociology can claim that traditional network research belongs on sociological terrain, then the improving reception of the literature on social networks and the growing acceptance of interdisciplinary network research necessarily requires sociological competency in the subject. In other words, institutional academic sociology can use the subject of network sociology as a positive example to demonstrate the comparative strengths of academic sociology.

By referring to the network issue in a broader sense and at different levels, one can show that specific regions, related companies, and economies differ in terms of their network structures, implying that they have specific family structures and structures of interaction, communication and exchange. Consequently, different structures reflect the issue, which has been expressed by the formulation of “Culture Matters” (Harrison and Huntington 2000). In contrast to sterile neoclassical economics, which aims at universal principles in a capitalist economy, the topic of network structures, which by definition includes corresponding variability, must be regarded as a counterweight to abstract theorizing in economics (Jones 2006).

The current article addresses the challenges brought out in two major areas of discussion. First of all, the article tries to provide a survey of positions in the history of intellectual debate on network research. Moreover, the composition of arguments and related references is more concerned with a sociology of science. In contrast to, and in critique of, formal and abstract attempts of theorizing in economics and in sociology, the article wants to show that social network research highlights what cultural sciences want to express, which is that *culture matters*. Networks integrate the level of action and communication with issues of structural selection and social change, which is the reason that social networks can be viewed as both a theoretical and methodological concern simultaneously. Different network structures in different cultures frame individual decision-making and choice (Becker 1974), by providing specific sets of preferences (Ellison 1995). Cultures within related times and spaces provide a differing calculus of individual rationality.

Network Research and Academic Innovation:

Against the homo oeconomicus

When discussing sociological network theory, we follow an innovative script that invites academic and economic and policy issues of *real* societies and economies (as opposed to abstract societies and economies) as subjects for research. Network research, especially when applied, is increasingly interdisciplinary and provides an adequate response to the limitations of mono-disciplinary approaches (Marcovich and Shinn 2011), which are always in danger of being quasi-autistic. It is just the intensive study of the economic development that illustrates our genuine understanding of Schumpeter, namely that innovation is the enforcement of “new combinations” (Schumpeter [1911], 1963: 100-102) of ways to produce.

Referring to differences in economic structures between countries and within countries, many of the differences to be found may reflect different culture-related organizational principles of economic life that are reflected by divergent social network structures, which mirror divergent training, education and employment arrangements and, ultimately, different family structures, different systems of industrial relations and economic mentalities. As a result, a variety of social actors can be found that cannot be reduced to the simple idealized figure of *homo oeconomicus* as the ideal model of a “clean” economics would have it. The idea of *homo oeconomicus* itself is a stereotype, which does not acknowledge properly the semantic changes over time (Pearson 2000). Nevertheless, historian David Landes (2000: 2) put it concisely: “Culture makes almost all the difference.”

Thinking along those lines, the intersection between a perspective on social network analysis and research on institutional economics and socio-economic systems becomes visible; both aim to understand the object of analysis in its social and historical context. Instead of referring to stereotypical classifications that emphasize generalized statements on nature, the role and function of *the* society or *the* economy, independent of specific cultural and historical contexts, economic life never takes place without an interplay with its real social and economic environment. Peter Berger put it this way: “Economic institutions do not exist in a vacuum but rather in a context of social and political structures, cultural patterns, and indeed, structures of consciousness (values, ideas, belief systems). An economic culture then contains a number of elements linked together in an empirical totality” (Berger 1986: 24).

This position is constitutive for new economic sociology, which takes up a tradition going back to *old institutionalism* that intersected the *new historical* school in the German-speaking world (Schmölders 1984) and also works simultaneously in North America (see Dorfman 1946-1959). There is an inherent common logic between modern works in sociology and those in economics, which criticize the status of mainstream economics. The term “heterodox economics” (Lee 2009) stands for this form of critique. In the center of the related critique is the model of the *homo oeconomicus* as it is used in neoclassical theory. The basic assumptions are: “1. The assumption of rational, maximizing behavior by agents with given and stable preference functions, 2. A focus on attained, or movements toward, equilibrium states, 3. The absence of chronic information problems (there is, at most, a focus on probabilistic risk: excluding severe ignorance, radical uncertainty, or divergent perceptions of a given reality)” (Hodgson 1994: 60).

In our discussion, it is the first and third items of Hodgson’s notion that are of interest: Human beings have motives, which may be viewed as rational *or* irrational by observers (Lauterbach 1962; Rabin 1998), and people have emotions by which they are governed positively or negatively (Elster 1998, Scherer 2011). Love, hate or envy are expressions of human activity that are real. Human beings love human beings, yet they kill people on occasion, they take part in lotteries, or they present gifts and cheat elsewhere (see for emotions Turner and Stets 2009; Stets and Turner 2007). Human beings do not share the same network structures but have divergent communication structures and related modes of interaction. Communication processes are asynchronous – everybody cannot speak with everybody else, but only a few people in specific groups communicate regularly with selected others, and consequently information in society is not shared equally. The topic of social networks tries to highlight the blind spots of neoclassical theory (Smelser and Swedberg 1994). Society is conceptualized as a configuration of different patterns of interactions that partly overlap and partly coexist. The question of the institutional framing and of the relevance of culture is not only the legitimacy of doing appropriate analysis on economies and societies (Jones 2005), but it is a *conditio sine qua non* if one wants to avoid a sterile economic discussion that neglects diverse social networks and structures of motivations in order to arrive at generalized statements.

Society *in abstracto* Versus *in concreto*: An Epistemological View

Differentiation of academic subjects and disciplines, especially in the second part of the Twentieth century, brought increasing autonomy to the disparate sections of social sciences, and consequently academic communication between individual branches of the subject decreased. An archipelago of new academic islands emerged, most with an intensive island life, but the communication traffic between each was scarce and almost silent. Economics suffered from a loss of access to sociological and behavioral contexts, and came to favor *a priori* assumptions regarding human action. The trend ran parallel with a shift in economic theorizing towards formalized modeling and theory building instead of real world analysis (Mikl-Horke 1999; chapter 13) but modeling itself became differentiated and contradictory (Morgan 2011).

As scientific theorems became more formal and abstract, dimensions such as space and time lost their significance, theorizing became increasingly non-historical and non-cultural since sterility was precisely the aim. In economics, a substantial number of positions neglected culture for that very reason, and often with quite offensive arguments. In that respect, there is a parallel between the approach of Karl Marx and formulations in neoclassic theory and its related idea of *homo oeconomicus*. Marx thinks human actors are treated simply as agents of roles, as personifications of economic categories, which function like actors interpreting a specific script (Marx 1977: 16). In terms of their methodological procedures, economists engaged in marginal utility theory proved to be quite similar. Karl Menger and associates assumed that human needs that are relevant for economic life occur at different stages, which lead – from stage to stage – to decreasing ratios of satisfaction and finally to the marginal utility of the last available unit. This idea was not based upon empirical-psychological research because it was not regarded as necessary. Deductive reasoning came up with *a priori* statements instead.

Arguing against Menger, there was Gustav Schmoller, who opposed Menger in what came to be called the first battle of methods in social sciences. Schmoller's intention was to criticize the abstract nature of those models solely based on non-empirical assumptions.

Schmoller argued institutionally in favor of the cultural and historical embeddedness of observations.¹ The Twentieth century represented the triumph of Menger's thought and his marginal utility theory became a foundation of a neoclassical economics clearly distinct from sociology and historicism (Hodgson 2001).

Today, the works of Max Weber and Werner Sombart are better known both in terms of their theoretical impact and empirical content. Religious dispositions and economic mentalities were discussed in relation to the establishment of socio-economic systems and he elaborated a typology of four ideal types of social action, which are the rationality of (1.) traditional action, of (2.) affective action, of (3.) value-orientation and of (4.) purposive-rational utilitarian action (Weber 1972, part 1, chapter 1) of which only the last point of classification matches with the supposed rationality of *homo oeconomicus*.² Being distant to a procedure as provided in theoretical economics, Max Weber concluded that economics "argues with a non-realist human being, analogous a mathematical ideal figure" (Weber 1990, p. 30, transl. D.B.). The questioning of the institutional framework of economic phenomena and the relative autonomy of networks corresponds with the recognition of the impact of culture within the process of economic development. According to Sombart (1982), all economies and their inherent economic lives are related to specific times and spaces, which are always embedded in a historical flux. The perspective comes very close to that of a modern interdisciplinary program, both claiming a dialogue between economics and neighboring academic fields.

¹ Pearson (1999) argues that the concept of a German Historical School of Economics is itself infelicitous. For a substantial discussion of Schmoller's position see Schumpeter (1926).

² Weber (1988) noted the coincidence between the protestant ethic and the rise of capitalism. It is interesting to see that Weber quoted Th. Veblen (1899) who – vice versa – already had a frequent exchange with contemporary European authors (see Loader and Rick 1995).

The Idea of “Social Embeddedness”

As ideas about an economy and society *in concreto* are increasingly accepted, so the relative autonomy of culture and its specification in different historical variations is also increasingly accepted. A plea for the academic existence of sociology must be the ultimate consequence. In particular, historical and comparative sociology, socioeconomics and economic sociology and, of course, social network research, prove to be innovative when highlighting national and international variations and specifics. In general, one can also argue that history, economics, business administration and sociology should try to reintegrate because their topics are among the items in a complex web of reciprocal thematic interaction. The concept of the “social embeddedness” of institutional actors and human behavior is a common label for approaches that attempt to deal with the interplay of individual and corporate actors in a dynamic and joint process. “Social embeddedness”, as a term and conceptual idea, goes back to Karl Polanyi, who became especially well-known through his book, *The Great Transformation* (2001), which elaborates on the genesis of a self-regulatory market in Europe, and particularly in England. Polanyi’s concept shows clear links to Durkheimian thought (Carroll and Stanfield 2003).

Polanyi contends that all societies are regulated and limited by economic factors. Parallel to the course of the establishment of free and self-regulatory markets, Polanyi observes a process of social differentiation. Status and community dominate where an economy is integrated in non-economic institutions, but contract and society are characteristic of a separation of economy and society.

According to Polanyi, an economy is a process embedded in economic and non-economic institutions. The integration of economic life runs in three different ways, namely through the mode of reciprocity, which is dedicated to social networks and kinship relations, through the mode of redistribution, which depends on a central organization in society, and through processes of exchange integrating the economy into a system of market prices. The semantic use of “social embeddedness” originated from anthropology (and is still to be found in substantive anthropology) but it has now been adopted by a range of other disciplines.

The impact of such a perspective is that modern economics could be linked with a constructive view that provides a new division of work between economics and the other social sciences (Granovetter 1993). Granovetter’s formulation of a “social embeddedness of

economic behavior and institutions” (Granovetter 1985) has subsequently become widely known. Granovetter focuses explicitly on the work of Polanyi and his argumentation is based upon three premises, namely that economic action is a special case of social action, secondly, that economic action is socially situated and embedded, and thirdly, that economic institutions are social constructions. A synthesis is sought between conceptions of over-socialized and under-socialized human beings in order to articulate a theorem, which takes into account both the determination of society and the relative openness of human activities as a process (Granovetter 1993, 2002). Granovetter argues against the concept of a *homo oeconomicus* as used in neoclassical thought and against a model of a *homo sociologicus*, in which an individual agent is controlled by social norms and roles.

Social network research has, partly implicitly and partly explicitly, adopted Granovetter’s preambles as a research program. Economy and society are permanently ‘in the making’ and they are best interpreted as the socially structured and motivated interaction of actors. Social actions are constituted along existing ties of contacts, which are based upon social experiences within different social circles of communication.

The Genesis of Network Research: Some Retrospective Observations

Geometry of Social Relations and Structures of Reciprocity

The earliest network research is attributed to Georg Simmel. Although Simmel was not strictly a network researcher, he was a researcher who thought in categories quite similar to network approaches found today. Simmel portrayed society in dualistic terms, exemplified by the word pairs of universality and particularity, continuity and change or conformism and distinction. In addition, people are dualistic and Simmel thinks of dualism as a driving force of development, which creates change.

The earliest sociologists thought of society in terms of the *geometry of social relations*. In the same way that geometry deals with forms capable of becoming bodies, the analysis of abstract forms was a major task for Simmel’s work. Social formations are characterized and constituted through continuous repetition. Simmel’s view of the cross pressures of social circles (“Kreuzung sozialer Kreise”, Simmel 1908) appears very similar to the modern analysis of cliques in contemporary network analysis. The dispositions of individual actors

differ according to their positions in a network, and personality, in the sense of individuality, is a result of the cross pressures of circles. Networks function as modes of social differentiation *and* societal trends of standardization. Finally, social structures are conceptualized as *relational* – and principally changing – links between human actors and organizations.

A different origin of contemporary network discussion can be seen in anthropology, where structural attributes of societies will be discussed in the context of processes of gift giving, marriages or authority and violence. Mauss (2002, 2006) demonstrates how the giving and exchanging of gifts is organized along social norms and processes. Often, no specific economic advantage is connected to the exchange of gifts and sometimes the same things are even exchanged between two parties suggesting that beyond the economic rationalities a specific social logic must be working.

Individual agents, families and tribes combine with each other through the exchanges of gifts and of “throats to be cut which are ‘lent’ and ‘repaid’” (Collins 1988: 419). As a consequence, social relations emerge and are intensified so that circles of reciprocal connections between families and tribes are constructed. Although the terminology of networks is not used, the topic is obvious close. Reciprocal *ties* based upon different manners of exchange between actors constitute the structure of societies.

Structure as a term also has substantial meaning in the works of Lévi-Strauss³. In the societies he analyzed, families form alliances through marriages of dependent family members that lead to reciprocal commitments. Such alliances provide for the distribution of goods and services. Since the patterns of kinship exchange vary between societies, Lévi-Strauss addresses the dynamics of the structures by asking for specific rules for marriage practices (Lévi-Strauss 1987) and by distinguishing between “short cycles”, which unify a small number of families and that are stable over a few generations, and “long cycles”, that unify many more families indirectly and families that may also be geographically separated (Collins 1994: 231).

³ See Wiseman 2009 for an overview.

The works of Mauss and Lévi-Strauss are antecedents of modern network research but their perspective is already clear and convincing. Families establish *ties* and create simple and complex networks. This structural approach describes the structure of societies and related dynamics and changes to these societies. The argumentation is in no way restricted to agrarian or tribal societies, but can be applied to modern societies as well.

Later, other anthropologists produced more elaborate theoretical and empirical work on networks, trying to deal with particular units and relations. British structural functionalists like Radcliffe-Brown and the “Manchester anthropologists” (Scott 2010: 26) – John Barnes, Clyde Mitchell, Elizabeth Bott – focused on cultural systems of normative rights and duties, which govern behavior within specific ensembles like tribes, villages or working groups (Wellman 1988: 21).

Radcliffe-Brown is often credited as the originator of the term *social network*: He wrote that “direct observation does reveal to us that these human beings are connected by a complex network of social relations. I use the term ‘social structure’ to denote this network of actually existing relations” (Radcliffe-Brown 1940: 2). Radcliffe-Brown’s terminology inspired other anthropologists to discuss contemporary metaphors such as “fabric”, “web”, “interweaving”, “interlocking” and to extend them to formal concepts like “density” and “texture” (Scott 2010).

The work of anthropologists in the 1950s focused on cultural systems, which had limitations when relations occurred that were transitory to close groups or categories. “*Concrete ties*” and “*crosscutting ties*” were discussed, and network analysis started in earnest by developing systematic network concepts. In his study of a Norwegian island on which he discovered hidden networks of friendship and kinship, which sometimes crossed the hierarchical, administrative and industrial structures, Barnes (1954) produced pioneering work. His network of relations was built upon intentional choices made by individual actors that partially reflected the class system of the island. Barnes initiated a change from a metaphoric network to a network term corresponding to modern network analysis, which is close to graph theory (Scott 2010: 27).

The research program of these anthropologists was focused on particular social relations to determine structures with inherent patterns of action. A crucial advance was added by structuralists like Harrison White and associates (White, Boorman and Breiger 1976), who

introduced the block-model analysis, which is still on the agenda in evolved form and is used by mathematicians and physicists and members of other disciplines (see Scott 2010: 33). The basic premise was to use network concepts in order to arrive at a theory of social structures:

The presently existing, largely categorical description of social structure has no solid theoretical grounding; furthermore, network concepts may provide the only way to construct a theory of social structure (White/Boorman/Breiger 1976: 732). Many subsequent network related studies and research topics tried to foster “a broadly comprehensive structural analytic approach” (Wellman 1988: 29).

Social Network Research as Research of Social and Economic Dynamics

Social network analysis has become a cross-disciplinary subject with applications in many diverse fields of social and economic life, and it continues to evolve. One of the most challenging fields to investigate is market dynamics, a subject very often regarded as a black box by mainstream economists (Swedberg 2003). Markets function upon the basis of communication and social rules, which may be addressed by social network oriented research perspectives. At least two of the crucial research conclusions Fligstein (2001) drew in his *Architecture of Markets* are relevant for network research; these are: “What social rules must exist for markets to function, and what types of social structures are necessary to produce stable markets?” and “What is a ‘social’ view of what actors seek to do in markets, as opposed to an ‘economic’ one ?” (Fligstein, 2001: 11, 14). Markets are always in transition, they come up, they go down, and they change. The markets are populated by actors utilizing sets of people they know and in whom they trust, while regarding other people as potentially hostile competitors. However real markets are portrayed, they always have very social traits, and economics researchers would be neglecting their duties if they were not to ask about their effects. Competition processes must also be analyzed and understood as ongoing social processes, which are involved in the continual reorganization (see Shackle 1972) of choices and decisions in relation to uncertainty.

The analysis of markets and processes of innovation has involved a variety of approaches, of which just three are mentioned here. Besides the works of White, it is worth mentioning network studies interpreting markets as networks (White 1981, 1988; Granovetter 1985; Baker 1984, 1990). A specific issue of research is how structures of a network *influence*

markets and the different chances individual actors have, according to their specific position in a network (Burt 1995). The starting point of the structural approach is the assumption that “markets may be viewed as social rather than exclusively economic structures” (Baker 1984: 776).⁴ Burt summarizes the research idea programmatically when talking about the “social structure of completion” (Burt 1995, later broadly reformulated as Burt 2007).

Granovetter (1973, 1974) started to do labor market research in the 1970s, inquiring of the social processes involved in finding new jobs. His theorem of “*the strength of weak ties*” has since become a classic formulation. Granovetter referred to informal channels of getting information, which were introduced through micro structural perspectives. Later, Granovetter (1985, 2002) extended his argumentation to a discussion of macro-level structures when examining the social embeddedness of institutions and behavior and when discussing different modes of structures.

Baker (1984) performed network research on the social structure of stock markets. His study distinguishes between different markets and types of markets, which are carried out by different forms of social relations. This perspective holds that network structures serve as both cause *and* result of social processes. Finally, when referring to the ideas of Burt (1995), Baker (1984) or Granovetter (1974), it is important to note that they all center on the question “Where do markets come from ?” (White 1981) and favor a type of answer with a strong link to social foundations. New information, ideas and opportunities come up through different forms of strong or weak ties between people in different clusters (see Bögenhold and Marschall 2008).

⁴ The cultural approach employs ethnographic (Abolafia 1998) or historical (Zelizer 1985, 1988) methods and the political approach underlines the role of institutions and the role of governmental influences for the functioning of markets (Fligstein 2001).

Social Network Analysis: Innovation, Theory and Methods

The modern social science based understanding of how economy and society are linked, seems to confer legitimacy upon social network research, owing to its offering a package of different perspectives and insights. The argumentation in the current article travels a long line within the history of thought in social network analysis. The evolution of research in the field has become remarkable and a series of journals and research committees have been founded worldwide. In the meantime, the *International Network for Social Network Analysis* (www.insna.org) has more than 1700 members with very diverse academic backgrounds in 78 countries. Reading contributions in the field sometimes demands very specialized expertise in specific academic areas. Over time, the complexities increase and the applications multiply (Dehmer 2010). While network analysis started in anthropology and sociology, employing qualitative methods and local community studies, in the last few decades, quantitative methods have made strong advances in network research. In some disciplines like physics, large scale analysis has become the predominant method. However, even today, qualitative studies remain a useful and valuable field for social network research, ranging from anthropology to conversation and discourse analysis and other applications. In addition, historians increasingly refer to network concepts (see for example Rota 2007, Laird 2006).

Network research studies usually strengthen and highlight the inner dynamics of societies (for an overview see Scott 2010; Carrington, Scott, Wasserman 2009; Wasserman and Faust 2009; Carrington and Scott 2010; Stegbauer 2008; Häußling and Stegbauer 2010; Newman 2010; Easley and Kleinberg 2010; Burt 2010). Orthodox and heterodox economics could both take advantage of these conceptual ideas in order to instigate innovative research programs; other disciplines, like sociology, already do so.

Social network analysis now makes a constructive contribution in many academic fields. To neglect network structures bears the risk that the social figuration processes of interaction and the basic principles that underpin them are ignored. If one does not know the modes of interaction and communication, one does not know the ways in which signs, symbols and contents are transported. To be able to study processes of diffusion requires information about ties and links of exchange. All processes of innovation and the diffusion of innovation are highly dependent upon communicative acts of people belonging to different networks sharing and providing information through different media (Rogers 2003). Whether related to the innovation of production systems in diverse commercial fields, or to customers and their

consumer behavior and social lifestyles, all hierarchies of preferences are crystallized in and through networks and constructed by opinion leaders. Networks are always the media holding (diverse) knowledge and the media through which that knowledge is modified.

One of the most intriguing questions is whether the way networks function has changed over time. Due to the increased prevalence of modern electronic communication systems, we not only have electronic markets but also new forms of private exchange through the internet or by cell phone (Wellman and Haythornthwaite 2002). Does this development create new patterns of communication and network structures? How are network structures linked to increased social and occupational mobility? Has the relevance of family-based ties decreased in the era of individualization and globalization or is the opposite in fact evident? Do demographic changes have an impact on network structures? Will the increasing number of elderly people in society lead to changing network structures? Catalogues of questions could be formed to provide grounds for justifiable further research.

Since social network research has evolved so rapidly in recent decades, two specific questions have assumed great importance and must be answered explicitly: (i) Does network research still fit into one single academic subject? The answer must promptly follow that network research has become too diverse to be identified as part of *one* discipline. Network research has become a kind of cross-disciplinary way of thinking and, as such, it might become a new academic area in its own right. (ii) What is the status of social network research? Is it a theory or is it a research method?

To answer, one should first clarify what is meant by theory. Half a century ago Schumpeter (1954) wrote that a scientific economist can be distinguished from a simple economist by a command of techniques classified in different fields, that is, economic history, statistics, economic sociology and theory and applied fields. In this context the word theory is always written with quotation marks – as ‘theory’ – to underline that it is problematic to talk about theory as if a common understanding of the term existed. In fact, there is no unanimously agreed definition of theory at all, different types of theory coexist (see for recent contributions Bunge 1996; Haller 2003, chapter 1; Schülein 2009: 42-65) and the question of when an academic statement acquires the status of theory remains a moot point (Turner 1988, 4).

Reviewing several existing pieces of literature dealing with the question of whether social network analysis is primarily theory or instead a method, shows that we have not yet

found any coherent answers. The basic denominator is that social network analysis seems to be something of a hybrid (Bögenhold and Marschall 2010). Universally, network research is qualified as an important instrument, but the difficulty remains of how to describe the status of network analysis. More than twenty years ago Wellman (1988, 20) said: “Some have hardened it into a method, whereas others have softened it into a metaphor” and Collins referred to network analysis as a “technique in search of a theory” (Collins 1988: 412).

Ten years later Turner (1998: 528) says that: “The potential for network analysis as a theoretical approach is great because it captures an important property of social structure – patterns of relations among social units, whether people, collectivities, or positions.” However, Turner’s judgment is that network analysis is still overly methodological in nature and that it is concerned with generating quantitative techniques for arraying data in matrices and then converting the matrices into descriptions of particular networks (whether as graphs or as equations). As long as that is the case, network sociology will remain primarily a tool for empirical description. Second, there has been little effort to develop principles of network dynamics, *per se*. Few seem to ask theoretical questions within the network tradition itself. For example, how does the degree of density, centrality, equivalence, bridging, and brokerage influence the nature of the network and the flow of relations among positions in the network? There are many empirical descriptions of events that touch on this question but few actual theoretical laws or principles (Turner 1998: 529).

Strategically, networks provide a link between micro and macro perspectives. They integrate the level of action and communication with issues of structural selection and social change. Networks serve as “sets” of preferences and social contacts between individual agents and groups of people. The bloodstream of society runs through networks. Whereas many writers treat the functioning of markets as something close to a black box, in which offer and demand equalize somehow, network analysis sheds far more light on the processes and informs us of how economic dynamics are often based upon social dynamics in which personal experiences and trust play important roles. Markets as well as many other institutions provide resources to human actors through different levels of inclusion, which function through principles of social networks (Burt and Talmud 1993). That the status of social network analysis remains unresolved and weak (the theory versus method debate) implies that there is room for further input here.

From Social Network Analysis to Social Capital

Discussion of social network analysis often elicits mention of the term social capital, as if both terms are interchangeable. It seems appropriate to conclude the current article by adding some brief reflection on the relationship between social networks and social capital. The answer is very simple, since social networks *can* serve as social capital for individuals or groups of people. Sets of specific networks, which one actor has compared to those of another actor, may be understood and used as a kind of economic resource.

Even the debate on social capital is marked by a long history of ideas going back to early neighborhood and community studies, starting in the middle of the Twentieth century. However, the works of Bourdieu (1983) and Coleman (1988, 1990) addressed social capital more specifically and conceptually. Addressing “capital as power” (Nitzan and Bichler 2009), Bourdieu (1983) is primarily interested in inquiring of the analytical position of social resources and strategies in the context of economy and society. How can individuals, groups or classes enhance their life-chances, careers and quality of life? What many previous social network researchers have thought about, but rarely articulated, is explicitly elaborated as a conceptual perspective embedded in a broader scenario. Bourdieu (1983) distinguishes between economic capital, which he interprets in a classic sense as material and financial capital and assets, cultural capital, which includes an interpretation of human capital, and which can be further split into subsections, and, finally, social capital. Individuals or collectives own different amounts of capital consisting of different compositions of the three sources of capital. Finally, capital of one sort can partly be instrumentalized to realize capital profits of another sort. Bourdieu’s perspective left behind a narrow social network perspective and started focusing on the more principal issues of order and restructuring of complex societies and their social inequalities. Social capital is interpreted as the volume of social resources of a person’s networks.

Coleman (1990) searches for the “social foundations of social theory” and has devoted a substantial chapter (chapter 12) of his *Foundations of Social Theory* to a discussion of social networks. He says that social capital and human capital are often complementary (Coleman 1988).

“Social capital, in turn, is created when the relations between people change in ways that facilitate action. Physical capital is wholly tangible, being embodied in observable

material form; human capital is less tangible, being embodied in the skills and knowledge acquired by an individual; social capital is even less tangible, for it is embodied in the *relations* between people. Physical capital and human capital facilitate productive activity, and social capital does so as well” (Coleman 1990, p. 304).

Coleman (1990) does not restrict social capital to resources based upon social networks, but includes in his definition institutional interpretations as well. Those include family structures, societal forms of trustworthiness, systems of production and regulation, religion, education and language. All these dimensions differ between and within societies and generate different levels of social capital.

The potential for further applications, and also for problems, becomes obvious as basic social network research starts to become diversified, opening itself to societal mentalities and their religions, social and psychological dispositions and different institutions of societal order. Social capital became open to being multiplied and instrumentalized (Ostrom and Ahn 2001; Burt 1997). Policy studies, management and organization theory, and the practical policies of national and global policymakers started to employ social capital as a strategic concept for the use of an increasing number of associations. Putnam’s (Putnam, Leonardi, Nanetti 1993) networks of civic engagement, Fukujama’s (1995; 1999) comparisons between different social structures in different societies as sources of different economic competitive structures of economies, and many other studies followed that analyzed links between social networks, social capital and economic development (Sabatini 2008; Barr 2009; Chamlee-Wright 2008; Chalupnick 2010), as did monographs, handbooks and encyclopedias (Easley and Kleinberg 2010; Field 2008; Svendsen and Haase Svendsen 2009).

Debate on social capital has emerged and the term has become a policy instrument, and sometimes social capital sounds like a hackneyed phrase . It refers to political economy and some further distinct thematic areas but all of the applications are grounded on the premise that the procedures of a complex economic and social life have serious social roots that together constitute a powerful plea for an integrated *socioeconomics* in research and in teaching, which can only be understood as part of an institutional interpretation linking different academic areas. Recent ideas stem from their own history of ideas and economic and social thought. As always, it is fruitful to start from a broader perspective to see the conceptual lines of continuity and change. We started with the idea that cultures matter and

that sterile conceptions close to central ideas of neoclassic economics fail. Accepting that premise and moving forward logically, we can see that network analysis and research on social capital provide useful arguments as to why these “social dimensions” fit with institutional thought.

Different capital structures correspond with different network designs and vice versa. Divergent network arrangements provide different opportunities to communicate, to receive information and to create different structures of cultural capital. Network analysis explores modes and contents of exchanges between different agents when symbols, emotions or goods and services get exchanged. The article tried to argue that social network analysis has become a cross-disciplinary subject with applications in diverse fields of social and economic life. The message of the article was to highlight that social network analysis provides a tool to foster the understanding of social dynamics by looking between micro and macro areas and by filling the gap. Social network analysis enhances recent debate on social and economic changes and may get rid of some limitations of the cognitive and explanatory potential of economics.

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