Chapter 3
Social Exchange Theory

Karen S. Cook, Coye Cheshire, Eric R.W. Rice, and Sandra Nakagawa

Introduction

We engage in many exchanges on a daily basis with a wide range of actors most often embedded in the groups, networks, organizations and institutions we inhabit. Thus it is not surprising that exchange theory has remained one of the major theoretical perspectives on social interaction and social structure since the early writings of George Homans (1961), Peter Blau (1964) and Richard Emerson (1962, 1972a, 1972b). In this chapter we review the foundational work of these three key contributors and the subsequent research their work has inspired. The roots of this theoretical orientation can be found in earlier philosophical and psychological work deriving from utilitarianism on the one hand and behaviorism on the other, the vestiges of which remain evident in the versions of exchange theory current today. We focus on the nature of the contributions of exchange theory to the analysis of social psychological and sociological phenomena of importance in understanding micro-level processes of exchange and the social structures they constitute.

First, we provide an overview of the major theories of social exchange. Then we draw out some of the relevant distinctions between the different theoretical formulations. After this exercise we discuss the main topics of research that have been studied by many of the key contributors to the exchange tradition within the field of sociology. One major hallmark of recent research on social exchange in the field of sociology is its attention to the links between social exchange theory and theories of social status, influence, social networks, fairness, coalition formation, solidarity, trust, affect, emotion and collective action. We address these topics in our review of recent important contributions to exchange theory. We conclude with a brief statement concerning methodological issues in the study of social exchange and directions for future research. In particular we focus on the linkages between exchange theory in sociology and work in related fields of inquiry such as economic sociology, social networks and online exchange. There are many important topics of research yet to be studied fully within the exchange tradition, which provide an exciting research agenda for the future.

K.S. Cook (✉) • S. Nakagawa
Department of Sociology, Stanford University, Stanford, CA, USA
e-mail: kcook@stanford.edu

C. Cheshire
School of Information, University of California, Berkeley, CA, USA

E.R.W. Rice
School of Social Work, University of Southern California, Los Angeles, CA, USA

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Social Behavior as Exchange

For Homans (1961), one of the first sociological theorists to focus on interpersonal exchanges, the dominant emphasis was the individual behavior of actors in interaction with one another. His primary aim was to explain fundamental processes of social behavior (influence, conformity, status, leadership, and justice) from the ground up. Homans believed that there was nothing that emerges in social groups that cannot be explained by propositions about individuals as individuals, together with the given condition that they happen to be interacting. In his effort to embrace this form of reductionism his formulation is very clearly different from the subsequent work of Peter Blau (1964) who built into his theory of social exchange and social structure an analysis of the "emergent" properties of social systems, which could not be reduced to individual action alone.

Homans (1961, p. 13) defined *social exchange* as the exchange of activity, tangible or intangible, and more or less rewarding or costly, between at least two parties. Cost was viewed primarily in terms of alternative activities or opportunities foregone by the actors involved. Reinforcement principles derived from the kind of behaviorism popular in the early 1960s (e.g. the work of B. F. Skinner) were used by Homans to explain the persistence of exchange relations. Behavior is a function of payoffs, whether the payoffs are provided by the nonhuman environment or by other humans. Emerson (1972a) subsequently developed a more formal psychological basis for exchange based on these general reinforcement principles. Linda Molm's (1979, 1980, 1985) later work also built on this foundation of behaviorism.

Homans explained social behavior and the forms of social organization produced by social interaction by showing how A's behavior reinforced B's behavior (in a two party relation between actors A and B), and how B's behavior in contingent fashion reinforced A's behavior in return. This was the explicit basis for continued social interaction explained at the "sub-institutional" level. The existing historical and structural conditions were taken as given. Value in this formulation is determined by the actor's history of reinforcement and thus was also taken as a given at the initiation of an exchange relation. Homans' primary focus was the social behavior that emerged as a result of the social process of mutual reinforcement over time. Relations could also terminate on the basis of the failure of reinforcement or as a result of too much asymmetry in the relevant rewards and costs.

Dyadic exchange, the main emphasis of his work, formed the basis for much of his theoretical consideration of other important sociological concepts such as distributive justice, balance, status, leadership, authority, and solidarity. Homans' work was criticized for two main reasons: it was too reductionist (i.e., it took the principles of psychology as the basis for sociological phenomena) and in analyzing the sub-institutional level of social behavior it underplayed the significance of the institutional forces as well as the social processes and structures that emerge out of social interaction, a major focus of the work of Blau and Emerson. In this respect, it is somewhat ironic that one of Homans' lasting contributions to social psychology has been his early treatment of distributive justice in social exchange relations. The irony derives from the fact that Homans was explicitly much less interested in norms since he was preoccupied with the "subinstitutional" level of analysis in his study of elementary social behavior. His effort to focus on elementary behavior is derived from his opposition to the systems oriented and normative views of Parsons that held sway during the time that he wrote his treatise on social behavior. In his autobiography, Homans (1984) refers to Parsons' main work on the social system as the "yellow peril." We discuss Homans' conception of distributive justice in greater detail in the section on commitment and fairness in exchange relations.

Homans' key propositions framed the study of social behavior in terms of rewards and punishments. Behavior that is rewarded in general continues (up to the limit of diminishing marginal utility). His first proposition, the success proposition, states that behavior that generates positive consequences is likely to be repeated. The second proposition, the stimulus proposition, states that behavior that has been rewarded on such occasions in the past will be performed in similar situations. The value proposition, the third proposition, specifies that the more valuable the result of an action to an actor, the more likely that action is to be performed.

The fourth proposition, the deprivation-satiation proposition, qualifies the stimulus proposition introducing the general ideal of diminishing marginal utility: the more often a person has recently received a particular reward for an action, the less valuable is an additional unit of that reward. Finally, the fifth proposition specifies when individuals will react emotionally to different reward situations. People will become angry when they do not receive what they anticipate. Homans (1974) later argues that they can become angry when they do not receive a fair rate of return, introducing the normative concept of distributive justice into his analysis of dyadic exchange.

Blau, writing at about the same time, framed his micro-exchange theory in terms of rewards and costs as well, but took a decidedly more economic and utilitarian view of behavior rather than building on the reinforcement principles derived from experimental behavioral analysis. A key distinction between these two broad perspectives, as Heath (1976) points out, is whether the actor is forward-looking or backward-looking in his determination of what to do next. Utilitarianism generally looks forward. Actors are viewed as acting in terms of anticipated rewards that benefit them and they tend to choose the alternative course of action that maximizes benefit (and minimizes costs, but see Molm, Takahashi, & Peterson, 2000). Reinforcement theories look backwards with actors valuing what has been rewarding to them in the past. The micro-level exchange theory in Blau's work is embryonic and underdeveloped though it is one of the first attempts to apply utilitarianism derived from economics to social behavior.

Blau viewed social exchange as a process of central significance in social life and as underlying the relations between groups as well as between individuals. He focused primarily on the reciprocal exchange of extrinsic benefits and the forms of association and emergent social structures that this kind of social interaction created. According to Blau (1964, p. 91): "Social exchange … refers to voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do in fact bring from others." In contrasting social and economic exchange he emphasizes the fact that it is more likely in social exchange for the nature of the obligations involved to remain unspecified, at least initially. Social exchange, he argues, "involves the principle that one person does another a favor, and while there is a general expectation of some future return, its exact nature is definitely not stipulated in advance" (Blau, 1986, p. 93).

The first third of Blau's book on exchange and power specifies the nature of the social processes that result in associations between individuals (e.g., attraction). Two conditions are defined as important in the assessment of whether or not the behavior involved leads to exchange. The behavior "must be oriented toward ends that can only be achieved through interaction with other persons, and it must seek to adapt means to further achievement of these ends" (Blau, 1986, p. 5). Social exchange processes give rise to differentiation in social status and power based on the dependence of some actors on others for the provision of valued goods and services. This conception of power was based on the approach taken by Emerson (1962) in his treatment of power-dependence relations.

Much of the remaining focus of Blau's classic book is on the structure of social exchange and emergent social processes at the group and organizational level. His explicit attempt to build a theory of social structure on the basis of a micro-level theory of exchange was also influential in Emerson's work, though they used different theoretical strategies.

Emerson's important contributions to exchange theory are an interesting mix of the work of Homans and Blau. The behavioral underpinnings of his micro-level theory are based on reinforcement principles of the type that animated Homans' work in the 1960s. In Part I of his theory, Emerson takes the experimental analysis of behavior of Skinner and others as the basis for his formal theory of exchange behavior (see Emerson, 1972a). In Part II, he builds on the analysis of dyadic exchange to develop a framework for the analysis of exchange network structures (see Emerson, 1972b). This work is reviewed in our discussion of exchange and power, since power was the dominant emphasis of the early work on exchange structures. It was the main focus of the work of Blau and Emerson and until the 1990s it was the central topic of much of the empirical work on social exchange networks.

The Structure of Social Exchange

One of the distinguishing features of Blau's (1964) influential book on social exchange is the primary emphasis on the structure of associations larger than the dyad. Blau's explicit aim was to develop a theoretical formulation that could provide the basis for a theory of macro-social structures as well. His attempt to build links between a micro-sociological theory of behavior and a macro-sociological theory of social structure was in many respects prophetic of the theoretical efforts in the 1980s and 1990s that emerged to examine more closely the "micro-macro link" (Alexander, Munch, Smelser, & Giesen, 1990; Huber, 1991), a project that remains unfinished.

In addition to the effort to build a macro-sociological theory of structure on the basis of a micro-sociological theory of behavior, Blau identified generic social processes and mechanisms he viewed as operative at various levels of social organization. These included collective action, legitimacy, opposition, conflict, and cooperation. This work set the stage for a number of subsequent developments in exchange theory on collective action, coalition formation, justice and status, among others (see below), but Blau was not given full credit for this broader influence, until several decades later.

Montgomery (1996), for example, reformulated Blau's (1964) model of social exchange to reflect the dynamic nature of interaction and the potential for opportunistic behavior. He demonstrated how social exchange could be formalized as a repeated game, and how game-theoretic models might be used to predict the stability of certain exchange network structures. Whereas Blau's (1964) theory could not explain the strong, reciprocal relationships in the work group advice network (Blau, 1955), Montgomery's model (1996) provided a plausible explanation. Montgomery's model, however, only addressed the stability of the exchange network noted by Blau (1955) and did not address the emergence and possible transformation of this structure in real time. The primary emphasis in the work of Blau on exchange structures such as advice networks was on its causal link to the distribution of power and network influence.

Exchange Relations, Networks and Power

Starting with the early theoretical work of Blau (1964, 1986) and Emerson (1962, 1972a, 1972b) research focused on the connection between social structure and the use of power. Despite his important contributions to social exchange theory, Homans did not focus much attention on power (Cook & Gerbasi, 2006). Blau (1964) believed that inequality and power distributions were emergent properties of ongoing relations of social exchange. Inequalities, he argued, could result from exchange because some actors control more highly valued resources than do others. As a result, they incur social debts that are most easily discharged through the subordination of their social debtors. Blau (1964) argued that such relations of subjugation and domination took on a self perpetuating character and formed the micro-foundations of power inequality.

For Emerson, the relationship between power and social structure was the central theoretical problem in social exchange theory. From his earliest work in social exchange, Emerson (1962) defined *power* in relational terms as a function of the dependence of one actor on another. In a particular dyad of exchange partners (A and B), the power of actor A over another actor B is a function of the dependence of B on A for valued resources and behaviors. Dependence and power are, thus, a function of the value one actor places on resources controlled by another and the relative availability of alternative sources of supply for those resources. This relational conception of power has two central features that helped generate the large body of social exchange research that exists today. First, power is treated explicitly as relational, not simply the property of a given actor. Second, power is potential power and is derived from the resource connections (often now referred to as a form of "social capital") among actors that may or may not be used.

It was Emerson's move to conceptualize power as a function of social relations that opened the door for the subsequent development of micro-theories connecting social networks to power. Like Blau (1964, 1986), Emerson viewed the fundamental task of social exchange theory to be the building of a framework in which the primary dependent variables were social structure and structural changes. He went on to expand his treatment of power and dependence as a function of social relations to an extensive theory of social exchange relations and networks (Emerson, 1972a, 1972b). He argued that *potential power* was the direct effect of structural arrangements among actors who controlled valued resources (1972b). In his work with Cook (Cook & Emerson, 1978), Emerson brought social exchange theory into its contemporary empirical and theoretical domain. They argued and experimentally demonstrated that power was a function of relative dependence. Moreover, dependence was a feature of networks of interconnected exchange partners whose relative social power was the result of the shape of the social network and the positions they occupied (Cook & Emerson). While Cook and Emerson (1978) concerned themselves with other exchange outcomes, particularly commitment formation, it was the connection between the use of power and the structure of social networks that became the central focus of a new generation of social exchange theorists.

The most consistent finding among scholars working on social exchange is that relative position in a network of exchange relations produces differences in the relative use of power, manifest in the unequal distribution of rewards across positions in a social network (Cook & Emerson, 1978; Markovsky, Willer, & Patton, 1988; Skvoretz & Willer, 1993). While several competing micro-theories connecting network structure and power-use now exist, all these competing perspectives converge on one point: "Power differentials between actors are related to differences in actor's positions in the network of exchange relations" (Skvoretz & Willer, p. 803). The theories, however, view different causal mechanisms as being at work in converting differentials in network position into differentials of power. The Graph-theoretic Power Index approach uses elementary theory and focuses on the role of exclusion in networks (Markovsky, Skvoretz, Willer, Lovaglia, & Erger, 1993; Markovsky et al., 1988; Skvoretz & Willer). Core theory borrows concepts and solutions from game theory and focuses on viable coalitions among partners (Bienenstock & Bonacich, 1992, 1993, 1997). Equi-dependence theory is based on power-dependence reasoning and centers on equilibrium points in which dependence between parties to the exchange reaches a balance (Cook &Yamagishi, 1992). Finally, expected value theory is based on a probabilistic logic and looks at the expected value of exchanges weighted by their likelihood of occurrence (Friedkin, 1992, 1993).

Bienenstock and Bonacich (1992, 1993, 1997) make arguments about how structural arrangements affect the frequency of exchange. They introduce the concept of the core, as developed by game theorists, into the context of social exchange. They argue that intuitively the core as a solution implies that "no group of players will accept an outcome if, by forming a coalition, they can do better" (Bienenstock & Bonacich, 1992). Not only do different network structures produce different power distributions, but also different coalitions emerge as "solutions" to exchange. What this argument implies is that the structural arrangement of actors in relative position to one another can be an impetus for some subsets of actors to exchange more frequently than others. This increased frequency of exchange may in turn reinforce the coalitions that form. Bienenstock and Bonacich (1993) are aware of this implication and test it explicitly, finding that the core typically made effective predictions about the frequency of exchanges as well as relative power differences. Often these coalitions form in response to the existence of power differences among the actors in the network as Emerson (1972b) noted. Coalitions can serve to mitigate such power differences such as when employees combine efforts in order to respond collectively to an employer's requests for increased time commitments.

Cook and Yamagishi (1992) also proposed that structural arrangements would affect patterns of exchange among actors in a social network. They argued that exchanges proceed toward an equilibrium point where partners depend equally on each other for valued resources. This equi-dependence principle has implications for partner selection. They argue that three different types of relations can emerge from a network of potential exchange relations (which they refer to as an opportunity

structure). Exchange relations are those relations in which exchanges routinely occur. Non-relations are potential partnerships within the network which are never used, and which if removed from the network do not affect the predicted distribution of power. Finally, latent relations are potential relations, which also remain unused but which if removed affect the subsequent predicted distribution of power across positions in the network.

Friedkin (1992, 1993) likewise argues that some relations are the focus of more frequent interaction than are others, depending on the structure of alternative relations present in the exchange network. He views networks as a space for potential relations and calculates the probabilities that particular exchanges will occur. Payoffs are a function of the expected value of a particular exchange weighted by the probability of the occurrence of that exchange. For Friedkin, the fact that some relations are used more than others is central to his explanation of how power becomes differentially distributed across positions in a social network. Central to his theory of actor behavior in exchange networks are predictions about how often some exchange relations occur and, moreover, how some relations are more likely to occur within a given structure than are others.

As was the case for Expected Value Theory the Graph-Theoretic Power Index (GPI) is explicitly concerned with predicting resource acquisition by actors in positions in networks of exchange. In so doing, GPI relies explicitly on the probability of particular partnerships being formed (see Markovsky et al., 1993, pp. 200–204 for a detailed explanation). Beyond using the probability of an exchange occurrence in the GPI, Markovsky and his collaborators focus on the idea that some types of structures tend to have more of an impetus toward exclusion than do others. Some network structures can be characterized as weak-power networks and others as strong-power networks. The essential difference between these two types of networks is that strong-power networks include positions that can exclude particular partners without affecting their own relative power or benefit levels. On the other hand, a weak power network is typically more densely connected, which acts to prevent the emergence of large inequalities in exchange outcomes.

An example of a strong power network can be seen in a workplace where a manager can compel increased compliance from workers because they are highly dependent on the manager for valued outcomes that only she can offer. In a weak power network there are typically more alternatives from which each actor can obtain resources of value. For example, in a group of friends if one of the friends becomes rude or unfriendly each person typically has alternative social partners he or she can turn to for support, thus there is less opportunity for exploitation to occur. One implication of this distinction is that strong-power networks will tend to have lower levels of commitment between the parties to the exchange than will weak-power networks, because strong-power structures allow the arbitrary exclusion of some partners (Markovsky et al., 1993), facilitating power use.

Molm (1990, 1997a; Molm, Peterson, & Takahashi, 1999) formulated a different conceptualization of the connection between social structure and the use of power. Molm started with Emerson's two central propositions: power is relational and power is a function of dependence. But Molm's program of research took a distinctly different direction from the other positional theories of social exchange. First, Molm focused on exchanges that are not negotiated, but are reciprocal acts of contingent giving (Molm, 1990, 1994, 1997a, 1997b). In *reciprocal exchange*, actors do not bargain over the division of a finite pool of resources (or a fixed range of positive returns), rather exchange is a process of "gift-giving" or the simple act of the provision of a valued resource or service and exchange relationships develop over time through repeated acts of reciprocal giving. The failure of reciprocity results in infrequent exchange. Second, power is not solely tied to the legitimate use of reward power. Power may take the form of coercion or punishment (Molm, 1990, 1994, 1997a, 1997b). Whereas the other theories view the use of power as wielding structural influence through the threat and/or practice of exclusion from exchange (especially when there is a power-imbalance in the network), Molm considers how actors may impose punitive sanctions or negative outcomes on one another. The threat or practice of exclusion is most effective in networks in which there is a large power difference between the actors as noted above. And, actors who are most dependent (least powerful) are most likely to be excluded from exchange in certain networks (e.g., networks in which there is a monopoly structure).

Molm's extensive research on non-negotiated or reciprocal exchange has produced important contributions to the understanding of the connections between social structure and the use of power (for a thorough review of this body of research see Molm, 1997a, 1997b). First, Molm's work demonstrates that not all types of power use are primarily structurally motivated (Molm, 1990, 1994). While exclusion can produce the unconscious use of reward power in negotiated exchange contexts (Molm, 1990), punishment power is used more sparingly. Second, power-use can have strategic motivations. Punishment power may not be used frequently but when it is, it is usually employed purposively to influence the future actions of one's exchange partners (Molm, 1990, 1994). Third, her work provides an analysis of the alternative sources of power. Power-use in the form of punishment is distinct from power use in the form of the differential distribution of rewards. Finally, her line of research shows how coercive power is connected to and limited by the structures of dependence. Dependence on rewards is the primary force in exchange relations, motivating both the use of punishment and reward power (Molm, 1990).

Exchange, Power and Status

In recent work, Thye and others have made explicit linkages between theories of exchange and status. Although Homans and Blau included consideration of status processes centrally in their original formulations of exchange, the empirical research on exchange since the 1980s shifted attention to power processes primarily independent of status dynamics. After two decades of concentrated work on the role of network structure as a determinate of power in exchange networks it thus appears that status processes have been given short shrift. In addition, some of the most developed theoretical formulations on status dynamics in social relations during this same time period have given much less attention to power than originally implicated in earlier work. For example, the earliest formulations of expectations states theory in sociology (e.g., Berger, Cohen, & Zelditch, 1972) presented status as a clear determinant of the observable power and prestige order within a group. Status in this sense is viewed as a cause of differences in power and influence in society. In contrast, the exchange formulation of power dynamics focused more attention on the structural and locational causes of power differences. The location of an actor in a network was viewed as the key determinant of an actor's power and influence (in the form of control over needed resources such as knowledge, information or goods and services at her disposal), and less attention was paid to the links between structurally determined power and pre-existing status distinctions.

The interesting feature of the work by Thye (2000) and Lovaglia (1994, 1995), among others, is that they attempted to produce a conception of *composite power* – power that is determined by both location in a structure of exchange relations and power that is derived from the status of the actors in a hierarchy of status relations. Specifically, power in this framework is conceived as a structural potential that enables some actors to earn favorable resource distributions at the expense of others. The status of the actors in the exchange is viewed as having influence on the perceived value of the resources to be exchanged. Resources (e.g., goods and services) associated with high status actors are perceived to be of higher status value than those of low status actors and this valuation is symmetric. That is, both low and high status actors have the same view (i.e., view high status actors' resources as more valuable). Thye's (2000) findings indicate that there is a preference for interaction with high status actors in exchange networks of equal power. Even in unequal power networks status confers an advantage on high status actors. High status actors were more actively sought after as exchange partners and received more favorable exchange rates in both equal and unequal (weak) power networks. Thye, Willer, and Markovsky (2006) demonstrated that high status actors not only earned more than low status actors in the same position, but high status actors also exerted more influence over others and were perceived as higher in competence.

This research began the interesting task of determining the separate effects of status and power differentials. What are the mitigating effects of positional power or status when the two are not

consonant? How does low status affect the relative power of an actor with high positional power or vice versa? The findings Thye (2000) reports suggest that there is a combinatorial effect of status and positional power in exchange networks in which weak power differences exist. The relatively high status actors in lower power positions exercised more power and were preferred as exchange partners more often than in networks in which there was no status distinction among the actors in the network, only positional differences. The effort to link attributional and positional determinants of power is an important direction for continued research in exchange network theory. It might draw on significant developments in network methods (Faust & Wasserman, 1992) that allow the analysis of positional and attributional factors as predictors of network level events and processes. Thye (p. 426) concluded that, "further research is needed to determine exactly how levels of power and status differentially affect the tendency to seek partners for exchange." Only relatively recently have others began to explore this topic (e.g., Harkness, 2011).

Exchange, Fairness, and Commitment

Normative constraints on the exercise of power in exchange relations often include assessments of fairness, feelings of obligation and interpersonal commitments. Following a discussion of fairness and its role in social exchange, we discuss research on the emergence of interpersonal commitments in exchange relations and networks.

Fairness

Both Homans (1961) and Blau (1964) included a conception of fair exchange in their theoretical formulations. For Homans distributive justice exists when rewards align with investments, except where participation in the exchange involves costs beyond those investments. Taking costs into account, Homans suggests that distributive justice obtains when the profits (rewards minus costs) of two actors engaged in an exchange relation are equal. Blau addressed fairness norms as determinants of the "proper" exchange rates. Norms of fair exchange develop over time, Blau argues, to regulate social exchange and to eliminate continuous negotiation and conflict over fair returns. The conception of fairness and distributive justice in dyadic exchange was expanded in Homans' work to include indirect exchange involving three or more parties. The notion of indirect exchange and the evaluations of exchange relations by third parties were important in the development of Blau's more macro level theory of exchange and legitimacy.

Cook and Emerson (1978) demonstrated in their work on exchange networks that equity concerns could limit the potentially exploitative use of power by power-advantaged actors (i.e., those with a positional advantage in a network of exchange relations). Once actors in the networks they studied were informed of consequential inequalities in the distribution of profit in the network subsequent exchange reflected a reduction in the demands made by the powerful actors in their exchanges and an increase in the demands of the less powerful actors. The power differences alone did not operate to justify the inequalities that emerged. Cook and Hegtvedt (1986) show that power disadvantaged actors view inequality in the distribution of profits resulting from exchange as more unfair than do those who have advantageous power positions in the network and who benefit from these positions in terms of higher rates of return.

Molm (1988) also studied the role of fairness concerns in the exercise of power in relatively small exchange networks, typically four-person networks. In her research, the type of power the actor has (reward power or coercive power) influences the perceived fairness of their partners' power-use strategies. Molm, Quist, and Wiseley (1994), for example, find that those who are the recipients of coercion

feel that the use of power by their exchange partner is fairer when the power user was power advantaged than when she was power-disadvantaged. Thus, fairness judgments are affected not only by the power of the power-wielder, but also by the level of power of the recipient of the power use.

Molm (1988) reports that fairness judgments also vary by the type of power being used, reward power versus coercive power. Coercive power is used much less frequently in power-imbalanced relations and is likely to evoke strong fairness judgments when exercised. In fact the norm against the use of coercive power appears to be quite strong in exchange settings. Molm argues that this is because of the fear that the use of coercive power to bring a partner's exchange behavior into line with expectations may have negative consequences, perhaps even leading to termination of the relationship. This finding explains why coercive power is used much less frequently. When it is used, however, Molm's work suggests that it can be a fairly effective mechanism for aligning the interests of the parties to the exchange relation. In this research tradition fairness judgments were based on individuals' own conceptions of justice and they extended beyond the evaluation of the exchange outcomes to include the strategies actors used to exercise the power they had in the relationship.

The early exchange formulation of distributive justice produced by Homans was subsequently criticized by a number of authors (e.g., Berger, Zelditch, Anderson, & Cohen, 1972; Jasso, 1980) for focusing only on local comparisons (to one's exchange partner or those similarly situated in an exchange network) rather than referential comparisons (to groups or classes of actors). This criticism led to the development of several alternative justice formulations, the most significant of which was developed by G. Jasso (1980, 1986, 1998).

For Jasso, justice is an evaluation of what one receives in exchange or in an allocation more generally in comparison with a standard or expectation regarding one's "just share." The formulation is represented as: JE = ln (actual share/just share). The logarithm is taken of the ratio of the actual share to the just share to represent the empirical fact that individuals react more strongly to under-reward (i.e., receiving less than one expects based on the just share) than to over-reward (i.e., receiving more than one anticipated based on the just share). What is expected can be based on either a local comparison, an aggregate set of comparisons, comparison with a group, or with an abstract standard or principle (e.g., equal shares for all). Jasso argues that things like crime rates and collective action in the form of strikes or revolutions are often consequences of perceived injustices among individuals and members of various social groups. Her theory allows for the prediction of differential rates of response to types of injustice based on the aggregate levels of perceived injustice in the relevant social group or society and extends well beyond relations of exchange.

Various empirical tests (see Jasso, 2001) of some of these predictions provide some support for Jasso's theory of distributive justice. In a later section we address the role of emotions in exchange relations. The introduction of fairness conceptions into exchange theory by the early theorists placed emphasis on the emotional side of exchange. That actors could view their exchange as unfair or unjust and react negatively with anger was one of the reasons Homans included fairness as a relevant concept in his formulation of dyadic exchange. Actors who receive what they anticipate, he argues, feel their exchange was just. Actors react with either the positive emotion of guilt (when receiving more than they expect), or the negative emotion, anger (when receiving less than they expect). Jasso makes a similar argument concerning the emotions that attend receiving or not receiving the "just share" from an exchange or a simple allocation process.

Commitment

Like many other research topics within exchange theory, the earliest work on commitment formation between exchange partners was largely focused on examining how levels of commitment were affected by structural arrangements between the actors involved (Cook & Emerson, 1978;

Cook, Emerson, Gillmore, & Yamagishi, 1983; Markovsky et al., 1988). In exchange theory, *commitment* refers to the extent to which an actor engages in repeated exchanges with the same partner over time. Examples include relations between friends, collaborators, marital partners, and colleagues, among others. Connections to other social psychological concepts such as social uncertainty (Cook & Emerson, 1984; Kollock, 1994; Yamagishi, Cook, & Watabe, 1998) or affect (Lawler & Yoon, 1998; Lawler, Yoon & Thye 2000; Molm et al., 2000) were later developments and refinements. Even in some of the earliest experimental work on social exchange (Cook & Emerson, 1978; Stolte & Emerson, 1977), researchers were interested in actor's commitments to particular relations within an opportunity structure of alternative relations. Cook and Emerson, for example, originally described commitment within the context of social exchange as "an interpersonal attachment leading persons to exchange repeatedly with the same partners." For them, commitment was defined in pure behavioral terms, as the frequency to exchange with a given partner relative to all available exchange opportunities. They found that power-use and commitment were inversely related.

Commitments, moreover, have been shown to be a function of the distribution of power throughout an exchange network (Lawler & Yoon, 1998; Markovsky et al., 1988). Markovsky and his collaborators argue that some network structures (which they refer to as strong-power networks) allow exclusion in any given round without reducing the rates of exchange for the non-excluded members. Commitments in such network structures are rare. Take, for example, three actors connected in a line, A to B to C. Actor B is pulled equally toward and away from each A and C. Alternatively some network structures promote commitments. The classic, "kite-shaped" network of four persons (one actor with three alternatives, two with two alternatives-one other and the central actor-and a third actor connected only to the central actor) promotes commitment between the central actor and the actor with only one alternative, and a second committed relation between the remaining two actors (Skvoretz & Willer, 1993). The potential for commitment thus varies with network structure.

While commitment has been shown to be a function of power-use (Cook & Emerson, 1978) as well as the distribution of power in a network (Markovsky et al., 1988), much of the research within social exchange theory has linked commitment to social uncertainty. The conceptualization of uncertainty, however, has undergone some modification over time. Initially, Cook and Emerson (1984, p. 13) argued "uncertainty refers to the subjective probability of concluding a satisfactory transaction with any partner". They found that greater uncertainty led to higher levels of commitment with particular exchange partners within an opportunity structure. Actors formed these commitments, they argued, because it increased the frequency of completed exchanges, thereby increasing an actor's overall level of benefit. While this conceptualization of uncertainty was also used by Markovsky and his collaborators (Markovsky et al., 1988, 1993) in their work on exclusion, other social exchange theorists opted for a different operationalization of social uncertainty.

Uncertainty in subsequent research has been conceived as the probability of suffering from acts of opportunism imposed by one's exchange partners (Kollock, 1994; Rice, 2002; Yamagishi et al., 1998). For example, when selling a used product in an online marketplace a buyer may be worried about the quality of the item while a seller may face uncertainty about receiving payment. In this line of research, uncertainty has also been shown to promote commitment formation (Kollock, 1994; Rice, 2002; Yamagishi et al., 1998). Commitments in these studies are examined in environments that allow actors to cheat one another in their exchanges, thus commitments to specific relations become a viable solution to the problem of uncertainty. If an actor or subset of actors within a given opportunity structure prove themselves to be trustworthy, continued exchanges with that exchange partner provides a safe haven from other potentially opportunistic partners. Such commitments, however, have the drawback of incurring sizable opportunity costs in the form of exchange opportunities foregone in favor of the relative safety provide by ongoing commitments.

In Kollock's (1994) initial study connecting opportunistic uncertainty and interpersonal commitment, actors exchanged in two different environments. In one environment (low uncertainty) the true

value of the goods being exchanged was known, while in the other (high uncertainty) environment the true value of goods was withheld until the end of the negotiations. He found that actors had a greater tendency to form commitments in the higher uncertainty environment. Moreover, actors were willing to forgo more profitable exchanges with untested partners in favor of continuing to transact with known partners who had demonstrated their trustworthiness in previous transactions (i.e., they did not misrepresent the value of their goods).

Yamagishi et al. (1998) further explored the connections between uncertainty and commitment, deviating from Kollock's experimental design but coming to similar conclusions. In their experiment, actors were faced with the decision of remaining with a given partner or entering a pool of unknown potential partners. They employed several modifications of this basic design, but in each instance the expected value of exchange outside the existing relation was higher than the returns from the current relation. They found that actors were willing to incur sizeable opportunity costs to reduce the risks associated with opportunism. Moreover, they found that uncertainty in either the form of an uncertain probability of loss or of an unknown amount of loss promoted commitments between exchange partners.

Rice (2002) attempted to bridge this early work on uncertainty as the probability of finding an exchange partner with the work on uncertainty as environments that allow opportunism. In both the Kollock (1994) and Yamagishi et al. (1998) studies, exchange occurs among actors in environments, which allow for potential opportunism, but where actors are guaranteed of finding an exchange partner on every round. In Rice's design, actors exchanged in two different environments: one that allowed actors to renege on their negotiated exchange rates (high uncertainty) and one where negotiations were binding (low uncertainty). Exchange, however, also occurred in two different network structures: a complete network where all actors could always find a partner, and a T-shaped network, where two actors were excluded from exchange every round. He found that uncertainty promoted commitment in the complete network, but not in the T-shaped (strong-power) network. Commitments, he argued, are viable solutions to uncertainty in networks that do not force exclusion. In networks that do force exclusion, the structural pull away from commitment is sufficiently intense as to undermine the propensity to form commitments. Whereas the earlier work of Kollock and Yamagishi and his collaborators suggested that actors would incur sizeable opportunity costs to avoid potentially opportunistic partners, Rice's work suggested that such tendencies could be muted by particularly deterministic network structures.

Rice (2002), moreover, expanded the work on social uncertainty in exchange by exploring how commitment relates to other exchange outcomes, such as the distribution of resources across relations and within networks as a whole. He argued that commitments reduced the use of power in imbalanced networks, resulting in a more egalitarian distribution of resources across different positions in a network. In networks where power between actors is unequal, power-advantaged actors have relatively better opportunities for exchange than their power-disadvantaged partners. These superior alternatives are the basis of the power-advantaged actor's power. If, as uncertainty increases, power-advantaged actors form commitments with power-disadvantaged actors, they erode the very base of their power. Forming commitments entails ignoring potential opportunities. Alternative relations are the basis of structural power and as these relations atrophy, the use of power and the unequal distribution of resources will be reduced.

Results on exchange under social uncertainty indicate a strong tendency for actors to incur large opportunity costs by forming commitments to achieve the relative safety or certainty of ongoing exchange with proven trustworthy partners (Kollock, 1994; Rice, 2002; Yamagishi et al., 1998). In addition to these opportunity costs Rice argued that commitments may also have unintended negative consequences at the macro level of exchange. Actors tend to invest less heavily in their exchange relations under higher levels of uncertainty. Moreover, acts of defection in exchange while producing individual gain, result in a collective loss, an outcome common in prisoner's dilemma games. Both processes reduce the overall collective gains to exchange in the network as a whole. So while there is a socially positive aspect to uncertainty, in so far as commitments increase feelings of solidarity

(e.g., Lawler & Yoon, 1998) and resources are exchanged more equally across relations (Rice), there is the attendant drawback of reduced aggregate levels of exchange productivity and efficiency.

Emotion and Exchange

Work on the role of emotion in social exchange over the past two decades represents a distinct move away from the traditional focus on the structural determinants of exchange outcomes, although it returns to some of the topics included in the work of the early exchange theorists, including the emotions associated with fairness in exchange relations. Much of the actual empirical work on exchange investigates specifically how the social structure affects the outcomes of exchange such as power-use and commitment. The bulk of this research has shown that actors who are simply pursuing their own interests can unknowingly generate inequities in the distribution of resources and pattern exchange relations such that certain relations within an opportunity structure are favored over others. This results from the power differences among actors derived from their positions in a network of exchange and is a pure structural effect. Subsequent research began to explore the emotional consequences of such patterns of exchange and the role that emotions play in the actual structuring of the network of exchange relations.

Edward Lawler and his collaborators (Lawler, 2001; Lawler & Yoon, 1993, 1996; Lawler et al. 2000), for example, examined various aspects of emotion and exchange in their work on affect and relational cohesion. More recently Lawler and his colleagues have developed applications of the Affect Theory of Social Exchange to what they call "micro social orders" (Lawler et al., 2008). Molm and her collaborators (Molm et al., 1999, 2000) also began to explore the role of emotions in exchange but they focused more on affect as an outcome of exchange rather than as a mediating factor. A related line of research by Molm and her colleagues (Molm, Collett, & Schaefer, 2007) aims to systematically examine how the structure of reciprocity affects the development of trust and solidarity in social exchange.

While these two bodies of research each represent a move away from the predominantly structural concerns reflected in earlier empirical work on exchange (e.g., Bienenstock & Bonacich, 1997; Cook et al., 1983; Markovsky et al., 1988), the move to include affect more centrally in social exchange theory has deep connections to the classical exchange formulations. Blau (1964), for instance, was particularly concerned with the emergent properties of exchange relations. He argued that ongoing relationships of social exchange develop intrinsic value to the exchange partners over time, a central tenet of Relational Cohesion Theory (Lawler & Yoon, 1996, 1998; Lawler et al., 2000). Moreover, Emerson (1972b) theorized explicitly about cohesion, liking and commitment as emergent outcomes of successful exchange relations, all outcomes examined by Molm and her colleagues (Molm et al., 1999, 2000). We discuss each line of research in turn, focusing on the key theoretical contributions to exchange theory. Then we briefly describe a recent attempt by Kuwabara (2011) to reconcile findings from both lines of research.

Relational Cohesion, Solidarity, and Micro Social Order

Relational Cohesion Theory is based on the premise that emotion is a proximal mechanism in the exchange process, mediating the effects of structural arrangements on behavioral outcomes. The basic model which Lawler and Yoon (1993, 1996, 1998) originally proposed argued for a simple causal chain. First, structural power positively affects the frequency of exchanges between actors, which in turn results in the development of positive everyday emotions (e.g., liking, satisfaction). These emotions then lead to relational cohesion, which positively affects behavioral outcomes such as

commitment to the relation. It is important to note their focus on the relation as the unit of theoretical and empirical analysis. Lawler and Yoon (1993, 1996, 1998) repeatedly stress that central to this process is the idea that actors come to see an ongoing exchange relationship itself as an object toward which they develop emotional responses. Because of this focus, task interdependence is a key factor in the development of social cohesion. They are careful to point out that each effect in the chain is dependent on the previous step. It is only relational cohesion that is expected to have a direct effect on commitment behaviors. All other variables work through relational cohesion.

Their early work generated a great deal of empirical support for many aspects of the theory (Lawler & Yoon, 1993, 1996, 1998). Exchange partners expressed positive emotions about their relationships and these positive emotions increased commitment to these relations. Two unanticipated results, however, have led to subsequent modifications of their theory. First, they found that perceptions of uncertainty and the frequency of exchange have enduring independent effects on relational cohesion and commitment (Lawler & Yoon, 1996) as Cook and Emerson and Yamagishi et al. argued. Second, when social network structures were added to their empirical tests, the effects of relational cohesion became more complex. In egalitarian relationships (i.e., equal power), they found that affect acted in accordance with their theory. However, in power imbalanced dyads, relational cohesion had a positive effect on commitment for powerful actors but a negative effect on commitment for less powerful members of the dyad (Lawler & Yoon, 1998). This latter finding revealed that individual actors within a given relationship seem to have different orientations to the relationship, violating the relational focus of the theory (but see Leik & Leik, 1972).

These empirical outcomes led to subsequent modifications in the basic model proposed in the original theoretical formulation (Lawler et al., 2000). Lawler and his colleagues acknowledged that two parallel processes affect the development of relational cohesion, one emotional and the other more cognitive. Actors are motivated to form commitments to reduce uncertainty (Cook & Emerson, 1984; Kollock, 1994). They argue that this cognitive process is one of boundary defining, in which individuals who are interested in reducing the possibilities of a loss by increasing the predictability of exchange outcomes come to see relations as distinct social entities. The emotional aspect of exchange is a social bonding process in which the relation becomes an object of intrinsic or expressive value. As was the case with their earlier formulation, this more refined model also finds empirical support, with one important caveat. The independent effect of "predictability," the proximate cognitive causal mechanism, has no direct effect on cohesion, but perplexingly from the theory's standpoint has a strong independent effect on commitment.

In a related line of work Lawler, Thye, and Yoon (2008) focus on the development of micro social order. Lawler and colleagues describe micro social order as being characterized by the following: repeated interactions, emotional responses, perceptions of a group, and affective sentiments concerning the exchange relationship. Importantly, micro social orders are conceptualized as being emergent social units that do not yet take the form of a fully developed social group. And, as with Relational Cohesion Theory, the development of micro social order depends on actors attributing feelings to a social unit rather than to another specific partner or to the self.

In theorizing about the emergence of micro social order, the authors argue that forms of exchange that are characterized by more task jointness and a greater sense of shared responsibility for outcomes will lead to the creation of stronger micro social orders. Findings support this claim and Lawler et al. (2008) experimentally demonstrate that productive exchange (in which jointness of the task and shared responsibility are highest) leads to the development of the strongest micro social order, while generalized exchange leads to the weakest (and negotiated and reciprocal forms of exchange fall in between). A micro social order evolves when actors involved in repeated interactions begin feeling emotions and affective sentiments in addition to experiencing emergent perceptions of a "group". However, at this stage the idea of the group has not fully developed. They argue that an emergent micro social order is a somewhat tenuous state, which is still characterized more by individualistic than collective, group-oriented motivations.

A Theory of Reciprocity in Exchange Relations

Molm and her collaborators (Molm et al., 1999, 2000), while having an equally strong interest in the connections between affect and commitment in social exchange, have a markedly different conception of the social psychological processes at play. For them, affect is not a proximal mechanism promoting commitment to particular relationship. In their theory, emotion is an outcome of the exchange process generated largely by commitments to exchange relations. The structural arrangements, not emotional mechanisms are responsible for differences in commitment behaviors that exist across different exchange structures. They argue that level of affect is determined by the form of exchange (i.e., reciprocal or negotiated) and by the degree of behavioral commitment induced by the nature of the available alternatives to exchange in a social network (Molm et al., 2000).

Central to Molm and her colleagues' theory is the delineation of two distinct components of commitment, one behavioral and the other affective. The behavioral aspect of commitment focuses on the patterns of exchange found in networks of social exchange, in which actors choose to interact repeatedly with one another rather than with their available alternatives. The affective component, however, is concerned with the emotional bonds that develop from repeated experiences with successful exchanges between the same partners. This dimension of commitment shares many similarities with Lawler et al.'s (2000) "social bonding" aspect of relational cohesion, but there is a critical distinction that must be made between the conceptions of bonding included in each of these theories. In Relational Cohesion Theory, "social bonding" centers around an exchange relation as a social object, whereas Molm and her colleagues discuss emotion directed toward a particular partner, not the relation or group.

Molm et al. (1999) argue that the social psychological mechanisms responsible for each of the two kinds of commitment are different. Behavioral commitment is determined by the structure of the exchange relations. Large power imbalances lead to low levels of interpersonal commitment while power-balanced (or equal) relations promote commitment behaviors (Molm et al., 2000; see also Cook & Emerson, 1978). Affective commitment, however, is a function of two influences: the type of exchange and the level of behavioral commitment. In reciprocal exchanges, as opposed to negotiated exchanges, there are great uncertainties surrounding the outcomes of exchange; partners are not obligated to return gifts or engage in acts of reciprocity. This lack of certainty leads actors to develop feelings of trust (based on credible signals of trustworthiness) and other positive affective orientations toward their partners as successful exchange relations emerge over time. Moreover, as the level of behavioral commitment increases, so too does an actor's level of positive affect toward her partner.

There are two important distinctions to be made between these theories of emotion in social exchange. First, Molm and her colleagues see affect as directed toward specific exchange partners whereas Lawler and his collaborators stress the centrality of the exchange relation as the object of affect. While each theorist is careful to distinguish their primary unit of analysis, it is not entirely clear that such distinctions are crucial. Lawler and Yoon (1998) have found that looking at actor-specific, relational affect is empirically and theoretically fruitful, despite their careful use of relations and not individuals as the main unit of analysis in their theory. Moreover, in practice actors may have great difficulty separating affect directed toward a relation from affect directed toward a partner. The second difference may be more critical. Molm et al. (2000) see affect as an outcome, whereas Lawler et al. (2000) view affect as a proximal mechanism. When emotion is taken to be an outcome, structural issues still dominate theorizing, as Molm and her colleagues are careful to point out. When emotion becomes a causal mechanism, however, structural arrangements can then become outcomes. If emotion dictates patterns of behavior to the extent that alternative relations atrophy and cease to become viable exchange alternatives, the shape of the social networks of actors engaged in exchange can be altered. While Lawler and his collaborators continue to find enduring independent effects for factors outside of relational cohesion, their theoretical orientation may provide crucial insights into the dynamic linkages between structure and action.

Molm et al. (2007; Molm, 2010) have recently examined how the structure of exchange affects the development of solidarity. Proposing a general theory concerning the structure of reciprocity and solidarity in exchange, Molm and her collaborators focus on whether exchange is direct or indirect and whether it occurs bilaterally or unilaterally. While their study is methodologically similar to Lawler et al.'s (2008) work on the development of micro social order, their results differ. Molm finds that generalized exchange produces the highest level of social solidarity (with reciprocal exchange producing a lower relative level of solidarity and negotiated exchange leading to the lowest level). They identify three key factors that explain this finding: the risk of non-reciprocity, the salience of conflict, and the expressive value of reciprocity. The authors propose that the risk of non-reciprocity is greater in generalized exchange since benefits flow unilaterally (while in bilateral forms of exchange, typical of negotiated exchange, the risk of non-reciprocity is virtually eliminated). Moreover, the expressive value (or the symbolic meaning independent of instrumental benefit) is greater in generalized exchange since reciprocity is highly uncertain and indirect (e.g. A gives to B, B gives to C, C gives to A). Finally, Molm argues that salience of conflict is lowest in generalized exchange since giving is very indirect and it is much harder to compare outcomes in a network of generalized exchange than in negotiated or reciprocal forms of exchange.

Recent work by Kuwabara (2011) proposes that the nature of the exchange context is a crucial factor in distinguishing between Lawler and Molm's findings. By examining competitively and cooperatively framed exchange settings, Kuwabara demonstrates how differences in Lawler's theory of relational cohesion and Molm's work on affective outcomes in exchange can be reconciled. He argues that bilateral or transactional forms of exchange, like negotiation between two parties, will produce solidarity when experienced by the actors primarily as a cooperative venture. However, when bilateral exchange is perceived as competitive, actors' feelings of solidarity will be inhibited in part because the salience of conflicting interests will be higher, as Molm suggests. By experimentally manipulating cooperative and competitive contexts in bilateral and unilateral exchanges, Kuwabara demonstrates distributive negotiation (in which conflict of interest is high) and one-way trust games (also highly competitive) lead to lower levels of cohesion, while integrative negotiation (in which there is room for compromise) and two-way trust games (highly cooperative) create higher levels of cohesion. Kuwabara's work suggests that the development of relational cohesion through task jointness (Lawler's theory) and the emergence of trust through risk-taking (Molm's theory) are distinct processes that together increase our understanding of the role of affect in exchange relations. Affect and emotion may also play a role in collective action and the resolution of social dilemmas.

Collective Action and Social Exchange

Research on social exchange has many theoretical ties to the enormous body of research on social dilemmas (for a thorough review of this research see, e.g., Yamagishi, 1995). The theoretical problems, however, faced by theorists of power and dependence generate a unique perspective on the problems of collective action in exchange (e.g., Cook & Gillmore, 1984; Lawler et al., 2000; Leik, 1992). As with most collective action problems, actors in social exchange contexts face the competing pressures of satisfying their own interests and participating in the provision of collective goods. Moreover, while exchanges are often the outcome of explicit negotiations, many exchanges occur within contexts in which there is no explicit bargaining and no guarantee that partners will fulfill their obligations (Kollock, 1994; Molm, 1997a, 1997b; Yamagishi et al., 1998). Such uncertainties characterize a large number of exchanges outside of the laboratory (Heckathorn, 1985). Heckathorn has argued that exchanges in the "real world" are thus the product of two factors: the explicit negotiation over social goods and the individual decision to abide by the terms of trade. He claims that social exchange thus entails not only the bargaining over social goods, but also the playing out of a prisoner's dilemma concerning the fulfillment of social obligations.

The dynamics of power and dependence within networks of exchange partners create additional problems of collective action that cannot be characterized as a prisoner's dilemma. Power inequality creates strains in exchange relations and provides an impetus for structural changes, creating problems of collective action unique to exchange contexts (Cook & Gillmore, 1984; Emerson, 1972b; Lawler & Yoon, 1998). Before turning to empirical work on such collective action problems within exchange networks it is necessary to briefly review Emerson's (1972b) ideas concerning power-balancing mechanisms, for this theory constitutes the intellectual basis for this work. Emerson argued that reciprocity was a core feature of exchange relations over the long term and that ongoing exchange relations could be characterized as relations in which a balance of power existed. Power imbalances, he argued, were a somewhat temporary state of social relations, which generated strains in exchange relations to be resolved. He claimed that four distinct "balancing" operations existed which would stabilize unequal power relationships. Within the context of a given dyadic exchange relation, if the dependence of an actor A for good y (controlled by actor B) is greater than B's dependence on A for good x (controlled by actor A), there are four possible outcomes: First, there can be a decrease in the value of good y for actor A, called *withdrawal*. Second, there can be an increase in the value of x for actor B, called *status-giving*. Third, there can be an increase in the availability of resource y to A often as a result of an increase in the number of alternatives open to A, called *network extension*. Fourth, there can be a reduction in the number of alternatives for resources of value open to B, called *coalition formation*. Note that the first two mechanisms concern changes in value whereas the second two focus on structural change. With the exception of Emerson (1987) exchange theorists have focused their energies on exploring the latter two outcomes.

The work on coalition formation (e.g., Cook & Gillmore, 1984) has empirically demonstrated that power imbalances do promote the formation of coalitions. In a network in which there are power imbalances, some actors can be characterized as power-advantaged while others are power-disadvantaged. In simple hierarchical network structures in which one power-advantaged actor exchanges with a number of power-disadvantaged actors, a coalition of all power-disadvantaged actors against the power-advantaged actor will balance power in the network (Cook & Gillmore). Those coalitions that do not include all disadvantaged actors will not attain power-balance because the power-advantaged actor still possesses alternatives to the coalition. Moreover, coalitions that include all power-disadvantaged actors tend to be stable over time, as Emerson (1972b) would argue they should. Coalitions, however, that do not include all disadvantaged actors tend to deteriorate over time. More recently Borch and Willer (2006) analyze power and the formation of coalitions in exchange networks from a game theoretic perspective. They similarly find that coalitions among the less powerful are a countervailing force, when they occur.

The tensions generated by power inequality can also result in network extension. Power- disadvantaged actors rather than banding together to form coalitions to balance power, may alternatively seek out new relations, thus also reducing their dependence on a given actor for valued resources. This solution to power balance has been less thoroughly explored by exchange researchers, but nevertheless warrants a brief discussion.

Leik (1992) proposed a theory of network extension and contraction based on the theoretical principles of the GPI model developed in Network Exchange Theory (e.g., Markovsky et al., 1988, 1993; Willer & Anderson, 1981). He argues that so long as actors are assumed to be trying to maximize their power vis-a-vis their partners, power-advantaged actors will attempt to reduce linkages between partners in an effort to consolidate their power while power-disadvantaged actors will attempt to create new linkages to increase their power. He goes on to explain that such a theory requires that actors have a great deal of information and strategic savvy: "Without sufficient information and the savvy to utilize it, neither the weak nor the strong will be able to perceive the advantage of linkage changes" (Leik, p. 316). Empirical work by Lawler and Yoon (1998), however, suggests that emotional responses to inequality may be sufficient to motivate network extension.

While Lawler and Yoon are explicitly concerned with developing a theory of relational cohesion based on affect directed toward exchange relations (see the discussion of this work above), their

empirical work sheds light on issues of network extension. Toward the end of their experiment, actors are freed from the constraints of their initial network of exchange relations and allowed to interact with every other participant. Actors in relations that can be characterized as power balanced continued to seek out one another in exchange. Power-advantaged actors likewise continued to solicit exchanges from their disadvantaged partners, whereas the disadvantaged attempted to form new relations with other participants who had not been previously exploitative (Lawler & Yoon, 1998). Thus, the negative affect directed toward a power-advantaged actor by a power-disadvantaged partner in concert with the low levels of reward accrued by power-disadvantaged actors seems sufficient to motivate network extension.

Beyond the issues of power-balancing operations and the prisoner's dilemma features of exchange relations, a third type of collective action problem has arisen in recent research on generalized exchange. Generalized exchange exists when individuals exchange valued resources indirectly and without explicit agreement (Molm & Cook, 1995). In generalized exchange, the rewards that an individual receives from others do not depend on the resources provided by that individual (Ekeh, 1974; Emerson, 1976; Yamagishi & Cook, 1993). Because giving and receiving valued goods and services is indirect, generalized exchange relations inherently involve a minimum of three actors. Moreover, there is no one-to-one correspondence between what two actors directly give to and receive from one another.

There have been several empirical studies that attempt to explain how such complex exchange systems may emerge (Bearman, 1997; Cheshire, 2005; Mark, 2003; Takahashi, 2000; Takahashi & Yamagishi, 1996, 1999; Ziegler, 1990). Generalized exchange is challenging to explain since individuals have an incentive not to give their valued resources to others. However, if everyone in the network refuses to give they clearly do worse since no one gains. Thus, the typical structure of a generalized exchange system entails the classic incentives of a social dilemma (see Yamagishi, 1995). Coordination problems are also likely, especially as the size of the network increases. Actors exchange indirectly with more than two participants, so individuals must rely on the goodwill of a third party over which they have no direct control. Without assurances of reciprocity or mutually contingent exchanges, actors can "free-ride" on the contributions of others by collecting rewards while refusing to reward others (see Yamagishi).

In his review and synthesis of various forms of direct and indirect social exchange, Peter Ekeh (1974) describes several different types of generalized exchange. One of the major types in his classification is group-focused generalized exchange. This type of generalized exchange involves individuals who independently choose whether to contribute to a collective good or not. Yamagishi and Cook (1993) refer to this type of system as "group-generalized" exchange because individuals pool their resources centrally as a group, and receive indirect benefits from the collective good rather than directly from other individuals (in contrast to the decentralized nature of network-generalized exchange). Examples include communities that pool resources to create valued shared outcomes such as a school or a town bridge (Yamagishi & Cook, 1993), some forms of digital file sharing in peer-to-peer Internet systems (Cheshire, 2005), combining resources for business ventures (Ruef, 2003), and online information sharing and redistribution (Cheshire & Antin, 2009).

Online environments provide a ripe opportunity for the sociological study of large-scale group-generalized exchange. For example, digital information goods (Kollock, 1999a) are often pooled as a collective good from which individuals receive benefits. Drawing on Kollock's (1999a) initial insights, Shah and Levine (2003) and Cheshire (2005) argue that many digital goods have near-pure jointness of supply (i.e., they are non-rival goods) because many enjoy such goods and those who contribute need not lose value. Since digital goods can typically be perfectly replicated, the contributor keeps a copy when she makes a contribution (Cheshire, 2005; Cheshire & Cook, 2004; Kollock, 1999a, b).

The second key type of generalized exchange is chain-generalized, in which each individual gives goods or services directly to other individuals in chains or cyclic patterns of exchange. Yamagishi and Cook (1993) refer to this form of exchange as network-generalized since individuals receive goods or services from others in the same network. The non-economic exchange of necklaces and bracelets

among the Trobriand Islanders in Papua New Guinea (Malinowski, 1922) is a classic example of this type of generalized exchange. Bearman's (1997) observation of aboriginal tribes that exchange women between families also constitutes a form of network-generalized exchange. Other common examples include stranded motorists in small communities where individuals help one another when necessary, but rarely (if ever) in a direct, reciprocal fashion (Yamagishi & Cook, 1993). Early anthropological and sociological research in this tradition predicts that indirect, generalized exchange will lead to high social solidarity in a given society, compared to more direct forms of negotiation and bargaining. Recent experimental research by Molm and her colleagues supports this classic prediction as noted above (Molm et al., 2007).

The production of collective action is a difficult problem in both network-generalized and group-generalized exchange because the interests of individuals and those of the larger collective often conflict. One way to alleviate this problem is to share information about prior interactions with new partners, thereby creating mutual benefits within the collective. Takahashi (2000) uses simulations to show that when self-interested actors can pass along information about the behaviors of others, network-generalized exchange does emerge. This occurs when individuals employ a fairness-based selective-giving strategy (see also Mark, 2002). Takahashi assumes individuals in generalized exchange want to give more often to those with higher ratios of giving or receiving. Although this explanation works in situations in which reputations exist, it potentially fails when individuals are anonymous or when identities can be easily changed, as is often the case in online interactions (Yamagishi et al., 2009). Takahashi's solution, like many solutions to the problem of the evolution of cooperation in systems of repeated prisoners' dilemmas, relies on the existence of network structures that provide some sort of localized information and accountability (e.g., Axelrod, 1984; Macy & Skvoretz, 1998). Norms regarding contributions can emerge and persist in these network structures through systems of reputation, monitoring and sanctioning. However, the existence of reputation and sanctioning structures creates a "second-order" social dilemma since at least some minimal group of individuals must first create and subsequently maintain these systems.

One promising avenue of research on large systems of network-generalized exchange examines unilateral online sharing of goods, services, and information. For example, on websites such as NetCycler.com and Freecycle.org, individuals give unneeded goods to others who indicate that they have a need for those same goods. In systems such as Freecycle.org, direct negotiation or payment is explicitly discouraged to sustain the culture of a unilateral gift economy. Many of these systems have become popular, prompting researchers to examine how online generalized exchange systems can foster group identity, solidarity and community among participants over time (Suhonen et al., 2010; Willer, Flynn, & Zak, 2010). Without the relative security of direct negotiation and sanctions for failed agreements, these online systems foster perceptions of uncertainty that can be difficult for potential exchange participants to overcome (Suhonen et al., 2010). Furthermore, many of these systems involve hybrid online-offline social exchanges where the matching of givers and receivers takes place online, but the actual exchanges occur offline. The relative risks and sources of uncertainty may be minimal when the exchanges take place in small, local communities (Suhonen et al., 2010), but the risks may be much higher when individuals must meet in-person to complete an exchange. In some cases the risks are especially conspicuous, as with Couchsurfing.com where individuals use an online system to link travelers to hosts who provide space in their own homes for visitors (Lauterbach, Truong, Shah, & Adamic, 2009).

Methodology and Social Exchange

Ethnography, participant-observation, and inductive reasoning formed the base from which different approaches and research methods to analyze social exchange would later emerge. The first empirical descriptions and examples of social exchange processes came from the work of anthropologists such

as Malinowski (1922) and Mauss (1923). In his ethnographic examination of the Kula ring among the Trobriand islanders of Papua New Guinea, Malinowski provided the first in-depth documentation of stable generalized exchange within a society. Mauss (1923) later combined Malinowski's observations with several other ethnographic examples into his book, *The Gift*, which was among the first critical analyses of the role of gifts and reciprocity in social life.

The next major theoretical development in the examination of social exchange came from the convergence of the psychological approaches of Homans (1958, 1961) and Thibaut and Kelley (1959). Although Homans' perspective was based primarily on the psychology of instrumental behavior and Thibaut and Kelley focused on the examination of dyads and small groups of dyads, both research traditions built on the same anthropological field research and case studies to develop potentially testable theories of social exchange. Blau's (1964) version of social exchange, though not based on the exact same assumptions as either Homans or Thibaut and Kelley, also built on the earlier ethnographic and field research. Despite a strong foundation of propositions, theoretical arguments and clear predictions, Homans, Thibaut and Kelly, and Blau never conducted controlled studies of their respective approaches to social exchange theory. Instead, much of the empirical evidence for social exchange theory in the 1950s and 1960s was limited to case studies.

The more formalized version of social exchange theory developed by Emerson (1972a, 1972b) combined with the unique adoption of networked computers helped to bring controlled experimental testing to the study of social exchange in dyads and networks (Cook & Emerson, 1978; Cook et al., 1983; Cook & Yamagishi, 1992; Yamagishi, Gillmore, & Cook, 1988). The first experimental studies by Emerson, Cook and their colleagues were quickly followed by an upsurge in laboratory experiments by other researchers on different aspects of social exchange, including further examinations of power dynamics (Molm, 1985, 1990; Willer, Markovsky, & Patton, 1989), coercion (Lawler, Ford, & Blegen, 1988; Willer & Anderson, 1981), commitment (Lawler & Yoon, 1993), and emotion (Lawler & Yoon, 1998). As a supplement to experimental studies as well as a tool to elaborate certain aspects of theory, computer simulation and game-theoretical modeling also became useful tools for investigating network dynamics, power and social exchange (Bienenstock & Bonacich, 1992, 1993, 1997; Whitmeyer, 1997a, 1997b). For example, game-theoretic modeling allows researchers to use different parameters to calculate specific predictions about power distributions among actors in a given network structure. In more recent years, experimental investigations of social exchange processes have expanded to include studies of trust (Cook et al., 2005; Molm, 2003) and transitions between modes of social exchange (Cheshire, Gerbasi, & Cook, 2010; Molm, Whitham, & Melamed, 2012).

The development of controlled laboratory experiments remains the dominant methodological approach for testing predictions from social exchange theory and examining related issues of power, status, equity, and trust, among others. The specific characteristics of the experimental studies mentioned above vary by researcher, independent variables, and focal outcomes. Yet, the central features of these experiments are fundamentally the same. First, most experiments in this tradition are conducted using networked computers and all interactions take place only through the computer interface to assure that behavior is affected solely by experimental manipulations and not by individual characteristics. The setting must meet the general scope conditions of the theory, while making it possible to control key aspects of exchanges (structures and processes) to measure exchange outcomes (Molm, 2007).

Second, subjects are randomly assigned to positions in a particular exchange structure, such as dyads or larger network forms. Third, valued resources are distributed to each participant (e.g., virtual coins, units with different names and associated values such as "X's" and "Y's"), and these valued resources are worth money that is provided at the end of the given study. Although social exchange in natural environments occurs with a variety of different resources including status, approval or expert guidance, money allows researchers to quantify and control the value across different actors and over time (Molm, 2007). Finally, participants exchange their valued resources

for others' valued resources either in one-time interactions, repeated interactions with the same individuals, or in some other combination of experimenter-controlled pairings or interaction choices for the participants. Exchanges take place either in networks (e.g., Cook & Emerson, 1978) or in dyads (e.g., Bacharach & Lawler, 1981). The rules about the form of the exchange, who can exchange with whom, for how long, whether individuals can choose their partners or not, the presence of intake or exit surveys, and other aspects of the exchange interaction define the different conditions in a given study.

In some cases, simulated or programmed actors are used as exchange partners with other real actors (though the human actors typically are not made aware of this fact until the end of the experiment). Simulated actors are most often used when the particular research questions in a study require controlled or manipulated behavior, in much the same way that human confederates are used in other types of psychological and social psychological studies. Since most social exchange experiments are already computer-based, simulated actors provide reliable, controlled behavior that can scale from dyads to very large networks. In general, when social exchange research focuses on behavioral and/or affective responses of individuals instead of relational or interaction patterns, computer-simulated actors are an attractive option for controlling the behavior of certain actors in dyads or networks (Molm, 2007).

Experimental studies in the social exchange tradition are exceptionally good at controlling very specific elements of exchange by restricting most (and usually all) interaction to lean computer-based communication rather than rich, face-to-face based communication. Social exchange researchers have directly compared face-to-face social exchange with computer-mediated settings, showing that verbal and non-verbal cues in face-to-face interaction sometimes affect key outcomes such as perceptions of justice and the use of power (Skvoretz & Willer, 1991). To avoid experimental confounds due to subtle communication, the computer-mediated method continues to offer a controlled way to empirically examine social exchange processes. While this approach is critical for establishing high internal validity and clear experimental manipulations, one critique of the experimental research on social exchange theory is that it is hard to generalize to other contexts (low external validity), and the nature of the experimental interactions are less like the real-world situations from which the origins of the theory emerged (ecological validity).

Researchers are beginning to expand their empirical tests of social exchange processes to include many real-world interactions, including organizational studies, online field experiments, and other mixed-methods studies of individuals who are engaged in different types of social exchange. Several empirical studies of social exchange examine organizational relationships, including research on balance among employer and employee exchanges (De Jong, Schalk, & De Cuyper, 2009) and *guanxi* processes (personal networks of influence, favors, and mutual understanding) in Chinese organizational partnerships (Chen, Friedman, Yu, Fang, & Lu, 2009). In the case of online social exchange research, investigators are making use of advances in data collection techniques while capitalizing on the rise of Internet-based social interactions. For example, it was once considered impractical to study large-scale social exchange and romantic matching before the match occurred in the way that Thibaut and Kelley (1959) and Blau (1964) discussed in their respective approaches to social exchange theory. However, the popularity of online dating systems now allows researchers to conduct analyses of the logs of messaging data to examine aspects of social exchange and partner matching among millions of potential pairings over time (Taylor et al., 2011). Furthermore, the rise of online generalized exchange systems such as NetCycler.com and Freecycle.org allow social exchange researchers to employ mixed methodologies including interviews, participant-observation, survey research, log analysis of behavioral data over time (Suhonen et al., 2010), and online field experiments (Willer et al., 2012). In sum, earlier concerns about the ecological validity of social exchange research methodology have largely given way to a realization that, "the real world has become the laboratory" (Cheshire & Cook, 2004, p. 18).

Future Directions: Linkages to Economic Sociology and the Study of Networks

While exchange theorists for the past few decades have been primarily experimentalists, there is certainly room for exchange theory to make more meaningful ties to other sub-fields on the broader canvas of sociological research. The best candidate for such a venture seems to be in the sub-field of economic sociology. Exchange theory and economic sociology focus on a similar set of core theoretical issues. Both fields balk at the notion that individual motives (or the mere aggregation of individual motives) can properly explain transactions between social actors. Moreover, both sub-fields theorize extensively about the role of networks of ongoing relations in exchange. We argue in this section that a marriage of these two fields would greatly benefit each. First, we discuss the reasons for the development of each field in isolation from the other. We then focus on the theoretical overlap in the work of "embeddedness" and Relational Cohesion Theory and argue that each field can benefit from exposure to the other. Finally, we provide two illustrations of this argument by looking through the lens of exchange theory at several notable studies within economic sociology of the credit card market in Russia and of emerging business relations that extend beyond family and friendship ties in this transitional economy.

The separation of these two sub-fields is likely due to the conflation of several issues. First, early theorists of social exchange were careful to make the distinction between economic and social exchange. This focus, however, has slowly receded as work in exchange theory has become increasingly abstracted and the exchange of resources under study are now typically concrete and quantifiable objects. Second, exchange theory is frequently aligned with rational choice theory (Bienenstock & Bonacich, 1992; Blau, 1964; Heckathorn, 1984) and economic sociologists often use rational choice theory as a theoretical foil against which to argue their more "social" theories. But even when exchange theory is founded in operant psychology (e.g., Emerson, 1972a; Molm, 1994), connections between the two sub-fields are rare. This separation can most readily be attributed to methodological divides. Exchange theorists tend to generate a priori predictions that they test in laboratory experiments, whereas economic sociologists favor ex post explanations and empirical field research. Such differences in style have caused these two fields to develop in relative isolation, until more recently.

Research on "embeddedness" shares a great deal of intellectual common ground with contemporary work in social exchange. Exchanges are rarely purely economic; rather they often are "embedded" in networks of ongoing social relations. This last claim is a central claim of economic sociology and the focus of much of the theoretical and empirical research. Uzzi (1996), for example, has argued that "embeddedness" has profound behavioral consequences affecting the shape of exchange relations and the success of economic ventures. "A key behavioral consequence of embeddedness is that it becomes separate from the narrow economic goals that originally constituted the exchange and generates outcomes that are independent of the narrow economic interest of the relationship" (Uzzi, p. 681). The work by Lawler and Yoon (1996, 1998) and Lawler et al. (2000) mirrors this set of theoretical concerns. They argue that as exchange relations emerge actors develop feelings of relational cohesion directed toward the ongoing exchange relation. These feelings of cohesion result in a wide variety of behaviors that extend beyond the "economic" interests of the relationship, such as gift-giving, forming new joint ventures across old ties, and remaining in a relationship despite the presence of new, potentially more profitable partnerships. They expand on this set of arguments in their latest work linking relational cohesion and commitment to micro-social order (Lawler et al., 2008).

There is great mutual benefit to be derived from increased attention to research done in each field. Exchange theorists can benefit from the rich tapestry of "real" world (i.e., non laboratory) exchange contexts studied by economic sociologists. While great theoretical advances have been made in exchange theory within the context of experimental work, any sociological theory worth its salt must also speak to empirical phenomenon outside of the laboratory. Moreover, new insights and new

theoretical directions are likely to be uncovered by a renewed focus on the kinds of exchanges that can be studied outside of the experimental setting. Economic sociology would likewise benefit from the work of exchange theorists, particularly in so far as exchange theory provides easily derivable and testable predictions for actor behavior in exchange networks. Moreover, exchange theorists have conducted research on the effects of a number of interesting variables that are often overlooked by economic sociologists, such as the use and distribution of power and cohesion within relationships.

To illustrate the potential value of such a marriage, we discuss how two studies within economic sociology relate to work in exchange theory and explore the possibilities for new research generated by such an examination. Guseva and Rona-Tas (2001) compared the credit card markets of post-Soviet Russia and the United States. They were concerned with how credit lenders in each country manage the uncertainties of lending credit. In the United States, they argue, credit lending is a highly rationalized process that converts the uncertainty of defaulting debtors to manageable risk. Lenders take advantage of highly routinized systems of scoring potential debtors, through the use of credit histories and other easily accessed personal information. This system allows creditors in the United States to be open to any individuals who meet these impersonal criteria.

In Russia, creditors must reduce uncertainties through personal ties and commitments. Defaulting is an enormous problem in Russia, aggravated by the fact that credit information such as that used by American lenders has, until relatively recently, been unavailable. To overcome these uncertainties, Russian banks seeking to establish credit card markets must use and stretch existing personal ties. Loan officers make idiosyncratic decisions about potential debtors, based largely on connections to the banks, or known customers of the bank. In this way defaulting debtors cannot easily disappear, as they can be tracked through these ties.

Viewed through the lens of theorizing on the connections between uncertainty and commitments, these different strategies seem quite reasonable. As discussed earlier, exchange theorists have repeatedly shown that as uncertainty increases, commitments to specific relations likewise increases (Cook & Emerson, 1984; Kollock, 1994; Yamagishi et al., 1998). In the case of credit card markets, it is clear that the United States presents an environment of relatively low uncertainty, compared to the high-levels of uncertainty present in Russia. Exchange theory implies therefore that commitments will be greater in Russia, which is exactly the case. Lending is facilitated by existing commitments to the banks or the bank's known customers. While such theoretical confluence is interesting, it is in generating new insights that one can see the value of examining this situation through the lens of exchange theory. Rice (2002) in his work on exchange under uncertainty argued that network structure intervenes in the process of commitment formation. This insight suggests that sociologists ought to ask how different shaped networks of potential debtors and lenders in Russia affect the use of commitments to procure credit? Rice also argued that uncertainty, while promoting commitment simultaneously reduces the overall level of exchange in networks; this is yet another outcome observed in the Russian credit card market, but one largely ignored by Guseva and Rona-Tas (2001). It is this aspect of the problem that is addressed to some extent in another study by Radaev (2002) on the emergence of reputation systems in Russia. Finally, Yamagishi and his collaborators (Yamagishi et al.) argued that uncertainty can stem from either the probability of loss or the size of loss. Another question that should be raised in this context is how the size of loss, not just the potential for loss relates to the behaviors observed in the Russian versus the American credit card markets.

This examination, however, is not a one sided affair, benefiting only economic sociology. Exchange theorists also can learn from this example. Exchange theory tends to focus on commitments as an outcome, not as a social mechanism. In the case of the Russian credit card market, existing commitments provide a mechanism through which network structures are expanded and changed. This raises the issue of how commitments may in turn create opportunities for network expansion and/or reduction. Similarly, in the context of credit card markets, there are two distinct roles, creditors and debtors. Exchange theory, with the exception of Kollock's (1994) work, does not focus on the explicit context of buying and selling. Exchanges are studied among actors who divide, give or trade resources

with other actors who are engaged in an identical task. Much of the world of economic transactions, however, does not occur in such contexts, rather buying and selling are the primary modes of exchange. Exchange theorists if they are to speak to economic sociologists and inform economic research must develop a more explicit and rigorous theory of exchange across roles of this type.

In another study of emerging markets for non-state businesses in Russia, Radaev (2002) investigated the mechanisms and institutional arrangements that help actors cope with the uncertainty and opportunism common in such an uncertain environment. Two features of the situation are significant. Under uncertainty individuals turn to interpersonal ties involving trust and greater certainty to produce some security in the context of high levels of opportunism. This is the behavior that is documented also by Guseva and Rona-Tas (2001) discussed previously.

In documenting the uncertainty of business relations in Russia, respondents to the surveys Radaev (2002) conducted indicated how important honesty and trustworthiness were in business partners. This result is driven by the fact that there are frequent infringements of business contracts creating both risk and high levels of uncertainty. Half of the respondents admitted that contract infringements were quite frequent in Russian business in general and a third of the respondents had had a high level of personal experience with such infringements. This degree of opportunism creates barriers to the formation of reciprocal trust relations. Widespread distrust exists of newcomers to the market but reliable partners are viewed as more trustworthy.

In this climate commitment is clearly the most predictable response to uncertainty as in the case of Kollock's (1994) rubber markets and the credit card market discussed by Guseva and Rona-Tas (2001). Another reason for the uncertainty is that the existing institutions lack credibility and legitimacy. The courts do not effectively manage dispute resolution and existing institutions do not secure business contracts. To cope with this fact the business community creates closed business networks with reputation systems that define insiders and outsiders. This system is based on information obtained from third parties, but more importantly on common face-to-face meetings between potential partners.

In a 1993 survey conducted by Radaev the emerging networks of entrepreneurs in Russia post-transition primarily included personal acquaintance (42 %), friends and their relatives (23 %) and relatives (17 %). This fact reflects the reality discussed in the work of Guseva and Rona-Tas (2001) on the credit card market in Russia. Only a small percentage (11 %) of the business contacts in 1993 were new or relatively new acquaintances. Subsequently, however, they moved away from affect-based commitment and trust to reputation-based trust since networks formed purely on the basis of acquaintance, kin ties or friendship often fall apart due to inefficiency. The relatively closed business networks that have emerged to replace the older "familial" and friendship ties provide better information about the trustworthiness of the partners and their competence. Within exchange theory the formation of commitment and trust networks (see also Cook & Hardin, 2001) in the face of uncertainty provide theoretical support for the evidence provided by Radaev (2003) and others on the emergence of business networks in Russia. This development is also consistent with Rice's (2002) argument that commitments can have negative aggregate level consequences in terms of productivity and efficiency in exchange systems.

This extended example identifies only some of the ways in which exchange theory can inform economic sociology and vice versa. Topics that have returned to center stage on the agenda for research in the exchange theory tradition such as trust, emotion, affect, fairness, strategic action, commitment and reputational networks all have potential applications in the analysis of the emergence of exchange networks in countries with transitional economies as well as in other types of economies as evidenced by the work of many economic sociologists (e.g., Uzzi, Granovetter, etc.). Moving from closed groups to more open networks of trade mirror some of the processes identified by Emerson (1972b) as important for study from an exchange perspective contrasting group-level exchange systems (productive exchange in corporate groups) with network-level exchange. In addition, the return to the study of the significant differences between social processes (e.g., power, justice, and commitment)

involved in different types of exchange, negotiated, reciprocal, and generalized exchange (Molm, 1988, 1990, 1994, 2010) has the potential to provide new insights into a variety of emergent forms of exchange under different circumstances. For example, under conditions of uncertainty, negotiated, binding exchange is likely to emerge before reciprocal (most often, non-binding) exchange because reciprocal exchange involves a greater degree of uncertainty. Reciprocal exchange, as Molm and her coauthors (Molm, 2010; Molm et al., 1999, 2000) have documented, generally requires more trust since the terms of exchange are not simultaneously negotiated and opportunism is possible. This research has the potential to produce a theoretical basis for the empirical work on the development of various global economic sectors as well as for the study of the Internet and its consequences not only for the world of trade, but also for social and political change more broadly as interactions bridge across previously existing exchange boundaries.

Exchange theory provides a general analytic approach to a wide array of social processes that are central to sociological inquiry at various levels. In particular, it emphasizes the role of exchange processes at the micro-level and how such processes often form the bedrock of social structure and social change. It provides a conception of the social interactions that result in the exchange of resources and services of value, which occur on a daily basis in all societies. Understanding these interactions, how they emerge, change, and alter the groups and networks in which they are embedded is one of the major contributions of this theoretical perspective, not only to social psychology, but also to sociology more broadly. Future theoretical work should lead to new connections between this perspective and other social psychological perspectives covered in this volume. We have provided not only an introduction to the current status of this work, but also a window into the ways in which it continues to produce important insights into the world around us as the social, political, and economic landscape continues to change, often more rapidly than our theories do.

References

Alexander, J., Munch, R., Smelser, N., & Giesen, B. (1990). *The micro-macro link*. Berkeley, CA: University of California Press.

Axelrod, R. (1984). *The evolution of cooperation*. New York: Basic Books.

Bacharach, S. B., & Lawler, E. J. (1981). *Bargaining: Power, tactics and outcomes*. San Francisco, CA: Jossey-Bass Inc.

Bearman, P. (1997). Generalized exchange. *The American Journal of Sociology, 102*, 1383–1415.

Berger, J., Cohen, B., & Zelditch, M., Jr. (1972). Status characteristics and social interaction. *American Sociological Review, 37*, 241–255.

Berger, J., Zelditch, M., Jr., Anderson, B., & Cohen, B. (1972). Structural aspects of distributive justice: A status value formation. In J. Berger, M. Zelditch Jr., & B. Anderson (Eds.), *Sociological theories in progress*. Boston: Houghton Mifflin.

Bienenstock, E. J., & Bonacich, P. (1992). The core as a solution to exclusionary networks. *Social Networks, 14*, 231–243.

Bienenstock, E. J., & Bonacich, P. (1993). Game-theory models for exchange networks: Experimental results. *Sociological Perspectives, 36*, 117–135.

Bienenstock, E. J., & Bonacich, P. (1997). Network exchange as a cooperative game. *Rationality and Society, 9*, 937–965.

Blau, P. M. (1955). *The dynamics of bureaucracy*. Chicago: University of Chicago Press.

Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.

Blau, P. M. (1986). *Exchange and power in social life* (2nd printing). New Brunswick, NJ: Transaction Books.

Borch, C., & Willer, D. (2006). Power, embedded games and coalition formation. *Journal of Mathematical Sociology, 30*, 77–111.

Chen, Y., Friedman, R., Yu, E., Fang, W., & Lu, X. (2009). Supervisor-subordinate guanxi: Developing a three-dimensional model and scale. *Management and Organization Review, 5*(3), 375–399.

Cheshire, C. V. (2005). *A sociological analysis of generalized information exchange*. Stanford University.

Cheshire, C., & Antin, J. (2009). Order, coordination and uncertainty. In K. S. Cook (Ed.), *eTrust: Forming relationships in the online world* (pp. 266–291). New York: Russell Sage Foundation Publications.

Cheshire, C., & Cook, K. S. (2004). The emergence of trust networks under uncertainty–Implications for internet interactions. *Analyse & Kritik, 26*(1), 220–240.
Cheshire, C., Gerbasi, A., & Cook, K. S. (2010). Trust and transitions in modes of social exchange. *Social Psychology Quarterly, 73*, 176–195.
Cook, K. S., & Emerson, R. M. (1978). Power, equity and commitment in exchange networks. *American Sociological Review, 43*, 721–739.
Cook, K. S., & Emerson, R. M. (1984). Exchange networks and the analysis of complex organizations. *Research in the Sociology of Organizations, 3*, 1–30.
Cook, K. S., Emerson, R. M., Gillmore, M. R., & Yamagishi, T. (1983). The distribution of power in exchange networks: Theory and experimental results. *The American Journal of Sociology, 89*, 275–305.
Cook, K. S., & Gerbasi, A. (2006). Homans and Emerson on power: Out of the Skinner box. In A. Javier Trevino (Ed.), *George C. Homans: History, theory and method* (pp. 157–176). New York: Paradigm Publishers.
Cook, K. S., & Gillmore, M. R. (1984). Power, dependence and coalitions. In E. J. Lawler (Ed.), *Advances in group processes* (pp. 27–58). Greenwich, CT: JAI Press.
Cook, K. S., & Hardin, R. (2001). Norms of cooperativeness and networks of trust. In M. Hechter & K.-D. Opp (Eds.), *Social norms* (pp. 327–347). New York: Russell Sage.
Cook, K. S., & Hegtvedt, K. A. (1986). Justice and power: An exchange analysis. In H. W. Bierhoff, R. L. Cohen, & J. Greenberg (Eds.), *Justice in social relations* (pp. 19–41). New York: Plenum.
Cook, K. S., & Yamagishi, T. (1992). Power in exchange networks: A power-dependence formulation. *Social Networks, 14*, 245–265.
Cook, K. S., Yamagishi, T., Cheshire, C., Cooper, R., Matsuda, M., & Mashima, R. (2005). Trust building via risk taking: A cross-societal experiment. *Social Psychology Quarterly, 68*(2), 121–142.
De Jong, J., Schalk, R., & De Cuyper, N. (2009). Balanced versus unbalanced psychological contracts in temporary and permanent employment: Associations with employee attitudes. *Management and Organization Review, 5*(3), 329–351.
Ekeh, P. (1974). *Social exchange theory: The two traditions*. Cambridge, MA: Harvard University Press.
Emerson, R. (1962). Power-dependence relations. *American Sociological Review, 27*, 31–41.
Emerson, R. (1972a). Exchange theory, Part I: A psychological basis for social exchange. In J. Berger, M. Zelditch Jr., & B. Anderson (Eds.), *Sociological theories in progress* (pp. 38–57). Boston: Houghton Mifflin.
Emerson, R. (1972b). Exchange theory, Part II: Exchange relations and networks. In J. Berger, M. Zelditch Jr., & B. Anderson (Eds.), *Sociological theories in progress* (pp. 58–87). Boston: Houghton Mifflin.
Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology, 2*, 335–362.
Emerson, R. (1987). Toward a theory of value in social exchange. In K. S. Cook (Ed.), *Social exchange theory* (pp. 11–58). Newbury Park, CA: Sage.
Faust, K., & Wasserman, S. (1992). Centrality and prestige: A review and synthesis. *Journal of Quantitative Anthropology, 4*, 23–78.
Friedkin, N. E. (1992). An expected value model of social power: Predictions for selected exchange networks. *Social Networks, 14*, 213–229.
Friedkin, N. E. (1993). An expected value model of social exchange outcomes. In E. J. Lawler (Ed.), *Advances in group processes* (pp. 163–193). Greenwich, CT: JAI Press.
Guseva, A., & Rona-Tas, A. (2001). Uncertainty, risk, and trust: Russian and American credit card markets compared. *American Sociological Review, 66*, 623–646.
Harkness, S. (2011). *Consequences of rewards: The creation, perpetuation and erosion of social inequality*. Dissertation, Stanford University.
Heath, A. F. (1976). *Rational choice and social exchange: A critique of exchange theory*. Cambridge, MA: Cambridge University Press.
Heckathorn, D. D. (1984). A formal theory of social exchange: Process and outcome. *Current Perspectives in Social Theory, 5*, 145–180.
Heckathorn, D. D. (1985). Power and trust in social exchange. In E. J. Lawler (Ed.), *Advances in group processes* (pp. 143–167). Greenwich, CT: JAI Press.
Homans, G. C. (1958). Social behavior as exchange. *American Journal of Sociology, 63*, 597–606.
Homans, G. C. (1961). *Social behavior: Its elementary forms*. New York: Harcourt, Brace & World.
Homans, G. C. (1974). *Social behavior and its elementary forms*. New York: Harcourt, Brace and World.
Homans, G. C. (1984). *Coming to my senses: The autobiography of a sociologist*. New Brunswick, NJ: Transaction Books.
Huber, J. (1991). *Macro-micro linkages in sociology*. Newbury Park, CA: Sage.
Jasso, G. (1980). A new theory of distributive justice. *American Sociological Review, 45*, 3–32.
Jasso, G. (1986). A new representation of the just term in distributive justice theory: Its properties and operation in theoretical derivation and empirical estimation. *Mathematical Sociology, 12*, 251–274.

Jasso, G. (1998). Studying justice: Cross-country data for empirical justice analysis. *Social Justice Research, 11*, 193–209.
Jasso, G. (2001). Rule finding about rule making: Comparison processes and the making of rules. In M. Hechler & K.-D. Opp (Eds.), *Social norms* (pp. 348–393). New York: Russell Sage.
Kollock, P. (1994). The emergence of exchange structures: An experimental study of uncertainty, commitment, and trust. *The American Journal of Sociology, 100*, 313–345.
Kollock, P. (1999a). The economies of online cooperation: Gifts and public goods in cyberspace. In M. A. Smith & P. Kollock (Eds.), *Communities in cyberspace* (pp. 220–239). London: Routledge Press.
Kollock, P. (1999b). The production of trust in online markets. In E. J. Lawler, M. Macy, S. Thyne, & H. A. Walker (Eds.), *Advances in group processes* (pp. 99–123). Greenwich, CT: JAI Press.
Kuwabara, K. (2011). Cohesion, cooperation, and the value of doing things together: How economic exchange creates relational bonds. *American Sociological Review, 76*, 560–580.
Lauterbach, D., Truong, H., Shah, T., & Adamic, L. (2009). Surfing a web of trust: Reputation and reciprocity on couchsurfing.com. In *Proceedings of the 2009 international conference on computational science and engineering* (pp. 346–353).
Lawler, E. J. (2001). An affect theory of social exchange. *American Journal of Sociology, 107*(2), 321–352.
Lawler, E. J., Ford, R. S., & Blegen, M. A. (1988). Coercive capability in conflict: A test of bilateral deterrence versus conflict spiral theory. *Social Psychology Quarterly, 51*, 93–107.
Lawler, E. J., Thye, S. R., & Yoon, J. (2008). Social exchange and micro social order. *American Sociological Review, 73*, 519–542.
Lawler, E. J., & Yoon, J. (1993). Power and the emergence of commitment behavior in negotiated exchange. *American Sociological Review, 58*, 465–481.
Lawler, E. J., & Yoon, J. (1996). Commitment in exchange relations: Test of a theory of relational cohesion. *American Sociological Review, 61*, 89–108.
Lawler, E. J., & Yoon, J. (1998). Network structure and emotion in exchange relations. *American Sociological Review, 63*, 871–894.
Lawler, E. J., Yoon, J., & Thye, S. R. (2000). Emotion and group cohesion in productive exchange. *The American Journal of Sociology, 106*, 616–657.
Leik, R. K. (1992). New directions for network exchange theory: Strategic manipulation of network linkages. *Social Networks, 14*, 309–323.
Leik, R., & Leik, S. (1972). *Interpersonal commitment as a balancing mechanism in social exchange*. Conference presentation at Pacific Sociological Association, Scottsdale, Arizona.
Lovaglia, M. J. (1994). Relating power to status. *Advances in Group Processes, 11*, 87–111.
Lovaglia, M. J. (1995). Power and status: Exchange, attribution, and expectation states. *Small Group Research, 26*, 400–426.
Macy, M. W., & Skvoretz, J. (1998). The evolution of trust and cooperation between strangers: A computational model. *American Sociological Review, 63*, 638–660.
Malinowski, B. (1922). *Argonauts of the western pacific: An account of native enterprise and adventure in the archipelagoes of Melansian New Guinea*. London: Routledge.
Mark, N. P. (2002). Cultural transmission, disproportionate prior exposure, and the evolution of cooperation. *American Sociological Review, 67*, 323–344.
Mark, N. P. (2003). Culture and competition: Homophily and distancing explanations for cultural niches. *American Sociological Review, 68*, 319–345.
Markovsky, B., Skvoretz, J., Willer, D., Lovaglia, M. J., & Erger, J. (1993). The seeds of weak power: An extension of network exchange theory. *American Sociological Review, 58*, 197–209.
Markovsky, B., Willer, D., & Patton, T. (1988). Power relations in exchange networks. *American Sociological Review, 5*, 101–117.
Mauss, M. (1923). Essais sur le don. formes et raison de l'échange dans les sociétés archaïques. In *Sociologie et Anthrophologie*. Paris: PUF.
Molm, L. D. (1979). The effects of reinforcement differences and disruptions of social exchange in an alternative task situation. *Social Psychology Quarterly, 42*, 158–171.
Molm, L. D. (1980). The effects of structural variations in social reinforcement contingencies on exchange and cooperation. *Social Psychology Quarterly, 43*, 269–282.
Molm, L. D. (1985). Relative effects of individual dependencies: Further tests of the relation between power imbalance and power use. *Social Forces, 63*, 810–837.
Molm, L. (1988). The structure and use of power: A comparison of reward and punishment power. *Social Psychology Quarterly, 51*, 108–122.
Molm, L. (1990). Structure, action, and outcomes: The dynamics of power in social exchange. *American Sociological Review, 55*, 427–447.

Molm, L. (1994). Is punishment effective? Coercive strategies in social exchange. *Social Psychology Quarterly, 57*, 75–94.
Molm, L. (1997a). *Coercive power in social exchange*. Cambridge, MA: Cambridge University Press.
Molm, L. (1997b). Risk and power use: Constraints on the use of coercion in exchange. *American Sociological Review, 62*, 113–133.
Molm, L. D. (2003). Power, trust, and fairness: Comparisons of negotiated and reciprocal exchange. *Advances in Group Processes, 20*, 31–65.
Molm, L. D. (2007). Experiments on exchange relations and exchange networks in sociology. In M. Webster & J. Sell (Eds.), *Laboratory experiments in the social sciences* (pp. 379–406). Amsterdam: Elsevier/Academic Press.
Molm, L. (2010). The structure of reciprocity. *Social Psychology Quarterly, 73*, 119–131.
Molm, L., Collett, J., & Schaefer, D. (2007). Building solidarity through generalized exchange: A theory of reciprocity. *The American Journal of Sociology, 113*, 205–242.
Molm, L., & Cook, K. S. (1995). Social exchange and exchange networks. In K. S. Cook, G. A. Fine, & J. S. House (Eds.), *Sociological perspectives on social psychology* (pp. 209–235). Boston: Allyn & Bacon.
Molm, L., Peterson, G., & Takahashi, N. (1999). Power in negotiated and reciprocal exchange. *American Sociological Review, 64*, 876–890.
Molm, L., Quist, T. M., & Wiseley, P. A. (1994). Imbalanced structures, unfair strategies: Power and justice in social exchange. *American Sociological Review, 49*, 98–121.
Molm, L., Takahashi, N., & Peterson, G. (2000). Risk and trust in social exchange: An experimental test of a classical proposition. *The American Journal of Sociology, 105*, 1396–1427.
Molm, L., Whitham, M. M., & Melamed, D. (2012). Forms of exchange and integrative bonds: Effects of history and embeddedness. *American Sociological Review, 77*, 141–165.
Montgomery, J. (1996). The structure of social exchange networks: A game-theoretic reformulation of Blau's model. *Sociological Methodology, 26*, 193–225.
Radaev, V. (2002). Entrepreneurial strategies and the structure of transaction costs in Russian business. *Problems of Economic Transition, 44*, 57–84.
Radaev, V. (2003). Coping with distrust and contract infringement in the emerging Russian markets. In R. Hardin (Ed.), *Distrust*. New York: Russell Sage Corporation.
Rice, E. R. W. (2002). *The effect of social uncertainty in networks of social exchange*. Unpublished Ph.D. dissertation, Stanford University.
Ruef, M. (2003). A sociological perspective on strategic organization. *Strategic Organization, 1*(2), 241–251.
Shah, S. K., & Levine, S. S. (2003, August). *Towards a theory of large-scale generalized exchange*. Conference presentation at American Sociological Association, Theoretical Issues in Economic Sociology Session. Atlanta, GA.
Skvoretz, J., & Willer, D. (1991). Power in exchange networks: Setting and structural variations. *Social Psychology Quarterly, 54*, 224–238.
Skvoretz, J., & Willer, D. (1993). Exclusion and power: A test of four theories or power in exchange networks. *American Sociological Review, 58*, 801–818.
Stolte, J. R., & Emerson, R. M. (1977). Structural inequality: Position and power in network structures. In R. L. Hamblin & J. H. Kunkel (Eds.), *Behavioral theory in sociology* (pp. 117–138). New Brunswick, NJ: Transaction Books.
Suhonen, E., Lampinen, A., Cheshire, C., & Antin, J. (2010, November). Everyday favors: A case study of a local online gift exchange system. In *Proceedings of the 16th ACM international conference on Supporting group work* (pp. 11–20).
Takahashi, N. (2000). The emergence of generalized exchange. *American Journal of Sociology, 105*, 1105–1134.
Takahashi, N., & Yamagishi, T. (1996). Social relational foundations of altruistic behavior. *Japanese Journal of Experimental Social Psychology, 36*, 1–11.
Takahashi, N., & Yamagishi, T. (1999). Voluntary formation of a generalized exchange system: An experimental study of discriminating altruism. *Japanese Journal of Psychology, 70*, 9–16.
Taylor, L. S., Fiore, A. T., Mendelsohn, G. A., & Cheshire, C. (2011). "Out of my league": A real-world test of the matching hypothesis. *Personality and Social Psychology Bulletin, 37*(7), 942–954.
Thibaut, J. W., & Kelley, H. H. (1959). *The social psychology of groups*. New York: Wiley.
Thye, S. R. (2000). A status value theory of power in exchange relations. *American Sociological Review, 65*, 407–432.
Thye, S. R., Willer, D., & Markovsky, B. (2006). From status to power: New models at the intersection of two theories. *Social Forces, 84*, 1471–1495.
Uzzi, B. (1996). The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American Sociological Review, 61*, 674–698.
Whitmeyer, J. M. (1997a). Applying general equilibrium analysis & game theory to exchange networks. *Current Research in Social Psychology, 2*(2).
Whitmeyer, J. M. (1997b). The power of the middleman—A theoretical analysis. *Journal of Mathematical Sociology, 22*(1), 59–90.

Willer, D., & Anderson, B. (1981). *Networks, exchange and coercion: The elementary theory and its applications*. New York: Elsevier.

Willer, D., Markovsky, B., & Patton, T. (1989). Power structures: Derivations and applications of elementary theory. In J. Berger, M. Zelditch, & B. Anderson (Eds.), *Sociological theories in progress: New formulations* (pp. 313–353). New York, NY: Sage Publications.

Willer, R., Flynn, F. J., & Zak, S. (2012). Structure, identity, and solidarity: A comparative field study of generalized and direct exchange. *Administrative Science Quarterly, 57*(1), 119–155.

Yamagishi, T. (1995). Social dilemmas. In K. S. Cook, G. A. Fine, & J. S. House (Eds.), *Sociological perspectives on social psychology*. Boston: Allyn & Bacon.

Yamagishi, T., & Cook, K. S. (1993). Generalized exchange and social dilemmas. *Social Psychology Quarterly, 56*(4), 235–248.

Yamagishi, T., Cook, K. S., & Watabe, M. (1998). Uncertainty, trust and commitment formation in the United States and Japan. *The American Journal of Sociology, 104*, 165–194.

Yamagishi, T., Gillmore, M. R., & Cook, K. S. (1988). Network connections and the distribution of power in exchange networks. *American Journal of Sociology, 93*, 833–851.

Yamagishi, T., Horita, Y., Takagishi, H., Shinada, M., Tanida, S., & Cook, K. S. (2009). The private rejection of unfair offers and emotional commitment. *Proceedings of the National Academy of Sciences, 106*(28), 11520–11523.

Ziegler, R. (1990). The Kula: Social order, barter and ceremonial exchange. In M. Hechter, K.-D. Opp, & R. Wippler (Eds.), *Social institutions: Their emergence, maintenance and effects*. New York: Aldine de Gruyter.