1. No man is an island: The research programme of a social capital theory

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THE THEORY GAP IN NETWORK ANALYSIS

The study of social networks has gained momentum since the 1960s. It produced impressive findings, such as that persons who are more integrated into their networks have a better life expectancy (Berkman and Syme, 1979). Judged by the number of publications and its various fields of application one can only conclude that network research is flowering. Milestones in the development of this research tradition are Granovetter’s 1973 article on ‘The Strength of weak ties’ and his 1974 book on Getting a Job. Unjustly neglected, however, is his 1979 essay on ‘The theory gap in social network analysis’, in which he laments the empirical and methodological bias of network research and its lack of theoretical integration and explanatory depth. Stinchcombe (1989) added that there is not much cross-fertilization among fields of application. Furthermore, existing studies would oversee that network effects are conditional upon certain social and institutional circumstances.

Social network studies have mainly been kept together by the orienting notion that all network structures have some effect on the actions of the actors enmeshed in these networks. This notion provides for an underlying unity, but it also makes network research somewhat akin to the search for the dependent variable, known from the earlier status-inconsistency literature. In sociological research it has become a kind of routine to include network factors in the analysis as a kind of turbo-chaser to boost explained variance.

The prospects for more general theories in network research are, however, not as dim as one might think while reading Granovetter’s criticism. There are a number of developments that hold promise for the future. One is the articulation of a structuralist view, the other is the development of the social capital theory. Both take the idea of goal-directed, rational acting man as their point of departure, the former uses its alleged atomism to define its own position, the latter uses it to create a new research programme by adding new auxiliary assumptions on networks.
STRUCTURALISM

The structuralist stance claims that social networks are so restrictive that, to explain people’s actions, you only have to know the structure of the social network these actors are part of: ‘Give me the network and I will tell you what they will do.’ Although this branch of network studies did not deliver a general integrative theory, it produced numerous valuable theoretical insights, which are partly empirically corroborated, and which will be part and parcel of more general theories. An example is the ‘strength of weak ties’ argument: although news travels more quickly through strong ties, they will barely ever bring you news that is really new, because friends of friends will be friends. Only a weak tie and no strong tie will be a bridge to interesting other social worlds.

Actual research by the structuralists is less far removed from rational choice sociology than one would imagine while reading programmatic statements (Berkowitz, 1982; Wellman and Berkowitz, 1988). Close reading reveals that structuralists make assumptions as to why individuals act as they do. They have to, to make sense of where networks come from, how they change or how network effects feed back into the networks. For example, in re-analysing the data of Coleman et al.’s Medical Innovation, Burt (1987) explains the influence of others on the people’s decisions as a way to resolve their uncertainty about risky choices by comparing themselves to others who are similarly placed within the social network at large, that is, who are structurally equivalent. Or take the analysis of product markets by Leifer and White (1988). They assume that producers jockey for status positions and profit, and that they decide upon what prices to set for their products, not by looking at the actual demand by buyers, but by reference to what similar other producers are doing. Burt, White and Leifer in fact use a signalling argument: in case of uncertainty, people use signals to decide what is their best interest. Or, take ‘the strength of weak ties’. This effect is supposedly the outcome of a cognitive straining towards balance: people want their friends to be friends. This causes in-breeding and destroys local bridges. So it is not so much the unrealistic nature of their assumptions about rationality but the alleged failure of rational choice sociology to incorporate social structure in its accounts of economic and other human actions that sets structuralism apart from rational choice sociology.

The kernel of the structuralist view can be rephrased, in that all social, including economic, phenomena are embedded in social networks (Granovetter, 1985, 1992). The strongest selling point of structuralism is that it tries to beat neoclassical economics on its own home turf, the analysis of the economic world (Zukin and DiMaggio, 1990). All markets are socially organized through networks (White, 1981). This applies to conventional markets, like labour markets (Granovetter, 1974), consumer markets (Frenzen and
Davis, 1990), product markets (Leifer and White, 1988), housing markets (Grieco, 1987) and stock markets (Baker, 1984a, 1984b), but also to unfamiliar markets like those for culture (Faulkner, 1983; Powell, 1985), legal assistance (Heinz and Laumann, 1981) or illegal services such as abortion (Lee, 1969) or providing cocaine (Snijders et al., 1995).

Rational choice theory, in its most renowned form, that is, the received view of neoclassical economics, does not take social structure into account and assumes society to consist of social atoms, fully informed, where prices are written in the sky, and without transaction or enforcement costs, without institutions actually. But there is nothing in the idea of rational choice that makes it impossible to include social networks among the constraints under which actors have to act or to use rational choice ideas in explaining structural effects – especially not, and this is Granovetter’s second criticism, if one relaxes the assumption that profit, especially money, is the only goal people to strive for. People also long for esteem, status, companionship and eternal bliss. Moreover these preferences are influenced by social conditions. Rational choice can even level a third criticism, that the historical development of institutions is neither arbitrary nor to be chosen freely at will. Granovetter criticizes slick rational choice explanations of institutional change with efficiency arguments. Path dependency of consecutive choices locks people in as well as their creations, like organizations, in historically evolved institutional arrangements that are hard to alter without great transaction costs (McGuire et al., 1993). The evolution of networks itself is strongly path dependent as well (Doreian and Stokman, 1997). The three notions (embedded economic markets, socially conditioned preferences and path dependent social construction of institutions) constitute what has been called the ‘new economic sociology’. This is the sociological alternative to the received view in economics about organizations and markets, and its more recent branches of ‘new institutional economics’, like transaction cost economics (Swedberg, 1997).

Yet there is something amiss with the embeddedness argument in its strong version. No general assumption on effects of network structures seems to hold empirically. Disturbing factors forever seem to pop up, making for ‘A not leading to B’. Granovetter, for example, assumed that weak ties make for quick dissemination of relevant information on job vacancies. However, his own research evidence is not that strong. Others could not confirm the idea either in research on the job-finding process of different occupational groups in western industrial societies (Lin et al., 1981b; Bridges and Villemez, 1986; Grieco, 1987; Preisendörfer and Voss, 1988; Forsé, 1999; Flap and Boxman, 1999), non-western industrial societies (Völker and Flap, 1999) and non-western agrarian societies (Bian, 1997). The suggestion that informal contacts lead to better jobs also is not unconditionally true. There is no clear relation between
size of the personal networks and frequency of informal job finding. For example, in western societies, ethnic minorities and people from the lower classes generally find their job more often through informal contacts, although they usually do have smaller personal social networks. Job-finding methods do not bear a relation to the prestige of the job that is found. Placement via social networks seldom results in higher prestige jobs and often negatively affects income. Differences between societies in the job-finding process suggest that institutional conditions influence the effects of networks on the occupational career. People did find their job through an informal contact more often in the United States than in the Netherlands. The actual contact person also has a larger impact on occupational success in the United States (De Graaf and Flap, 1988). The discussion on the conditions under which social contacts do promote occupational achievement is not yet decided, but it is clear that the use of informal contacts does not produce a better job, unless the contact person has good resources himself.

There always seem to be societal factors that complicate or interfere with structural effects. Why do structuralist law-like ideas about systematic network effects always meet with exceptions? One inroad to these theoretical questions might be starting off from a constraints-driven rational choice perspective on social networks which conceives of networks as social resources. Some social anthropologists (Kapferer, 1972; Boissevain, 1974) and sociologists (Fischer, 1982; Fisher et al. 1977) took this perspective in the 1970s. The argument has been taken a few steps further lately by sociologists who came to conceive of social networks as social capital. They are rational choice sociologists who, inspired by the achievements of human capital theory, apply a utilitarian, rational choice point of view to social networks. Or they are neo-Marxist and neo-Weberian sociologists who apply an interest-driven account of human action to social networks. All stress the productive and investment side to social networks (Bourdieu, 1973; Loury, 1977; Coleman, 1988; Flap, 1988; Burt, 1992). The social capital idea holds a promise to integrate a large part of the research literature on social networks.

In the remainder of this chapter I will provide a sketch of the research programme of a theory of social capital, its core, its main questions and some tentative answers, and explain why the structuralist claim of pure structural effects will be refuted (once this claim is thoroughly studied on its truth value in capital research); there will be exceptions to the claim because of institutional and technological conditioning of the instrumental value of social networks. Finally I cite some research evidence that shows that the programme works and discuss a number of theoretically inspired promising, as yet unresolved, questions.
SOCIAL CAPITAL THEORY

The way out of this unsatisfying situation in network research may be to concentrate on the assumptions regarding man, or put otherwise, regarding human nature. Why not make arguments more accessible and liable to criticism and start with more explicit assumptions on what makes individuals act? Of course, one should stick to the original explanatory problem as to why there are exceptions to structural effects. So, although the theoretical primacy is sought at the individual level, the analytic primacy remains at the structural level.4

How to proceed next? Something should be known about the goals people care for. One can try to establish them empirically in each situation. More informative and thought efficient is to assume that basic preferences do not change drastically, human nature is the same through the ages and in different places, meaning that people have the same fundamental needs, the same general goals. These goals can be summarized as the wish to improve one’s life chances, or, according to Adam Smith (Lindenberg, 1990), one’s physical welfare and status.

Such a proposal is not at odds with classical or present day sociology: it may go against programmatic statements, but not against the grain of explanations actually delivered (Boudon, 1981). There is a common ground, between sociologists and economists, in the assumption that people act goal directed but under social constraints and frequently with unintended consequences (Lindenberg, 1990). Because often there are different courses of action to attain these goals and there are always constraints, if only of time, people have to choose.

This common view also holds that those with more resources will better succeed in reaching these goals. According to Smith, and this is an important assumption, there are typical means for different social groups to reach these goals. Under the constraints posed by capitalism in a free market society man hardly has a choice but to specialize in some economic resource, since this is a means to most other ‘goodies’ man might want. Having economic capital (financial or human capital) proves to be the grand route to a good life, to success, well-being and status in western capitalistic societies. In the course of its development, economics specialized in the study of different economic means, specifically financial capital in a capitalist free market society.

This point seems somehow to have gone lost in economics: it is not for the love of money, but simply because money is the key to many of the good things that people want out of life, that people strive for higher profits, income and wages. People’s preferences or interests are socially conditioned; given their social situation, people can only achieve their more ulterior goal of having a good life by realizing these less general goals. The latter are instrumental goals,
so to speak. People produce their own subjective well-being by optimizing these instrumental goals. So they might also, if under particular restrictions achieving some goal is difficult, to some extent substitute one general or instrumental goal for the other (Ormel et al., 1999). In many contexts social capital is part of the production function for status and physical well-being.

Sociology contributed at least three major insights to this common view of man. For one, next to economic means it studied several others that promote these goals. According to its neo-Weberian synthesis, there are three main types of resources to achieve a better living: economic resources (financial assets and capital goods, but also occupational knowledge and skills), political resources (voting rights, membership of political bodies such as parties) and symbolic resources (occupational prestige).

Secondly, sociology describes several other institutional conditions next to markets, in which man can find himself. Accordingly, sociology is not a science of leftovers from economics. Economics can perhaps better be named ‘market sociology’. In traditional societies individual action is mainly influenced by traditions transmitted through the generations, whereas in modern societies individual behaviour is constrained by markets and organizations. A major sociological task is to specify how these institutional constraints influence the returns on the use of these three types of resources.

Thirdly, sociology stresses, more explicitly than economics, the unintended, often perverse, collective effects of individual goal-directed action.

How does this exercise help us to explain network effects? The logical thing to do is to interpret personal networks as resources, analogous to these other resources, to treat them as a sort of capital that is instrumental in reaching general goals. This ties in nicely with neo-Weberian thoughts on life chances being determined by one’s economic, political and cultural resources. It seems natural to extend this series with social resources.

The idea is not new, though. ‘To have friends is to have power: for they are strengths united’; these are the words of Thomas Hobbes in his famous Leviathan (1663). This assumption, however, is of great heuristic value in social network studies. It is the hard core of a budding research programme. It serves as a guide for where to look for explanations of network phenomena. In a nutshell, it presents a research programme in which personal social networks are treated as a specific resource, that is, as a social resource. Hobbes, of course, referred to its importance in the struggle for survival. Social resources are important not only for physical safety, but also for most other goals people have in life, such as companionship, social esteem and good health.

The core of social capital theory is formed by two simple propositions. One is the social resources hypothesis according to which people who are better equipped with social capital will be better able to attain their ends, and the second is the investment hypothesis stating that people will invest in social
capital according to its instrumental value in producing their ends. Take note: social networks are not seen simply as yet another constraint in the choice process, but as social capital with which goals can be produced that would otherwise be impossible.

These thoughts lead to some interesting, new questions. At least the following can be discerned:

1. What are the main constituents of social capital and how do the various effects of social capital depend on its main constituents?
2. Precisely what about a social network makes it productive?
3. How are social resources related to other resources? Specifically, does social capital increase the returns to human capital, and can they be substituted for each other?
4. Under what circumstances, particularly in what kinds of societies, are social resources most important?
5. How do people acquire social resources? How and when do persons invest and divest in others?
6. Why are social resources distributed unevenly?

This series of related questions articulates the contours of a research programme that is encompassed by the idea of ego-centered social networks as social resources. Such a programme systematizes the results of social network research, creating a system that was lacking before. By now, several theoretical and empirical contributions to this budding research programme can be discerned (Flap, 1999).

Scattered through the social sciences literature are attempts at providing answers to the questions. Lin (1981a, p. 1163) hinted at an answer to the first two questions. Social resources consist in ‘the wealth, status, power, as well as the social ties, of those persons who are directly or indirectly linked to the individual’. The resources of affiliated individuals are substitutes for someone’s own resources, that is why Boissevain (1974, pp. 158–63) called them ‘second order resources’. An important aspect of the latter is the diversity of the second-order assets. The number of alters willing (apart from being ‘able’) to grant assistance enlarges ego’s social capital, for which Coleman (1990, p. 306) introduced the image of credit slips.

In certain research areas, especially in studies on social support and health, it is taken for granted that the mere presence of other persons already promotes goal achievement. But what is at the other end of a tie is often all-important. A mother, for example, will usually be willing to help her child with his studies, however, if she did not receive much education herself, this help will be of no great avail. According to Coleman (1988) the American youth currently has a dim future because parents do not want to help their children as much as
in earlier days, although parents do have more resources than their predeces-sors.

Social capital is made up of at least three elements: the number of others
prepared or obliged to help ego when called upon to do so, the extent to which
they are ready to help, and what is at the other end of the tie.6

One could include the structure of the network as a fourth dimension of the
social capital concept. Bourdieu (1981) and Coleman (1990) hold that there is
social capital in a dense social network. It is critical, for example, to school
success: a rather tightly knit community network is an asset as parents will
continuously observe each other’s children and correct them should they go
astray, or at least they will notify the parents of these children.

Dense networks not only lower the cost of information search, they also
decrease the costs of the enforcement of norms. These arguments on the effects
do not have alternatives for you, and you do have alternatives for them,
you are autonomous, which not only brings non-redundant information but
also control benefits.7 Being autonomous, of course, is an instance of having
a favourable exchange rate in transactions with others. So being in the middle
between other persons who are otherwise disconnected, having ‘structural
holes’, can be seen as an aspect of social capital. This principle was earlier
discovered in studies of patronage-ridden societies: the staying power of
patronage derives partly from the particular network structure it implies, that
is, an open triangle (Singelman, 1975; Flap, 1989). Social psychological group
experiments on exchanges in pre-given networks already pointed out that not
the most central persons, but those who are in a brokerage position, profit most
from exchanges (Marsden, 1982).

With respect to the third question, Bourdieu (1981, Bourdien and de Saint-
Martin), Coleman (1988) and Burt (1992) argue that a person’s social capital
increases the returns to his other resources. The productivity of social capital
is coming from the opportunities brought to you by your network to make a
profit on your other resources, especially your human and financial capital.
Social capital adds to their value. In methodological terms this is an interaction
effect of social and other resources. It is not clear to what extent people
can substitute one kind of capital for the other or convert one kind in another
type of capital.8
As to the second element of the hard core of the social capital programme, the investment decisions, if we interpret people’s social networks as their available social capital and do not leave it at this metaphor, we are closer to an answer to the fifth question, that is how people acquire social capital, and the largely equivalent question of how and why social networks change. The idea of social capital implies that men spend their resources on others, not only for the efficacy of the moment, but also with an eye to the future. As early as 1923, Marcel Mauss, in his famous ‘Essai sur le don, forme archaïque de l’échange’, expounded on how people acquire social capital, viz. by giving and in that way indebting others to them.

Social capital is an entity, consisting of all expected future benefits derived, not from one’s own labour, but from connections with other persons. It is sensible to view all of men’s actions in this light. That is, every human action is equally an investment decision in which actors, whoever they may be, look into the future to justify current actions. However, people do not invest only in social capital, but also in economic, symbolic and political capital. They try to combine their investments in such a way that a package, a portfolio, results by which they hope to maximize their life conditions.

In their investment decisions people will always discount what they think future benefits will be and consider the value they have for them now. The importance of a relation is not only determined by past investments in it but also by the expectation of future help from it (Boissevain, 1974, p. 250). People will invest and divest in social capital according to the expected value of future support.

There are a number of assumptions implied in the hard core of social capital theory. The importance of social capital in social life strongly relates to its being a case of non-simultaneous exchange of help (delayed or generalized reciprocity) which usually is, at the time it is given, considerably more valuable to the recipient than it is costly to the donor (Coleman, 1990). This means that it is required that there be some complementarity of the partners’ fortunes. If they do not expect that there might be a reversal of fate, generalized reciprocity between two partners will not occur (Cosmides and Tooby, 1992; Litwak, 1985).

Furthermore, as time is involved there will be a discount rate to the value of future help (Taylor, 1974, p. 9) The faster the value of social capital has to be discounted, the smaller the expected value of support will be. Axelrod (1984, p. 12) catches the idea’s meaning with the image of ‘the shadow of tomorrow’. The value of social capital increases by enlarging the shadow of tomorrow. The future is less important than the present, for three reasons. The first is that players tend to value pay-offs less as the time of their obtainment recedes into the future. The second is that there is always some chance that the players will not meet again. A relationship may end when one or the other
player moves away, changes jobs, dies or goes bankrupt (ibid.). Thirdly, together with the costs connected to any exchange, there is a risk that the other acts opportunistically and does not repay his debt. Because there is a time delay between investments and returns, one has to trust the other that he or she will repay the service delivered and not act opportunistically. Investing in others is similar to what game theory calls playing a trust game (Dasgupta, 1988). This risk adds to the expected costs of investing in others, thereby increasing the discount rate.

As to the costs of investments in others and of entertaining a particular tie, these have not been clearly envisioned in social capital research until now. They will be lowered notably if both partners to a tie are members of a pre-existing group (Lindenberg, 1998).

There is a way of acquiring social capital without having to mobilize one’s resources, that is, through endowment, or more generally through ascription of rights to support by certain people. The major example, of course, is being born into a family. An important part of man’s social capital develops without his own intervention, even without he himself being aware of it, like being born into a family. Or think of all the indirect ties created by the ties of one’s colleagues, acquaintances, friends and kin. Direct ties too are not always consciously constructed: one’s weak ties especially often grow ‘at random’, as a by-product of actions directed towards other goals. Yet one has to be cautious, since even within a family a person has to make choices regarding whom to interact with and how much (Foster, 1961).

The beauty of the programme is that our we have one key-idea, explaining in principle effects of social networks as well as the emergence and change of social networks. Such an investment theory enables to explain why theories that are often used to explain personal relations, like exchange theory and cognitive balance theory, meet with refutations. Refutations are, e.g., battered wives staying in a strained relationship with their husband or partners who are quite satisfied in their intimate relationship but who nevertheless make an end to it or sleep around with others (Rusbult et al., 1991, Rusbult and Martz, 1995).

People invest and divest in social networks pending their expected value of future support. Together with the direct costs and rewards of entertaining a particular tie, the past investments in the tie (‘the shadow of the past’), the shadow of the future, the quality of the available alternative relations and the cross-linkage between the personal networks of both partners in a relation are involved in the decision to invest or divest. The shadow of the past is important not only because one has learnt about the trustworthiness of particular others or because they start to like one another in continuing relationships but also because investments in particular others are nearly always relation-specific (Lin, 1998). They are largely lost if one switches partners. If a
person’s investments in others are more clustered in tightly interconnected others, it is more difficult to withdraw one’s investment in a particular other because this will damage relations with others as well (Kapferer, 1972).

The answer to the sixth question, why social capital is unevenly distributed, is rather simple. People can produce more social capital, the more economic, symbolic and political resources they control, and since these are usually unevenly distributed, the same goes for social resources. Lin et al., (1981a) stress that the social background of one’s parents influences the social resources of the children. Combining the social resources and the investment hypothesis (the more social capital someone has, the better he can achieve his goals; and the more economic, symbolic and political resources someone has, the more social resources he can produce) leads one to expect reproduction and accumulation of social inequality. Social inequality will be perpetuated intragenerationally and intergenerationally by differences in access to and use of social capital (Bourdieu, 1973; Flap, 1991). Social closure through the selective employment of its social capital is a compensatory strategy that can be used by an elite at moments when its position is threatened, for example if leftist governments try to redistribute wealth from the rich to the poor or stimulate bright children from the lower classes to educate themselves in order to climb the social ladder (Bourdieu and de Saint Martin, 1982).

There is still one question to which an answer is awaited, that is the fourth question on how institutional arrangements influence the returns on social capital. It will turn out that this question is largely equivalent to the question as to why there are no pure structural effects. Below I will deal with conditions, such as level of technology and the kind of legal institutions, that confound structural effects by causing differences in returns of the same networks, that is, in its instrumental value as social capital. But before I come to that I will first discuss some necessary preconditions for any network effect, such as, numbers and places.

**CONSTRAINTS**

**Places and Numbers**

Without meeting there will be no mating (Verbrugge, 1977). This insight sank in only recently. Basic to meeting chances are kinds of people and numbers. The circumscriptive effect of numbers on chances to meet particular others was brought to the fore by Blau and Schwartz (1984) in their study on marriage patterns. Their point is summarized neatly in the one-liner: ‘You can’t marry an Eskimo, if no Eskimo is around’. They presented strong empirical evidence. This argument does not apply only to marriage ties, but to all
kinds of relations, for example, in the United States it is far easier for a black person to have a white person for a friend than the other way round.

The most obvious condition influencing contact opportunities, apart from absolute numbers, is places and facilities. Feld (1981, 1984) noticed that social interaction is often tied to certain places offering foci for interaction with other people. Obvious examples of foci that can organize social ties are public places and facilities, like a bar, shops, schools, disco, restaurant, library or public squares, but one can also think of work places, voluntary associations or other organizations. Places in which people are brought together for a particular goal offer an occasion to meet others. As a result their network becomes organized around such a focal point. Social ties emerging in such situations are a quasi by-product of other interactions and the relational demography of such foci strongly determines which ties are actually formed (Flap et al., 1998a, pp. 117–18; Lindenberg, 1998; Kalmijn and Flap, 2001).

The above is a supply-side argument: the composition of people’s social networks will reflect the composition of the pool of people that come together in the places that they visit, that is, the opportunity structure for selection of associates (Marsden, 1990, p. 397). This state of affairs can be described as easily in terms of opportunities as in terms of restraints. Structuralists emphasize the latter option as they call into question the voluntaristic assumption that ties exist because two members of a dyad want to interact with one another. In practice, many ties are involuntary in that they come as part of a network membership package. They may be ties to persons who must be dealt with at work or in the neighbourhood (Wellman, 1988b, p. 41).

The restraining influence of places and numbers shows, for example, in the desolation of the black underclass in the American inner cities. This is a result not of a culture of poverty, but of the lack of sustained contact with people who have a stable work history and live in more stable areas (Wilson, 1987, p. 61). The social isolation makes it much more difficult for those who are looking for jobs to be tied into the job network. Even if job vacancies become available in an industry near or within the inner city neighbourhood, workers who live outside the inner-city may find out about these vacancies sooner than those who live near the industry because the latter are not tied into the job network.

**Technology**

Although some types of social capital are goal specific (for example, it takes a strong man to carry an invalid), its major advantage is, not unlike money or human capital, that it is often a means to all ends. Litwak (1985) showed that support from informal networks is far more important in the sheer amount of services delivered than care provided by formal organizations. Informal relations can better master events and tasks with many contingencies, that are not
easily subdivided or involve problems for which the time of their occurrence is hard to tell, that require continuous availability of certain others. That is why most everyday problems cannot be routinized or standardized. But when solutions can be routinized and standardized through technology or universal legal laws and rules, the value of social capital usually shrinks. Yet new highly developed technologies also produce new non-standard, non-routine exigencies because of all kinds of unforeseen tight couplings in technological and work processes (Perrow, 1986), which can only be mastered by resourceful people and through fine tuning of social relations. Social networks generally seem to be more important in the service industry that in manufacturing because dealings with other people cannot easily be standardized.

Analyses of African stateless societies at a rather low level of technology, (horticulture and herding) show the strong impact of technology on what can and has to be done by social networks. In such a situation an extra premium is put upon the formation and maintenance of social capital since under subsistence conditions each family is too small to support itself (Gluckman, 1965, pp. 13–14). Moreover, since there are ‘no cops and constables’ in stateless societies, one had better have friends for personal protection (Flap, 1988, 1997). And as food and other goods are difficult to store or trade, the main investment available to man is in personal relationships with others. Generally, the value of social capital will increase in periods of economic contraction, even in industrial societies. During extreme emergencies, like a famine, catastrophe or war, social capital will indeed be indispensable to the preservation of life.

Institutions

Conceptualizing social networks as ‘social capital’ has advantages over seeing than as ‘social resources’, because the former focuses explicitly on discounting, returns on investments and the institutional conditioning of the value of social capital. The same relations will be more or less productive under differing institutional constraints.

Institutions and social technology, can provide universal standard routines that make particularistic solutions through mobilizing social capital more or less superfluous. The welfare state provided social rights, pre-empting much of the former value of social networks. But man does not live by bread alone, social prestige and an identity cannot be created through issuing social laws. Particularistic solutions are called for and there will always be some minimum value in social relations with others.

The absence of a constitutional democratic state puts an extra premium upon the formation and maintenance of social capital. Extreme cases are concentration camps. As Primo Levi (1979, pp. 94–5) states, in his horrific autobiographical account of his time in Auschwitz:
With the adaptable, the strong and the astute individuals, even the leaders willingly keep contact, sometimes even friendly contact, because they hope to perhaps derive some benefit. But with the musselmen, the men in decay, it is not even worth speaking, because one knows already that they will complain and will speak about what they used to eat at home. Even less worthwhile is it to make friends with them, because they have no distinguished acquaintances in camp, they do not gain any extra ration, they do not work in profitable Kommandos and they know no secret method of organizing. And in any case, one knows that they are only here on a visit, that in weeks nothing will remain of them but a handful of ashes in some near-by field and a crossed-out number on a register.

Sometime institutions obstruct people’s goal attainment and they use social networks to circumvent these obstacles. Dutch history abounds with illustrations. During the Republic in the 17th and 18th centuries, certain families of regents managed to stay in power for decades by carefully managing their social capital. They succeeded by creating affinitive relationships with other powerful families and by so-called ‘contracts of correspondence’, written agreements between contending political factions to share power by way of rotation. In this manner they were able to circumvent laws and moral indictments against family government, while at the same time keeping conflicts and deceit to a minimum (van Dijk and Roorda, 1980).

The compensatory mechanisms mentioned by Bourdieu have already been described above. Elites in democratic societies will close their ranks to potential marriage partners from other social classes, guard their resources and compensate for egalitarian measures taken by social–democratic or socialist governments. It shows that social capital can be effective notwithstanding moral disapproval and legal prohibitions on the use of social connections, if relations are hidden from others through ignorance or secrecy (Bourdieu and de Saint Martin, 1982, p. 42).

A recent discussion, especially in the political sciences, revolves around the presumed erosion of social capital of western societies. Putnam (1993) examined why everything seems to go worse economically and politically in the Italian south than in the north. He argues that civic traditions in the north promote the growth of lateral social ties, voluntary organizations, norms and trust which in turn make possible good governance, legitimate democratic government and economic growth. According to Coleman (1993) there is an irrevocable loss of social capital in western industrial societies, caused by technological changes, the growth of the welfare state and the rising number of large organizations providing services that were once produced in the family and the neighbourhood. These developments devalue social ties to others and destroy the social capital in the family and local community. Parents, for example, will not take care of other parents’ children. They will not even invest any more in their own children, because their need for them has decreased with the availability of old age pensions, and it is no longer
shaming for a family to have a child that went astray. The images of ‘bowling alone’ and ‘cheque book-writing organizations’ summarize the discussion (Putnam, 1995a). We should note, however, that such trends as the decline in membership rates of voluntary associations are to be discerned in some western countries, but certainly not in all (Forsé, 1999).

The general point these authors seem to make is that the existence of alternative solutions to the question of how to achieve well-being might devalue social capital. A prime example is that, with television absorbing much leisure time, people do not need each other any more for company and entertainment (Putnam, 1995b) and that welfare provisions eliminate risks against which people formerly tried to insure themselves by engaging in family and community networks. Time-budget studies, indeed, show that there is less informal socializing nowadays then 20 years ago.

Institutions not only influence the general value of social connections, they also influence what type of relationship might be instrumental to good life. A major example in our day is provided by the political turnover in Eastern Europe from a totalitarian one-party to a democratic multi-party political system and from a centrally controlled economy to a market economy. The institutional changes alter the returns of investments in social capital and they thereby affect the (di)investment of persons in one another, which implies that their social networks will change.

My own research in the former German Democratic Republic (GDR) suggests, for example, that weak ties, quite unlike the situation in western societies, have perverse effects in communist societies as they pose a threat (Völker and Flap, 1995a, 1995b, 1997a, 1997b, 1999). One never could be sure whether state or party organs were not spying on one’s private life, or whether third persons would not collect information that could prove to be dangerous upon disclosure. Although the regime did succeed in mixing neighbourhoods socially (the professor living next to the plumber or the pimp), people actually living next door to each other kept their dealings with each other to a minimum. The Marxist experiment that was meant to create social cohesion actually resulted in people having small personal social networks.

Although nowadays fear of weak ties is gone and one would expect networks to grow years after the turnover people’s networks are still small; in particular, the core networks have not changed much. People seem to cling to what they have, probably because they do not yet know what is in their best interest nowadays, let alone how specific social relations might serve these interests (Völker, 1995; Völker and Flap, 1995a, 1997a, 2001).

Organizational conditions also influence the value of social capital. Whenever the quality of services and products is hard to measure or the damage potential of a job is high, social networks come in and the value of social capital goes up, because people rely more on the opinion of others they
trust. For example, for jobs with a high damage potential employers and contacts want to be certain that they do not hire or recommend the wrong person, which they accomplish by recruitment through informal channels (Flap et al., 1998a; Flap and Boxman, 1999, 2001; Völker and Flap, 1999). In addition, strong ties also provide more leverage to ward off opportunistic acts.

Cultural differences in the way people look at the future, as indicated, for example, by financial saving rates (Oberhofer, 1989), may be responsible for more or less elaborate social networks. Differences between cultures in types of relations they value also might affect the relational pattern that emerges. Banfield (1958), for example, held the cultural ethos of amoral familialism among peasants responsible for the lack of cooperation beyond the family in southern Italy: there was no trust of other persons outside one’s own family.

THE PROGRAMME WORKS

The social capital programme works, as can be seen from the results of empirical research on the emergence and effects of social networks that was inspired by the programme. It has produced a cumulative research effort especially in the area of occupational attainment. Adding to what has already been said above, many a person finds his job through informal channels, even in modern industrial societies, a tendency that even seems to be increasing, at least as far as the Netherlands is concerned (Moerbeek et al., 1995). The central finding is that, not so much the number of people prepared to lend a helping hand, nor the cohesion within the network, but the resources of the persons within one’s network are critical social capital in achieving a good job. It was furthermore demonstrated (Lin et al., 1981a; De Graaf and Flap, 1988) that part of the effect on occupational success originally attributed to human capital had to be attributed in fact to the employment of social resources, human capital being partly responsible for better social resources.

Tests of the investment hypothesis for the dissolving of romantic love relationships (Rusbult et al., 1991, Rusbult and Martz, 1995) and for stability of informal relationships over a period of several years, while experiencing a number of other life events (Busschbach, 1996; Busschbach et al., 1999), support the idea. These tests show that, apart from direct rewards and costs, especially the shadows of the past and of the future determine investment and stability in social relations. Busschbach showed that the embeddedness of ties contributes to their stability only in the short term. In addition, for an embedded instrumental tie to last, people have to invest more. Companionship and emotional ties that are embedded will last even when a person temporarily does not invest in them.
The programme produced new interpretations of well known facts in established fields of study, such as, stratification research. Part of the status attainment literature deals with the effect of a person’s social capital as represented by the education and occupation of his father. The argument can be generalized to husbands, wives, siblings, uncles and so on. Another finding that can be better understood within a social capital framework is that in larger families children profit less from their parents’ resources, probably because siblings have to compete for these resources (Downey, 1995). Not only can the whole of occupational achievement literature in a way be subsumed under the social capital argument, this argument also produces new predictions for such an established field, for example, the strength of the tie to the parents conditions the returns children will experience from their parents’ resources in their educational as well as in their occupational career.

Social capital research has also opened up new research areas. Great impact was made by the study of Coleman and Hoffer (1987) on the differential school success of minorities in the United States, which was shown to be greater in Catholic schools. The presumed reason was the greater social capital located in the communities of parents surrounding these schools. Children achieve better educational results attending schools in which the parents of one child take care, on their own initiative, of the children of other parents. Especially, children of parents who do not have many personal resources themselves profit from such schools. Migration tends to destroy this kind of capital, which is detrimental to the educational and occupational chances of children unless the father and the mother do have strong relations with their children (Hagan et al., 1996).

Within the sociology of the family, McLanahan (1984) provided the start of research on the detrimental effects of single-parent families, especially of divorce, on the educational and occupational chances of the children. Children of one-parent families have lower educational achievements, a high school drop-out rate, lower earnings and occupational status, and a greater chance of becoming a welfare recipient. McLanahan interprets these effects as caused by loss of social capital within the family. A divorce seems to be more incisive than the death of a parent, probably because the death of a parent does not end the support delivered by the child’s family of both parents, in contrast to the divorce which often puts an end to relations with at least part of the wider family. An uncle with a good social position, for example, might compensate for a deceased father (Tepperman, 1972).

Another new problem opened up by social capital research is the mutual influence of partners on each other’s career. When spouses support one another, education is not only human capital, but also social capital. Bernasco et al. (1997) demonstrate such ‘cross-effects’. There is a cumulation of advantages within a family, as partners well provided with educational and occupational
resources establish coupled careers in which each partner promotes the career and income of the other. A similar argument can be made for the very employment of the spouse. Just being employed, for example, brings with it information, also to a person’s partner, which is not available to others. Research shows that having a partner with a higher education promotes a partner’s chances of being employed, of attaining a job with a higher prestige, and higher hourly wages (Ultee et al., 1988).

Social capital theory also made an impact in the area of minorities research. We have already cited the network argument made by Wilson (1987) on the fate of black migrants in the urban ghetto. Borjas (1995) shows that, net of the resources that usually influence the educational and income attainment and of neighbourhood poverty, there is a negative effect of living in a community of co-ethnics with few resources. Portes (1998) emphasizes that because of the relative lack of alternatives these minorities develop a bounded solidarity. The willingness to help each other among such minorities is probably greater than in other groups. Poor people, like many immigrants, are not isolated, as is often thought, but frequently are rather well connected (Fernandez-Kelly, 1994). However, they do not profit from their networks because there are only a few second-order resources being integrated. Ethnic entrepreneurs sometimes profit from this lack of alternatives of their co-ethnics by hiring them as cheap labour (Zimmer and Aldrich, 1987). Although ethnic entrepreneurs cannot compete with co-ethnic entrepreneurs that do have more educational and financial resources, they do better than co-ethnics with a similar education who are working as an employees (Bates, 1994).

Yet another application of the social capital argument can be found in the research on organizational success and failure (Aldrich et al., 1987; Brüderl and Preisendörfer, 1997; Flap et al., 1998b). Founders of new business enterprises with networks rich in social capital will be more successful, those without will sooner face financial failure. It is not so much an entrepreneur’s ties to his family and other persons in his private sphere that matter, but especially his ties in the business world at large. The death of an organization also seems to be influenced by the ties of management (D’Aveni, 1990).

Programmatic differences notwithstanding, new economic sociology and new institutional economics merge in actual research of business transactions. While reading recent work by DiMaggio and Louch (1998) or Batenburg et al. (1996), it is hard to tell whether one is dealing with a study coming from the one or the other tradition, although judged by the references the former is more inspired by new economic sociology and the latter by new institutional economics. This recent research shows that social embeddedness of a transaction between organizations leads to repeated transactions that, in addition, require less management effort (Heide and Miner, 1992; Gulati, 1995; Blumberg, 1997; Buskens, 1999; Rooks et al., 2000). The effects of the
shadow of the past are stronger than those of the future, those of embeddedness in a network of similar others has the weakest effect. DiMaggio and Louch (1998) demonstrate something similar for private persons. Persons who buy products the quality of which is not clear, like a used car, prefer to buy from a relative or a friend rather than a dealer with whom they do not have a social relationship.

This kind of research comes up with interesting results that are congenial to a social capital theory of social relations, yet the investment in social ties is not spelled out as clearly in the social capital theory, although the implications are the same. In particular, Williamson’s discussion of the choice of hybrid governance structures for transactions as an alternative to either market or hierarchy is pertinent (Williamson, 1996, p. 108). A particularly interesting research result that showed up is an interaction between past and future: the length of the future does not matter to the management effort that much if there is already a large past (Batenburg et al., 1996).

One bone of contention is left, that is, whether networks with holes or dense networks promote performance. It is my contention that Burt’s idea only seemingly contradicts Bourdieu’s and Coleman’s idea on the positive value of integration of a group. The first idea refers to situations in which individuals can further their ends better by competing with others, whereas the latter idea refers to the situation in which individuals generally can better improve their fate by cooperation. There it is also the difference between competition between groups and competition between individuals. Another manner in which to reconcile both views was recently presented by Uzzi and Gillespie (2000). They describe how firms that entertain strong ties to a particular bank, or more precisely, an account manager at a bank, and also have ties at arm’s length to other banks, get better deals in their dealings with the bank because they use their weak ties to evaluate the deals they make in their strong connections. In fact the bank also turns out to close a better deal, because it is far better informed about the characteristics of its client and the condition his firm is in (see Flap et al., 1998a, pp. 134–6).

The first surge of studies along the lines of the research programme has sharpened the theoretical formulations and produced interesting new theoretical questions. The first issue I want to discuss is that persons not only use their resources to attain their ends or invest in achieving other resources, they also defend their production functions, social capital included, if their life chances heavily depend on these (Kapferer, 1972, p. 107). They place themselves in social situations, such as conflicts between persons they are involved with, in such a way as to safeguard their investments.

As the future is indeterminate in many respects, it is hard to conceive what a victory over others might mean, and it is because their own good life depends on the continuing cooperation with others that people try to keep their
options open. They try to stay in the game, rather than to outsmart others. Their objective is not to be caught on the wrong side, not so much aiming at keeping to a particular relationship, as keeping enough general and specific social capital to be reasonably sure not to be without support in the future.

Taking this argument one step further (this is my second point), people might also improve upon their present situation by attacking the production functions of others, by applying network surgery. Attacking the resource base of the others with whom one has to compete is another way to safeguard one’s own life chances. For a particular person, this could mean, for example, driving a wedge between others who form a coalition against him (Lazega, 1992; Gargiulo, 1993).

Thirdly, a classic theme from cultural anthropology returns in network research among present-day western societies. People play out similar interests in each singular social relationship they entertain with others. This provides a twist to the investment idea, an indeterminacy to providing some kind of help to another person: is providing help to someone else an act of deference or of noblesse oblige? Is giving or receiving status enhancing (Leifer, 1985)? Especially if people meet in social, relatively unstructured, situations, they try to strike a balance between giving and receiving. There is often a delicate balance between giving and receiving: people try to define their giving as an indication of prestige and not as a sign of growing indebtedness.

Fourthly, social networks matter most in social conditions that can be situated between a market type of situation and a monopoly. Leifer and White (1988) contend that most real-life markets have to be situated somewhere between a complete free market and a monopoly, since usually they contain between five and 12 ‘players’. In these situations the structure of social networks between producers matters more for the determination of prices, for investment decisions and the like. The returns on investment in social relations with other players are higher if the social situation is neither a free market nor a monopoly. Social capital is more critical to success the more competition is imperfect and the more abundant the financial and human capital to invest (Burt, 1992, p. 10).

Fifth, quite unlike what arguments about erosion of social capital in modern society suggest, many people are normally up to their limits involved in social life, also in modern times. Maybe people have never been as free to choose with whom to ‘hang out’ as in our day. In the past laws enforcing persons to provide help to their next of kin or to their neighbours were not created out of whim but they were instigated because such assistance had been lacking. A case can be built that, as regards the question whether community is lost, saved or liberated, the latter is a better approximation of social life in present-day western societies (Wellman, 1979; Wellman et al., 1988).
Yet, and this is my sixth point, social capital is like ether, it evaporates. It differs from other kinds of capital, such as cultural capital, in that it grows in use. Because social capital fades away if no action is undertaken, people often consciously try to create institutional carriers for informal networks, foci one might say, like fraternal or other voluntary organizations with signs communicating who is ‘one of us’. People stabilize social production functions in which social resources are included by building institutional brickwork around it (Müller, 1986). Baron and Hannan (1994) suggest that internal labour markets are created by employers to bind employees with valuable human and social capital to the company, for example those with extensive ties to customers.

Seventh, Coleman (1990) notices that there is a collective good aspect to social capital, that could lead to an underinvestment in social capital: why should anyone contribute to keeping their common network in good shape? It is not a pure collective good, though: individuals do not provide information for nothing. There is also an argument to be made for the opposite statement: because people do not know their future and do not know whose help they might need, they do not want to be caught on the wrong side and invest in far more people than they will ever cash in on.

Eighth, social capital might help to account, not only for success, but also for failure, demotion or absence of mobility. Granovetter once drew attention to the peculiar fact that, although most sociological research on social mobility is concerned with change of position, in reality most people are not that mobile or not mobile at all. The real problem is to explain why so many people do no change jobs. An answer might be found in the absence of any sizeable social capital, or in the presence of sour capital, that is an individual having enemies, occupying a position within the organization that is decisive for his chances of promotion. The influence of foes in the occupational career would lead to unsuccessful attempts at upward mobility, instances of prolonged stability, and downward mobility over the whole occupational career. Do friends not only help in obtaining a higher occupational position but also help to foreclose demotion? And do enemies induce sociable demotion and do they bloc upward mobility? Persons who stay in their job for a long period of time probably are either persons without friends or foes, or persons who have friends on their job and on their own level. Moerbeek et al. (1995) found, in an analysis of data on occupational careers of a representative sample of Dutch respondents, that somebody who gets another job through an internal hiring gains 20 points of job prestige on Blau and Duncan’s well-known occupational prestige scale (running from 0 to 100), compared to one who has to change jobs because of having troubles with colleagues.

The last issue is that social capital is not a one-dimensional all-purpose resource, but has distinguishable components that may be generally useful or goal-specific. For example, some types of support, such as emotional support
and providing company, are more or less directly implied by a close relation plus the willingness and opportunity to be together, whereas other types of support, such as instrumental and information help, also invoke others’ resources. Which forms of social capital have benefits in diverse life domains and which are especially valuable in specific life domains (for example, school performance, obtaining a job, doing one’s work, lending money, advice for personal problems, health, housing and leisure)? How do the various effects of a person’s social capital depend on its constituents? Trust, for example, relates to the strength of the ties and the structure of the network, whereas achieving instrumental goals is more directly dependent on what kind of resources are on the other side. Podolny and Baron (1997) and Volker and Flap (2001) assume and demonstrate that open networks of ties with instrumental contents as well as closed networks of identity-based ties do promote upward mobility in work organizations. Völker and Flap (2000) show something similar with respect to job satisfaction. Take note: this is yet another way to solve the seeming contradiction between the different structural interpretations of social capital.

CONCLUSION

Social capital theory is a research programme that might help to close the network gap in social network analysis. One key idea, social networks being social capital, explains the emergence as well as the effects of networks: a person’s social capital promotes his goal achievement, and he will invest in it depending on its instrumental value. Although its popularity is rapidly growing, there is also some scepticism. For example, Baron and Hannan (1994) stated that its ‘theoretical cutting edge is lost if attention is not called to investments, rates of return, opportunity costs, the future, and the ability to appropriate the returns from the investment.’ However, the programme does not only bring unity to a formerly disintegrated research area, on top of that, it provides new predictions that work in empirical research.

It helps to understand why there are, contrary to the structuralist claim, no pure structural effects: structural effects meet with exceptions because the instrumental value of social capital is contingent upon existing institutions and available technology. Often the ends themselves change if institutions change, not the ultimate goal of making the best of one’s life, but the instrumental goals. Institutional change may change the instrumental value of personal networks by providing an alternative means to the same goal. For example, psychological tests might also tell an employer what risks he runs by hiring a prospective employee, and he would not have to rely on personal relations any more.
Like social-capital theory, structuralism emphasizes norms less as a steering mechanism for individual action. Their ideas about man basically are not that different. Structuralism also implies in its implicit individualistic assumptions that individual action is driven by interests: to be specific, not to be caught on the wrong side. The difference is that structuralism does not make an issue of exceptions to the structuralist effects it theorizes about, and that it does not explicitly use individualistic assumptions to explain why there are exceptions to the predicted effects, probably because it would go against the grain of the programme of structurally induced social action to take into account the conditioning of these effects by institutional arrangements, for instance.

The size of different social groups determines the opportunities to meet and entertain relationships with people of such groups. Moreover, without available places and foci that offer opportunities to meet, nothing would come from the availability of others. The study of the influence of social contexts on the emergence of social networks has only just begun, and manipulating contexts offers a rare opportunity to steer the developments of social networks somewhat. Interesting research questions include whether there is any unbundling of contexts in our society, an unbundling that might be detrimental to the emergence and maintenance of social capital (Coleman, 1990). A potential revolutionizing idea is that people choose particular contexts instead of particular persons. If a person has a work-related problem he wants advice from somebody from the work context, preferably a friend (Feld, 1984). Some foci, like a bar or a dance hall are freely chosen by people instead of being forced upon them, as occurs in the case of being born into a particular family and neighbourhood. This problem shift might pull the rug from beneath existing research on interaction partners.

Our sketch of a social capital theory did not provide definitive answers (for other reviews, see Sandefur and Laumann, 1998; Portes, 1998; Flap, 1999; Burt, 2000). In particular, the question as to what ‘really’ is the mechanism behind the effects of networks did not receive a satisfactory answer. This is because saying that it is the instrumental value of a network as social capital shifts the question to what makes social capital productive. A cursory review of the literature suggests that there is not one particular mechanism that can be made responsible for the productiveness of social capital. The main mechanisms addressed are the following:

- provision of access to opportunities to apply one’s human and financial capital;
- non-redundant information;
- referrals by others to third parties that signal one’s capacities and quality;
• providing access or information about ‘business opportunities’ at the right timing;
• a lubricant in dealings with others, promoting trust in people, agreements or quality of products;
• obligation to help people based on services rendered in the past;
• help based on expected benefits in the future;
• affording help to jump a few places in a waiting queue of persons who want to be served;
• providing good specific help with tasks with many contingencies, not easily subdivided or to satisfy units for which the time of their occurrence is hard to predict;
• provision control benefits, a favourable exchange rate in dealings with others;
• enforcing agreements and norms of cooperation;
• standards of comparison of ways to decide in situations of risk or uncertainty.

Finding some common dominator among the mechanisms hinted at above is hard. The last mechanism is somewhat different from the others in that it helps to frame cognitively the social situation of the actor and to define what is in his interest, whereas the others are more directly instrumental in promoting his interest in some sense.

A major provision for the further development of the research programme is to take seriously the analogy with human capital, minding the commonalities as well as the differences, not leaving social capital as only a weak figure of speech, but using its theoretical cutting edge by calling attention to investments, rates of return, opportunity costs, the future, investing and divesting, discounting, portfolios of various types of capital, substitution and the ability to appropriate the returns from investments.

Our deliberations lay near that particularism is here to stay, therewith underlining the continuous importance of network research in general and the social capital programme in particular.

NOTES
1. The first draft of this chapter was written in 1990 during a stay at the Department of Sociology, Columbia University, New York. The author thanks Bonnie Ericson, Nan Lin and Beate Völker for comments on an earlier version of the chapter. An earlier version was presented at the Fifth European Social Network Conference, 6–10 July 1995, London, and at the workshop on ‘Rational choice and social networks’, 26–28 January 1995, at Nias, Wassenaar, the Netherlands, University of Utrecht.
2. Not at issue here are the great contributions of structuralism to social sciences in providing sophisticated methods for the measurement and analysis of network characteristics. For an early description, in network terms, of the structuralist group, see Mullins (1973).
3. Efforts to explain the emergence and changes in real-world networks while using balance theory were not very successful. For example, conflicting loyalties are stubbornly recreated, although they are hurtful to the mind and the heart (Granovetter, 1979). For a structural analysis of these effects from a social capital perspective, see Flap (1988, 1997).
4. A merger between rational choice ideas and structuralism also seems to be in the making by more lenient structuralists, such as Granovetter (1985) and Burt (1992, 2000). There are similar developments in social psychological exchange theory (Cook and Whitmeyer, 1992; Molm and Cook, 1995).
5. These facts of life are described in Marxist terms, as that human action is interest-driven and that the interests of people are largely determined by their place within the institutional arrangement, especially within existing property rights systems.
6. How to measure social capital is a problem we will not go into here. For a discussion on how to generalize social capital measures across alters, ties or second order resources, see Snijders (1999).
7. Burt (1992, 2000) tested whether being autonomous is an asset in the career process by looking at the career pattern of top managers in a number of large firms and only confirms this hypothesis for male managers. They do not get ahead further, but faster. The hypothesis does not hold for female managers. Yet another pure structural effect gone astray.
8. Boxman, De Graaf and Flap, (19991) demonstrated that, for managers of large Dutch companies, social capital helps to achieve a higher income at any level of human capital, but human capital makes no difference at the highest levels of social capital.
9. An earlier version of the investment theory was proposed by Rusbult et al., (1991), whose theory does not include expected future benefits and second-order resources.
10. The distinction between positively and negatively connected networks, as introduced by Cook et al. (1983) might also be relevant here.

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Research programme of a social capital theory