We use a sensemaking lens to illuminate the micro-processes underlying socially embedded transactions, investigating how social ties affect the logic of exchange governing the transaction. In transcripts of 87 two-party negotiations, we find that most pairs quickly coordinate a shared logic of exchange and improvise in accord with its implied rules throughout their interaction. The improvisations take the form of opening up, working together, or haggling. Negotiators turn to three dynamic processes—trust testing, process clarification, and emotional punctuation—when they have difficulty moving the interaction toward a coherent, mutually agreed upon improvisation. We examine in detail the few asymmetric negotiations, which do not involve a shared logic of exchange. Social ties ease coordination within the negotiation and nearly eliminate asymmetry. We explore how an understanding of the micro-processes underlying negotiations reveals the underpinnings of market exchange.

Far from the perfectly impersonal markets pictured by Weber (1947), markets are indelibly colored by transactions carried out between people who are socially tied to one another. Organizational researchers are becoming increasingly interested in market behavior, due in part to the growing acknowledgement that market behavior often resembles embedded social exchange much more than it does arm’s-length transactions. Awareness of and attention to others is at the heart of social interaction, and social interaction within market-based negotiations appears to be no exception.

Arm’s-length transactions, those between actors who share little familiarity or affect and no prolonged past or expected future social ties, have been differentiated from socially embedded transactions, those facilitated by dyadic or structural social relations between the actors (Granovetter, 1973; Coleman, 1990; Becker, 1991). Dyadic relations entail direct ties between the focal actors, while structural relations can exist even in the absence of dyadic relations if the focal actors are tied indirectly through mutual ties with others. Theoretically, negotiations taking place in a market would involve arm’s-length transactions, while those taking place within organizations would involve socially embedded ties. But economic sociologists have asserted that socially embedded ties drive multiple aspects of market negotiations, from the choice of transaction partners to the price set in the exchange. Studying transactions in the consumer market, DiMaggio and Louch (1998) found that buyers turned to their friends when making large, unique transactions such as house or car purchases. Similarly, in Uzzi’s studies of the apparel industry (1997) and mid-market banking (1999), he found evidence that while arm’s-length transactions were more numerous overall, the majority of critical transactions involved close personal relationships. Even securities exchange markets reflect the presence of social embeddedness; Baker (1984: 803) found that dyadic and structural relations among the traders “dramatically influenced” option prices and volatility.

Macro-level effects, which reflect social distance among actors within the market, necessarily aggregate from a multi-
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tude of negotiations. Lying dormant throughout the sociological and economic research on markets is the implication that the basic processes of exchange in arm's-length transactions differ fundamentally from those in socially embedded transactions (Marsden, 1981; Montgomery, 1998; Uzzi, 1999). Uzzi's (1999) interviews with bankers provide a glimpse into how social embeddedness may affect the micro-processes underlying market negotiations. The bankers he interviewed stated that transactions with others with whom they were socially tied entailed mutual trust, detailed information exchange, and joint problem solving, features not present in transactions with distant others. But the customary approach to studying social relations in economic exchange has been to focus on the structure and implications of exchange rather than the specifics of the processes of exchange. Differences between socially embedded and arm's-length interactions, when considered, are inferred from observation of the transaction outcomes (Manski, 2000). This study attempts to fill the gap in our understanding of the differences between socially embedded and arm's-length transactions by examining the micro-processes of negotiations—in particular, the dynamic creation of a shared logic of exchange—as a way of thinking about the micro-processes of definition, interpretation, and interaction that take place in a negotiation.

SOCIAL EMBEDDEDNESS AND THE LOGIC OF EXCHANGE

Different approaches in negotiation research arise from alternative explanations for the success or failure of negotiation and, by implication, divergent assumptions regarding the logic underlying exchange. Negotiation research coming out of the Raiffa (1982) and Bazerman and Neale (1992) tradition portrays negotiations as rational systems (Scott, 1987). In this research, negotiation failures are due to irrationality in assessing the various inputs to the negotiation. From this perspective, the key to understanding and succeeding in negotiations lies in greater awareness of the limitations in individual cognitions. In contrast, those following in the traditions of Walton and McKersie (1965), Fisher and Ury (1984), and Pruitt (1995) treat negotiations as natural systems (Scott, 1987). This work suggests that negotiators must cooperate to be successful; negotiators fall short when they fail to find the common interests that would hold them together. From this perspective, negotiations are an exercise in problem solving, in which mutually beneficial trades are the goal and information regarding relative preferences is the key to achieving that goal. In contrast, research treating negotiations as open systems draws from a very different and eclectic base, from early management theory (Follett, 1924), communications literature (e.g., Donohue, 1981; Putnam and Jones, 1982), psychoanalytic theory (Greenhalgh and Chapman, 1995), feminist theory (Putnam and Kolb, 2000), and organizational anthropology (Barley, 1990). Open-systems research postulates a negotiation as rooted in the co-construction of the interaction and in the socially driven definition and interpretation of exchange (Blumer, 1969). According to this perspective, negotiations fail not because of cognitive limitations or a lack of information exchange, but because the social
relations between the parties break down. From an open-systems perspective, it follows that the success of a negotiation may rest on the social ties between the parties. Because it posits the underlying logic of exchange as central to understanding the negotiation, an open-systems perspective expands the potential for linking negotiation research with more macro-level research on the effects of social embeddedness in economic exchange.

According to Goffman (1959), all social interaction is made up of performances. In some situations, there is little consequential variation across numerous renditions of the same scene, such as in a restaurant, where both the diners and those serving them follow their socially prescribed roles without question or deviation (Schank and Abelson, 1977). In these social interactions, the script, defined as a predetermined sequence of actions, is acted out as habit or ritual. The actors give little attention to making sense of the taken-for-granted moves in the routine.

Other social scenes, such as interactions between service workers and customers (Heimer, 1992), are more ambiguous, and the involved parties face numerous choices regarding rules and moves in the interaction. In these situations, “interpretations have to be developed and effective accommodation of the participants to one another has to be worked out” (Blumer, 1969: 86). Negotiations appear to be such a social interaction. Schelling (1960) pointed out that bargaining is a unique social process: while the parties must work together to develop a guiding logic for the interaction and then mutually engage according to these guidelines, they simultaneously disagree about preferred outcomes. The challenge to sense-making is greater here than in social interactions in which the choices for appropriate behavior are constrained and the preferences of the multiple actors are not at odds. For example, O’Connor and Adams (1998: 137) asked a group of undergraduates to “list the typical things that occur when two people negotiate.” The result was a diverse list of actions revealing multiple, often contradictory assumptions about what to do during a negotiation. Only two actions were listed by 70 percent or more of the respondents: “attempt to compromise” (92 percent) and “reach agreement” (84 percent). There were notably low levels of agreement on many of the other 33 listed actions, e.g., 20 percent listed “prioritize issues,” 16 percent recorded “try to persuade the other party,” and 16 percent included “become angry.” O’Connor and Adams concluded that novices share a widely agreed-upon negotiation script. But their evidence seems to suggest the contrary: there is a great deal of latitude in the actions people allow themselves and others in a negotiation, and negotiators face choices across a wide range of potentially appropriate behaviors.

The ambiguous features of negotiations, and the wide range of options that fit under the broad umbrella of appropriate behavior, call for the involved actors to construct the interaction jointly, making sense of the negotiation as it evolves. Negotiators are improvising rather than playing off a predetermined script. Weick (1998: 544) cited Berliner’s (1994: 241) definition of jazz improvisation as conveying all the critical
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features of this type of performance: “Improvisation involves reworking precomposed material and designs in relation to unanticipated ideas conceived, shaped, and transformed under the special conditions of performance.” We define an improvisation in the context of a negotiation as a coherent sequence of relational, informational, and procedural actions and responses created, chosen, and carried out by the parties during the social interaction. A coherent sequence has an identifiable logic of exchange that can be located within the interaction. “Relational, informational, and procedural acts” reflects the complexity of the negotiation task and the various levels at which sensemaking takes place (Jehn, 1997; Long Lingo, 2002). “Created, chosen, and carried out by the parties” implies that the parties work out the logic of exchange in accord with one another, based on previous understandings and new ideas that emerge as the negotiation evolves. The relational, procedural, and informational acts created and chosen by the parties simultaneously reflect and help define the rules for interaction. Taken as a whole, the definition connotes that improvisations are inherently both active and interactive and contain both familiar moves and unique approaches.

The bargaining literature ubiquitously refers to two potential logics for exchange: distributive and integrative (Walton and McKersie, 1965; Raiffa, 1982). A distributive logic entails essentially noncooperative bargaining, a focus on the win-lose distribution of a fixed pool of resources. An integrative logic explicitly involves some cooperation, integrating the information and resources of the parties to increase joint gain. We anticipate that, regardless of the economic structure of the negotiation, some people will approach the interaction distributively and others will approach it integratively. But there may also be other logics underlying some negotiations. O’Connor and Adams’ (1999) work suggests that people allow for a wide variety of behaviors in negotiations, only some of which fit neatly into distributive or integrative logics.

Though we have no prior expectations about the specific nature of the improvisations beyond the potential for distributive and integrative logics, we propose that the improvisations will vary along a continuum of cooperativeness. In turn, the cooperativeness of the improvisation will influence outcomes. Regardless of the economic structure of the negotiation, parties improvising a more cooperative logic will share more information and be more equitable in their distribution of resources than parties improvising a more competitive logic. Formally,

H1: As the level of cooperation in the improvisations rises, the likelihood of agreement increases and the differences in the payoffs across the parties decreases.

Inherent in the open-systems, improvisation perspective we adopt here is the assumption that the logic of exchange within a transaction will reflect the social context in which the transaction takes place, most notably the relationship between the parties. The relationship’s placement along the continuum from embedded to arm’s-length exchange is perhaps the most critical and definitively the most social ele-
ment of social context. Across multiple disciplines, personal relationships are touted as playing a fundamental role in affecting the ways in which people approach basic social interaction (Mills and Clark, 1982; Clark and Reis, 1988; Fiske, 1991). The presence and nature of the social ties between the negotiating parties affects their expectations and preferences about outcomes, eases coordination of a shared logic, and determines the normative constraints operating within the interaction.

Prior interactions, the building blocks of social relationships, provide a baseline for one's own preferences and for expectations about the other's preferences (Manski, 2000). Close personal relationships increase attention to the preferences of others (Sally, 2000), resulting in each party placing a positive value on the outcomes of the other (Rabin, 1993; Bolton and Ockenfels, 2000). In addition to holding preferences for mutually beneficial outcomes, each set of friends develops their own "language" for interaction, due to the development of shared knowledge structures facilitating agreement on how to make sense of social stimuli (Wegner, Erber, and Raymond, 1991; Fletcher and Fitness, 1996). Interacting in the context of a close relationship heightens an actor's ability to read the intentions behind others' behavior and to have one's own intentions accurately read (Greenhalgh and Chapman, 1995).

Superimposed on shared expectations, preferences, and knowledge structures are social norms guiding action (Montgomery, 1998). Close relations rely on norms of reciprocity, that behavior will be responded to roughly in kind, enforced through the social sanctions available in dyadic relationships and the social structure surrounding them (Fehr and Gächter, 2000). Differences in interaction approaches between friends and strangers are identifiable from infancy onward, with friends both more aware of and paying more attention to one another than strangers. Friends engage with one another more intensely, share higher-quality information, and exercise greater mutual control over one another's behavior in the interaction (Duck et al., 1991). This occurs not just at a perceptual level but also at a physical level—friends engage in closer physical positioning and more frequent touching than acquaintances or strangers (Fehr, 1996). Mutually held norms for interaction, in turn, promote trust (Olson and Olson, 2000). The trusting and trustworthy behavior that simplifies economic exchange is straightforward in interactions between parties who have positive intentions toward one another and are able to read one another's intentions and socially sanction one another should any deviance from expected behavior occur. Formally, we propose:

**H2**: Friends enact more cooperative improvisations than strangers.

**H3**: Friendship increases the likelihood of agreement and decreases differences in the payoffs across the parties.

But past empirical work specifically examining the role of personal relationships in bargaining has produced remarkably inconsistent results (for reviews, see Valley, Neale, and Mannix, 1995; Bazerman et al., 2000). Some studies examin-
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ing close personal relationships have found a positive effect on the efficiency and distribution of negotiated outcomes (e.g., Shah and Jehn, 1993; Greenhalgh and Chapman, 1995), while other work has shown the opposite (e.g., Fry, Firestone, and Williams, 1983; Thompson and DeHarpport, 1998). Extrapolating from the research on ways in which social relationships affect social interaction suggests two potential explanations for this set of mixed results: first, other contextual variables, such as the medium of communication, may moderate the effects of social ties on social interaction and, second, the effects of social ties may be mediated by the logic of exchange that evolves during the interaction. Below, we modify our second and third hypotheses in light of these potential explanations.

Similar to the mechanisms through which social embeddedness facilitates agreement and equal outcomes, face-to-face interaction influences negotiation outcomes through its effects on expectations, ease of coordination, and shared norms for behavior. Just as a close personal relationship increases awareness of and attention to the other in the interaction, the communication medium through which an interaction takes place affects expectations and preferences about payoffs for both oneself and the other (Olson and Olson, 2000; Sally, 2000; McGinn and Crosen, 2003). Parties in face-to-face and telephone negotiations tend to expect one another both to trust and be trustworthy, while parties communicating in writing tend to expect distrust and dishonesty (Valley, Moag, and Bazerman, 1998). Enhancing the effects of positive expectations, the presence of multiple channels through which information is sent and received in face-to-face interaction directly and positively affects coordination (Bales et al., 1951; McGuire, Kiesler, and Siegel, 1987; Brosig, Ockenfels, and Weimann, 1999; McGinn, Thompson, and Bazerman, 2002). The medium of interaction also carries with it certain norms for interaction. Krauss and Chiu (1998: 43) asserted that face-to-face “conversation is an intrinsically cooperative endeavor” as a result of cognitively held rules dictating that contributions to face-to-face conversations should be truthful, informative, relevant, and clear. Studies have shown that socially desirable behaviors such as cooperation (Wichman, 1970; Raiffa, 1982; Dawes, Van de Kragt, and Orbell, 1988), coordination (Brosig, Ockenfels, and Weimann, 1999; Valley et al., 2002), and rapport building (Drolet and Morris, 2000) are more likely in face-to-face interaction than in telephone or electronic communication.

The research on communication media leads to the conclusion that negotiations carried out face to face will result in more cooperative processes and outcomes than negotiations carried out over other media. But, as with research on embedded ties, the findings are inconsistent: face-to-face interaction has been shown to increase bargaining efficiency relative to written and telephone (or verbal only) interaction, to decrease efficiency, and to have no effect on efficiency (for a review, see McGinn and Crosen, 2003). These inconsistencies, in conjunction with the strikingly similar inconsistencies regarding the effects of social embeddedness on negotiations, suggest that the roles played by friendship and
face-to-face communication in creating positive expectations, easing coordination, and bringing about norms of cooperation may be redundant. The cooperative behaviors that accompany close relationships appear to be present across media—one is unlikely to lie to a friend simply because she's interacting over e-mail—but face-to-face transactions may elicit similar cooperation regardless of the presence of embedded social ties. Moore et al. (1999) found that in the absence of a close relationship, face-to-face communication facilitates trust in a negotiation. Because of the functional similarities between social embeddedness and face-to-face communication, the effects of embedded ties on improvisations should be moderated by the medium of communication:

H4: The effect of friendship on the cooperativeness of the improvisation will be moderated by face-to-face communication, such that the effects of friendship will be significantly lower with face-to-face communication than with other media.

The second potential explanation for the mixed results in past research on the effects of embedded social ties in negotiations rests on the notion that process intervenes between input and output variables. It may be that a close relationship affects process directly but outcome only indirectly, through process. Parties with embedded social ties may value adherence to certain process rules when interacting, as discussed above and as contended by Uzzi’s bankers, even if those rules at times compromise the efficiency of the agreement. Fry, Firestone, and Williams (1983), for example, found that dating couples produced less integrative outcomes than strangers, because intimates placed less emphasis on information exchange and more emphasis on minimizing any potential for disagreement. But their experiment had no monetary payoffs to balance the social costs of disagreement. Negotiations with such high social demands and low (or nonexistent) monetary payoffs—as is often the case in the classroom negotiation exercises used to collect much of the experimental negotiation research data—may result in lower monetary payoffs for parties with socially embedded ties. But the dominance of social demands over concerns for economic payoffs is not simply an experimental artifact. In many negotiations within and across organizations, adherence to the rules guiding social interaction may be perceived as more important than securing an optimal economic payoff. This effect may have even greater impact when coupled with parties placing a positive value on the payoffs received by others in the interaction (Rabin, 1993; Bolton and Ockenfels, 2000). If both negotiators place a high value on treating each other well in the process of negotiating, and each increases his or her own perceived benefit by enriching the other economically, it is not surprising that friends sometimes fail to achieve objectively optimal monetary solutions in a one-shot interaction. This potential explanation for the mixed findings on the effects of embedded social ties on bargaining suggests that we should move away from testing effects on monetary outcomes alone and toward examining how the improvisation affects the logic of exchange adopted by the parties, leading us to propose:
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H5: The cooperativeness of the improvisation will mediate the effects of social embeddedness on agreement rates and the distribution of surplus.

We designed an experimental study that varied dyads' social embeddedness and communication medium and allowed us to look at the improvisations constructed during an economic exchange. We inductively determined prototypes of improvisation from transcripts of the interactions. Using quantitative analyses, we tested our hypotheses on the effects of social embeddedness on the cooperation level in the improvisations and the economic outcomes of the negotiations. We also conducted qualitative analyses exploring the role of social embeddedness in economic exchange. We investigated the dynamics of improvisation and the creation of a shared logic of exchange and examined ways in which these form a critical link between social ties and the outcomes of economic transactions.

METHOD

Participants and Design

One hundred fifteen female and 65 male undergraduates, recruited through advertisements in university newspapers in a major metropolitan area, participated in 90 negotiations conducted across six sessions: 45 female-female pairs; 20 male-male pairs; and 25 mixed-sex pairs. None of the analyses showed any effect for the sex composition of the dyads, so these findings are not reported. Each participant was paid a $15 base rate, plus his or her earnings in the exercise ($0–$50). Because we were interested in how the participants would make sense of the interaction and did not want to influence this, the words "negotiation," "bargaining," "buyer," and "seller" were never used in any of the recruiting materials, the private role information, or the verbal protocol used by the experimenter (although we use those words for ease of exposition in the discussion below). Instead, we left the participants to make sense of the interaction in whatever ways fit their ideas of appropriate behavior.

Participants were randomly assigned to one of two roles in a two-party negotiation, described below. Friendship and communication medium were fully crossed in a $3 \times 2$ design. To provide a natural manipulation of friendship (friend or stranger), all respondents were told to bring a friend with them to participate in the study. In the friend condition, participants interacted with their friends; in the stranger condition, participants were paired with a stranger (someone else's friend). Friend and stranger treatments were randomly assigned and equalized within sessions. Communication medium (face to face or telephone or e-mail) varied across sessions through the actual medium used for interaction.

The Negotiation Scenario

Studies of negotiation in the communication literature (Putnam and Roloff, 1992) have shown that interaction during bargaining can be incredibly rich, so we turned to a simple, one-issue transaction with which the student participants could easily identify. In the scenario, a student is walking down the hallway in an apartment house (not his or her own).
A new lamp, with the brand tags still on, is sitting outside another student's door. The person walking down the hall (hereafter called "the buyer") has already decided to buy the same lamp at Pier 1 Imports, while the owner of the lamp (hereafter called "the seller") had bought it on sale but has decided to take it back and trade it for a bigger lamp. To equalize transaction costs, participants were told that the seller is going back to Pier 1, regardless, to purchase a replacement lamp, and the buyer is going to Pier 1, regardless, to buy a rug.

The seller had purchased the lamp on sale and the sale was now over, so there might be some benefit from trade. To simulate this and provide a situation in which it was likely, but not certain, that agreement could benefit both parties, we assigned buyer and seller values from overlapping distributions. Actual seller values, $V_s$, ranged from $25 to $75, while actual buyer values, $V_b$, ranged from $50 to $100.² Both the buyer and the seller knew the range of possible values from which their values were drawn, and their own actual value, but knew only the range of possible values for the other party. For example, for a pair in which the seller's value, $V_s$, is $55 and the buyer's value, $V_b$, is $70, the seller knows he or she paid $55 for the lamp on sale; the potential buyer cannot verify the exact sale price but knows it was between $25 and $75; and the current price for the lamp at Pier 1 is anywhere between $50 and $100. The buyer knows he or she would have to pay $70 to purchase the same lamp at Pier 1 today; the potential seller cannot verify the specific price but knows it is between $50 and $100; and the seller paid something between $25 and $75.

The total available surplus is the difference between the buyer's value and the seller's value ($V_b - V_s$); this is the potential pool of money to be shared between the parties. Because both $V_s$ and $V_b$ varied randomly across observations, the potential payoff varied across observations. In the example above, the total available surplus is $15 ($70 - $55). Our analyses controlled for differences in the total surplus available.

One of the central questions addressed by this study is how improvisations affect outcomes, so we needed to separate process from outcome. Parties were first allowed a set period of time to communicate freely. When the discussion was over, the subjects went back to the private buyer or seller room (or simply logged off in the e-mail condition or hung up in the telephone condition) and filled out a sheet stating the highest price they were willing to pay (buyers' bid) or the lowest they were willing to accept (sellers' ask) for the lamp. The scenario stated that both parties had decided that the private submission of bids and asks was a good idea and that both would give their bid/ask sheets to an independent third party, who would let the parties know if an agreement occurred and, if so, at what price (the midpoint between the ask and the bid). Neither the buyer nor the seller could verify the bid/ask submitted by the other party or enforce any promises or commitments made during the communication phase. While the assumption in an open-systems perspective is that social context and the interaction between the parties

² All values were randomly generated and paired prior to each session. In most sessions, the number of scheduled subjects was greater than the number of actual subjects. In these cases, we withheld assignments in which $V_b < V_s$ to maximize observations in which agreement was possible.
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will determine the logic of exchange and the terms of trade, from an economic perspective, any statements made in the communication period were technically "cheap talk"—non-costly, non-verifiable talk (Spence, 1973). In this rationalist perspective, the conditions of trade are determined solely by the privately submitted bids and asks, rather than by any promises or statements made during the communication period.

Both parties were told that a trade would take place if and only if the buyer's bid was equal to or greater than the seller's asking price. If the buyer's bid was lower than the seller's asking price, the result was an impasse, and no trade occurred. If the bid was greater than or equal to the asking price, trade occurred, and the trading price was automatically set at the midpoint. If a trade occurred, sellers were paid the trading price minus the seller's value, while buyers were paid the buyer's value minus the trading price. They were told it was possible to lose money if they sold or purchased the lamp for too much or too little. No transactions took place that resulted in a loss for either party. Participants were told that payments would be made privately, and there would be no way to verify the other party's profit. Participants were aware of, but had no control over, the rules governing this trading mechanism.³

Procedure

Upon arrival, participants were randomly assigned to a role (buyer or seller), were taken to the corresponding buyer or seller room, and were given a packet containing private role and payment information. After reading the private information, participants answered written questions to ensure they understood the payment rules. Problems were discussed with the participants. All participants correctly answered the questions before beginning the negotiation.

Participants were assigned to partners for the interaction, either the friend with whom they came to the experiment or someone they did not know (someone else's friend). In the e-mail condition, all communication took place over standard e-mail software. Parties were told that the transcripts would be collected and used in the analyses. In the telephone condition, all communication was carried out over standard telephone lines in private carrels, using regular telephones.⁴ Parties were told that the phones were "tapped," and all communication would be recorded. In the face-to-face condition, parties met in private carrels, and an audio recorder recorded all verbal communication. Across treatments, participants were permitted to bring all of their information sheets with them to the interaction, except for their value sheets, so that there was no possibility of verifying values by showing the other side the computer-generated number. Across conditions, there were no other constraints on the interaction. Parties in the telephone and face-to-face conditions were given ten minutes to communicate, and those in the e-mail condition were given fifteen minutes. Pretests showed that these times were sufficient for the parties either to come to an agreement or to reach an impasse, which resulted from strategic moves or a negative bargaining zone rather than

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³ Formally, this game is called a double auction with private information and simulates numerous market transactions, such as submitting requests for proposals (RFPs) or selecting subcontractors through privately submitted bids for discussion of equilibrium solutions in games with this form, see Chatterjee and Samuelson, 1983; Myerson and Satterthwaite, 1983).

⁴ Though we introduced uncontrolled variance by having the e-mail interactions take place in a large room with multiple subjects and the telephone and face-to-face interactions take place in private rooms, this was necessary in order to keep verbal interactions from being influenced by others' conversations.
time constraints. As shown in the results, the agreement rate did not vary with medium or, correspondingly, with time.

After the communication period was over, participants returned to their respective buyer and seller rooms to submit their bids and asks privately. After the bidding was finished, the experimenters used the bid and ask sheets to determine if a trade occurred and, if so, calculated the price at the midpoint between the bid and the ask. Participants were paid privately, given debriefing information about the study, and released.

Analyses

All analyses were carried out at the level of the dyadic interaction. We first inductively derived the types of improvisation and measured the levels of cooperation evident in each type. In quantitative analyses, we tested the effects of social ties on the cooperation levels in the improvisation and on two outcome variables, agreement rate and the distribution of surplus. We then tested for mediation effects of the cooperation levels in the improvisation on the relationship between social ties and negotiated outcomes.

In qualitative analyses of the transcripts, we studied the process of coming to a shared logic of exchange and looked for ways in which the shared logic was affected by social embeddedness. To study the dynamic process of creating the improvisations, we investigated initial interactions and key transitions in creating a shared logic. We examined in detail those negotiations in which the interaction was asymmetric—when one party seemed to be using one logic of exchange, while the other party was simultaneously making sense of it in a different way.

RESULTS

All telephone and face-to-face interactions were recorded and transcribed, except for three of the audio recordings, which were not clear enough to allow a full transcription. E-mail interactions were transcribed directly from the e-mail text. Thus, 87 of the 90 observations could be coded for improvisation and were included in the analyses. We first present the inductively derived categories of improvisation, followed by the quantitative tests of our formal hypotheses and then detailed qualitative analyses of the improvisations.

Coding Improvisations

Our first run through the transcripts revealed one critical difference across the data—in some, both parties were talking primarily about values (their bottom lines), while in others, both parties were talking only about price. This suggested a first, rough split of the observations. But a number of the observations did not fit clearly into either of these sets. After iterated reading of the transcripts, both of us agreed on three improvisation prototypes: “opening up,” “working together,” and “haggling.” Table 1 provides the logic of exchange and examples of the relational, informational, and procedural acts representative of each type of improvisation. In a small number of the negotiations, the parties never achieved coordinated action—one appeared to be relying on one logic while the

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Table 1
Representative Relational, Informational, and Procedural Acts in the Three Improvisations

<table>
<thead>
<tr>
<th>Relational acts</th>
<th>Informational acts</th>
<th>Procedural acts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opening-up improvisations (logic: full, mutual honesty)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Mutual assumption of honesty on the part of the other. Issue of trust often discussed explicitly.</td>
<td>Simple revelation of values, often with little preceding discussion.</td>
<td>Because of the simplicity of the approach, procedural acts may be scarce. When present, one is suggesting full disclosure to the other.</td>
</tr>
<tr>
<td>B: Well, we’re cooperative. But, like . . . our net profit is going to be $22. That’s the most we can make. So it’s a question of how we’re going to divide it up. And we both agree . . . we’re going to both make $11. S: Yeah, I mean that’s fine with me.</td>
<td>B: Okay, mine is $60.</td>
<td>B: I think in order for us to make the most money I think it makes sense for us to tell each other what our numbers were. S: I agree, that’s what I’d like to do too.</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td><strong>Working-together improvisations (logic: cooperative problem solving)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interests of both parties are explicitly considered.</td>
<td>Little specific information shared. Emphasis on procedural and relational acts.</td>
<td>Complex processes considered, rather than default to revelation or price exchange.</td>
</tr>
<tr>
<td>S: Does that make you comfortable? Like, do you want to agree . . . to name like $62 or $53? What would be better for you? B: Well, I guess, I mean . . . $52 might work if that worked for you.</td>
<td>S: We can probably work something out, because it’s only like a $20 difference there. B: Right. And so, let’s try . . . if we can just make it fair, say everything works out.</td>
<td>B: I guess a good way to do it might be . . . maybe we could work—find some kind of midpoint between where, you know, what I’d be willing to pay and what you would be. S: OK. Right. OK. So then, so do we want to work out a deal so that, like, we each—pretty much get a fair, like good deal out of this?</td>
</tr>
<tr>
<td></td>
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<tr>
<td><strong>Haggling improvisations (logic: competitive attempt to get best possible deal for oneself)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attention on profit, often individual profit, and little attention to the interests of the other party.</td>
<td>Exchange of bids, with no explicit discussion of underlying values.</td>
<td>Focus on how to begin series of offers and counteroffers.</td>
</tr>
<tr>
<td>S: I hope we can both leave this thing with a little money in our pockets. B: The budget is really tight—I would love to give you this lamp for less, but I’d like to make a profit on the thing too.</td>
<td>S: Well, it’s a pretty expensive lamp you know, around maybe $95. B: I can’t—the most I would give for it is about $60.</td>
<td>B: Are you supposed to make some kind of offer or am I supposed to make an offer? S: I think we’re pretty much supposed to figure it out.</td>
</tr>
</tbody>
</table>

The three improvisation examples provided in the text are drawn from the same treatment condition (telephone/strangers) to allow greater comparability. The numbers we assigned a negotiation are given in parentheses before all quotes taken from transcripts.

---

other relied on another. We label these observations "asymmetric."

**Opening up.** Opening up included free exchange of private information by both parties and sincere attention given one another's ideas in the discussion. The logic of exchange underlying opening-up improvisations is one of full, mutual honesty. Trust is often assumed, rather than explicitly stated in relational acts. Informational acts involve reciprocal revelation of values and little discussion of price per se. Procedural acts focus on setting up the method or order of revelation. This initial segment of an interaction between strangers over the telephone illustrates the ease and simplicity of these improvisations (#309).5

**Buyer:** Hello
**Seller:** Hi, how’s it going? . . .
**Buyer:** What are we supposed to talk about?
Seller: Well, if we want to we can kind of come to a decision on what to ask and what to offer, whatever.
Buyer: Oh, can we? So I can just tell you what my value is.
Seller: Yeah, if you want to because then we can figure out if we can actually trade or not. You might have a value that’s lower than my cost, which means we couldn’t trade at all.
Buyer: Okay, well, should we just tell each other what we ask for?
Seller: Yeah, okay.
Buyer: I can buy the lamp at Pier 1 for $53.
Seller: Okay, I can sell it [back] for $51.
Buyer: So, we’re not looking at much profit making here...
Seller: Well, if we’re going to make the same amount of money we can each make $1.

In opening-up improvisations, both parties—the provider and the recipient of information—acted as if all statements were true. These improvisations were marked by an absence of discord and distrust.

Working together. Working-together improvisations did not include explicit revelation but incorporated shared attention to finding an outcome that would benefit both parties. The logic underlying working together is one of cooperative problem solving. Relational acts include frequent mention of fairness and equality. Specific private information was not disclosed in working-together improvisations, but the interaction contained frequent procedural acts aimed at creating a solution that benefited both parties. There was sometimes disagreement over which approach would be best, but the parties actively strove for resolutions that satisfied both parties. The example below provides a taste of the way parties coordinat-ed on a problem-solving logic (#323):

Seller: So, you’re interested in buying a lamp?
Buyer: I am. I am. You know, I was interested in buying the exact same lamp that, you know, you have. I had noticed that you were going to return it. So, I guess, you know, maybe we could work something out.
Seller: Okay, do we discuss price, or ... ?
Buyer: Well, I mean I guess we could jump right in and discuss price. I mean, I mean, sure. Like, I mean, because obviously we probably want to work something out ... I mean I could save you a trip and you could save me a trip.
Seller: Right. And maybe we could save money.
Buyer: Right. Exactly.
Buyer: Yeah. (laughter) ... 
Seller: Okay. So, how about ... (laughter) So, let’s decide ... What would be the price you thought that you were going to have to buy it at?
Buyer: Well ... I can give you a range ... you could also give me a range.
Seller: That’s fine. A range is fine.

Working-together improvisations closely map onto the concept of integrative bargaining, though there is no economic value to be created beyond that which derives from finding a mutually agreeable price.
Improvisation

Haggling. In haggling improvisations, both parties were positioning for a good price regardless of the effect on the other. The logic underlying haggling is that negotiations are a competitive attempt to get the best possible deal for oneself. There are few relational acts, and informational acts are limited to offers and counteroffers. Procedural acts establish bidding as the preferred way to reach agreement. This excerpt gives a clear flavor of the shared logic in haggling improvisations (#305):

Buyer: Do you want to start offering, or should I?
Seller: Yeah, I'll start off. Let me think, let me think. Well, it's a pretty expensive lamp, you know. Around maybe $95.
Buyer: $95? That's your offer?
Seller: Well, yeah. It's my beginning offer.
Buyer: I can't. The most I would give for it is $60.
Seller: $60, yeah, that's way too low. Can't really. No way I can do it like that.
Buyer: How about $70?
Seller: Yeah, it's still way too low. Pretty much need a lot more than that to be able to sell this off.

Haggling improvisations closely map onto the concept of distributive, win-lose bargaining. This is bargaining as one would expect it to look in arm's-length transactions, reflecting customs as old as the market itself: persuading rather than listening and trading price demands rather than exploring alternative means of coming to a mutually agreeable solution.

Asymmetric interactions. In some negotiations, there was little correspondence between the behaviors of the two parties—one party appeared to be following one logic, while the other followed another. The asymmetry is revealed in relational and informational acts not reciprocated in kind and procedural acts directed toward bringing coherence to the interaction. There was palpable friction in many of the asymmetric negotiations, as the actors—or at least one of the actors—struggled to coordinate. Because these observations do not match our original conceptualization of a shared logic of exchange, we investigate them in detail below.

The second author and a trained research assistant were given full descriptions of the improvisation types and asymmetric interactions described above. They were told to code each negotiation as one of the three types of improvisation or as asymmetric interaction. Both coders first coded a subset of excerpts from transcripts and discussed disagreements, to ensure that their understanding of the improvisations was similar. They then each coded all of the complete transcripts. If there was evidence of improvisations shifting across time, the coders were instructed to note this but to select the improvisation that best fit the "gestalt" of the interaction overall. The final rate of agreement was 83.72 percent, resulting in a kappa of .662, denoting substantial agreement (Landis and Koch, 1977). All disagreements were settled in discussion between the two authors.
Quantitative Analyses

**Level of cooperativeness.** To provide a measure of cooperation in the improvisations, 58 students who had not participated in the original study were given the descriptions of the three improvisations and asymmetric interactions, as presented in the text above. They coded each description using a 7-point Likert scale, on which 1 was defined as “not at all cooperative,” and 7 was defined as “extremely cooperative.” No intermediate descriptors were provided. Opening-up improvisations were judged most cooperative (mean = 6; s.d. = 1.27), followed by working-together improvisations (mean = 5.36; s.d. = 1.35), and asymmetric interactions (mean = 2.55; s.d. = .98). Haggle was rated as the least cooperative of the improvisations (mean = 2.19; s.d. = 1.08). Two-sided, pairwise t-tests showed that all of the means were significantly different from one another at p < .01, except for haggling versus asymmetric, which was significant at p < .05.

**Effects of embeddedness on improvisation.** We used analysis of variance to test hypotheses 2 and 4, which asserted that the level of cooperation in the interaction would be driven by social ties and that this effect would be moderated by the communication medium in which the parties interacted, controlling for the amount of surplus available. As shown in table 2, friendship significantly increased the level of cooperation in the interaction, supporting H2. The medium of interaction also had a significant effect on the cooperativeness of the interaction. We explore the direction of this effect in the tabulations below. The F-test for the interaction between relationship and medium failed to reach significance. In three post-hoc regressions, splitting the data into three samples by communication medium, we found some mitigation of the embeddedness effect with face-to-face interaction, supporting H4—when the cooperation level of the improvisation is regressed on embeddedness, controlling for the amount of surplus available, the coefficient for embeddedness is significant in both the e-mail (β = 1.47; s.e. = .634; t = 2.23, p = .035) and the telephone (β = 1.74; s.e. = .417; t = 4.80, p < .005) regressions, but not the face-to-face regression (β = .88; s.e. = .377; t = 1.80, p = .083).

Table 3 presents the tabulations of the social variables and opening-up, working-together, haggling, and asymmetric interactions. Friends nearly always improvised opening up (38 of 44 observations), although there is some variance when the negotiations between friends took place over e-mail. For

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**Table 2**

<table>
<thead>
<tr>
<th>Source</th>
<th>Partial SS</th>
<th>D.f.</th>
<th>Mean square</th>
<th>F</th>
<th>p &gt; F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>114.72</td>
<td>6</td>
<td>19.12</td>
<td>11.54</td>
<td>0.000</td>
</tr>
<tr>
<td>Relationship</td>
<td>94.33</td>
<td>1</td>
<td>94.33</td>
<td>57.31</td>
<td>0.000</td>
</tr>
<tr>
<td>Medium</td>
<td>16.23</td>
<td>2</td>
<td>8.12</td>
<td>4.90</td>
<td>0.010</td>
</tr>
<tr>
<td>Relationship*Medium</td>
<td>4.49</td>
<td>2</td>
<td>2.24</td>
<td>1.35</td>
<td>0.264</td>
</tr>
<tr>
<td>Surplus available</td>
<td>0.09</td>
<td>1</td>
<td>0.09</td>
<td>0.06</td>
<td>0.813</td>
</tr>
<tr>
<td>Residual</td>
<td>132.51</td>
<td>80</td>
<td>1.65</td>
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<td></td>
</tr>
</tbody>
</table>

Adjusted R² = 0.42

456/ASQ, September 2002
## Improvisation

### Improvisation Frequencies, by Embeddedness and Communication Medium

<table>
<thead>
<tr>
<th>Improvisation</th>
<th>Frequency as % of Column</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Friend</td>
</tr>
<tr>
<td></td>
<td>E-mail (N = 14)</td>
</tr>
<tr>
<td>Opening up (N = 51)</td>
<td>64.29</td>
</tr>
<tr>
<td>Working together (N = 8)</td>
<td>21.43*</td>
</tr>
<tr>
<td>Haggling (N = 11)</td>
<td>7.14</td>
</tr>
<tr>
<td>Asymmetric interactions (N = 17)</td>
<td>7.14*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Improvisation</th>
<th>Frequency as % of Column</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stranger</td>
</tr>
<tr>
<td></td>
<td>E-mail (N = 13)</td>
</tr>
<tr>
<td>Opening up (N = 51)</td>
<td>7.69*</td>
</tr>
<tr>
<td>Working together (N = 8)</td>
<td>7.69</td>
</tr>
<tr>
<td>Haggling (N = 11)</td>
<td>61.54</td>
</tr>
<tr>
<td>Asymmetric interactions (N = 17)</td>
<td>23.08</td>
</tr>
</tbody>
</table>

* Cell included one transaction with no positive surplus, where \( V_{S} \leq V_{S} \).

strangers, the modal improvisation varied by medium: in face-to-face negotiations between strangers, the modal improvisation is opening up, paralleling the logic of exchange adopted by most friends; in telephone negotiations, the modal improvisation is asymmetry; and in e-mail negotiations, the modal improvisation between strangers is haggling.

**Effects of embeddedness and improvisation on outcomes.** We next analyzed the effects of embeddedness and the cooperativeness of the improvisations on two outcome variables: agreement and the mean distribution of surplus, as shown in the table 4. We then tested whether the improvisations mediate these effects, as predicted in H5. To test for mediation effects, we must establish (1) that the improvisation significantly influenced the outcome variable; (2) that social embeddedness significantly influenced the outcome variable; (3) that social embeddedness was significantly related to improvisation; and (4) that the effects of social embeddedness on the outcome variable were reduced or eliminated when improvisation was entered simultaneously (Baron and Kenny, 1986).

Agreement is a dichotomous variable denoting whether the bid was greater than or equal to the asking price and a trade occurred (agreement = 1). In 83 of the 87 dyads, \( V_{S} > V_{S} \), and agreement was possible. Agreement occurred in 65 of these observations. Opening-up improvisations resulted in agreement in all cases with a positive bargaining zone, a significantly higher rate of agreement than occurred in all other improvisations (all Fisher's exact tests, \( p < .05 \)), supporting H1. We have already shown, as reported above, that social embeddedness predicts the cooperation level of the improvisation. In table 5, we show the results of the three logit regressions with trade as the dichotomous dependent vari-
Table 4

Agreement Rate and Distribution of Surplus, by Improvisation, Embeddedness, and Communication Medium*

<table>
<thead>
<tr>
<th></th>
<th>Friend (N = 44)</th>
<th></th>
<th></th>
<th>Total (N = 44)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>E-mail (N = 14)</td>
<td>Telephone (N = 16)</td>
<td>Face (N = 14)</td>
<td></td>
</tr>
<tr>
<td>Improvisation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opening up (N = 51)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Working together (N = 8)</td>
<td>100%</td>
<td>0%</td>
<td>†</td>
<td>66.67%</td>
</tr>
<tr>
<td>Hagglng (N = 11)</td>
<td>0%</td>
<td>†</td>
<td>†</td>
<td>0%</td>
</tr>
<tr>
<td>Asymmetric (N = 17)</td>
<td>†</td>
<td>†</td>
<td>†</td>
<td>†</td>
</tr>
<tr>
<td>Total</td>
<td>91.67%</td>
<td>93.75%</td>
<td>100%</td>
<td>95.35%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Distribution of Surplus, Given Agreement (N = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening up (N = 51)</td>
<td>.227 .037 .147 .122</td>
</tr>
<tr>
<td>Working together (N = 8)</td>
<td>0.0</td>
</tr>
<tr>
<td>Hagglng (N = 11)</td>
<td>†</td>
</tr>
<tr>
<td>Asymmetric (N = 17)</td>
<td>†</td>
</tr>
<tr>
<td>Total</td>
<td>.186 .037 .147 .116</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Stranger (N = 87)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E-mail (N = 13)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvisation</td>
<td></td>
</tr>
<tr>
<td>Opening up (N = 51)</td>
<td>†</td>
</tr>
<tr>
<td>Working together (N = 8)</td>
<td>100%</td>
</tr>
<tr>
<td>Hagglng (N = 11)</td>
<td>50%</td>
</tr>
<tr>
<td>Asymmetric (N = 17)</td>
<td>33.33%</td>
</tr>
<tr>
<td>Total</td>
<td>50%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Distribution of Surplus, Given Agreement (N = 87)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening up (N = 51)</td>
<td>†</td>
</tr>
<tr>
<td>Working together (N = 8)</td>
<td>.926</td>
</tr>
<tr>
<td>Hagglng (N = 11)</td>
<td>.434</td>
</tr>
<tr>
<td>Asymmetric (N = 17)</td>
<td>.300</td>
</tr>
<tr>
<td>Total</td>
<td>.494</td>
</tr>
</tbody>
</table>

* The agreement rate for opening up is significantly higher than all others: all pairwise, one-sided Fisher's exact, p < .001. The distribution of surplus for opening up is significantly less than all other means: all pairwise, one-tailed t-tests, p < .05.

* No observations with positive surplus in cell.

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able, controlling for the communication medium and the total available surplus. Friendship significantly and positively affected the likelihood of agreement, supporting H3 (column I). The cooperativeness of the improvisation also significantly and positively influenced the likelihood of agreement (column II). Testing for mediation, when the cooperativeness level was added simultaneously with embeddedness (column III), the friendship coefficient was no longer significant, while the improvisation remained significant, evidence that the improvisation mediated the effects of friendship on agreement rates, supporting H5.

**Distribution of surplus.** When agreement occurred, the buyer’s profit was $V_b - P$, the positive difference between his or her value and the price, and the seller’s profit was $P - V_s$, the positive difference between the price and his or her value. The total available surplus ($V_b - V_s$) was determined by
Improvisation

Table 5
Logit Regressions Testing for Mediation of Social Embeddedness on Likelihood of Trade (N = 83)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Social embeddedness</th>
<th>Improvisation</th>
<th>Improvisation and social embeddedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperativeness of improvisation</td>
<td>.939** (.218)</td>
<td>.805** (.300)</td>
<td></td>
</tr>
<tr>
<td>Friendship</td>
<td>2.795** (.840)</td>
<td>.813 (1.158)</td>
<td></td>
</tr>
<tr>
<td>E-mail</td>
<td>-1.112 (.840)</td>
<td>.101 (.992)</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>-3.366 (.835)</td>
<td>.413 (1.013)</td>
<td></td>
</tr>
<tr>
<td>Surplus available</td>
<td>.072* (.029)</td>
<td>.074* (.031)</td>
<td></td>
</tr>
<tr>
<td>Log ratio chi-square</td>
<td>(\chi^2(1) = 9.33**)</td>
<td>(\chi^2(3) = 0.73)</td>
<td></td>
</tr>
<tr>
<td>to model III</td>
<td>(\chi^2(2) = 27.02**)</td>
<td>(\chi^2(2) = 35.62**)</td>
<td></td>
</tr>
</tbody>
</table>

\*p < .05; **p < .005.

* Standard errors are in parentheses.

the private valuations randomly assigned to the buyer and the seller and varied across observations. Distribution of surplus is a continuous variable indicating the percentage difference in profit between the two parties, a ratio that controls for total surplus available: [Buyer profit – Seller profit] / Total available surplus. This variable ranges from 0 to 1, with 0 indicating exactly equal profits for the buyer and seller, and 1 indicating that one party received all the available surplus. Distribution of surplus ranged across the full distribution (mean = 164; s.d. = .283). As shown in table 4, opening up decreased the differences in the payoffs between the parties relative to the other improvisations, followed by working together and haggling, supporting H1.

We used least squares regression to test for mediation effects of social embeddedness on the distribution of surplus. As shown in table 6, friendship marginally reduced the

Table 6
Regressions Testing for Mediation of Social Embeddedness on Distribution of Surplus (N = 65)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Social embeddedness</th>
<th>Improvisation</th>
<th>Improvisation and social embeddedness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooperativeness of improvisation</td>
<td>-.069** (.023)</td>
<td>-.053* (.031)</td>
<td></td>
</tr>
<tr>
<td>Friendship</td>
<td>-.135 (.070)*</td>
<td>-.035 (.091)</td>
<td></td>
</tr>
<tr>
<td>E-mail</td>
<td>.202** (.085)</td>
<td>.154* (.089)</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>.043 (.060)</td>
<td>.014 (.080)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.179** (.065)</td>
<td>.419** (.128)</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.09</td>
<td>.11</td>
<td>.11</td>
</tr>
</tbody>
</table>

\*p < .10; **p < .05.

* Standard errors are in parentheses.
difference in payoffs between the parties, providing only pro-
visional support for H3, while face-to-face communication sig-
nificantly decreased the difference (relative to e-mail). The
cooperativeness of the improvisation significantly reduces dif-
fferences in payoff, providing further support for H1. When
improvisation and the social variable are entered simultane-
ously, the adjusted $R^2$ does not increase relative to the equa-
tion with improvisation alone, and the coefficient for friends
is no longer significant, while the coefficients for e-mail and
improvisation remain marginally significant, lending further
support to the assertion that improvisations mediate the
effects of social ties on negotiated outcomes.

**Embeddedness and unequal payoffs.** Forty-four of the 49
possible trades between pairs improvising opening up split
the surplus essentially equally (within $1). All five of those
pairs distributing the surplus unevenly were friends. At first
glance, the results seem to belie the rules of cooperative
interaction guiding embedded transactions. But a close exam-
ination of these transcripts reveals in each case a rationale
explicitly conditioned on the close relationships between the
parties, e.g., “I'm such a good friend, I'm just going to sell it
to you for the price I paid.” This is consistent with field
research conducted by Halpern (1996), who found that
friends charge each other less and hold a logic of not profi-
ting from interactions with friends. This is not a common
strategy in our study, but it provides further clarification of
how socially embedded ties affect transaction outcomes in
ways that may lead to inconsistent findings across studies.
To understand the role of social embeddedness in economic
transactions more fully, we turned to qualitative analyses of
the interactions themselves.

**Qualitative Analyses**

**Dynamics of improvisation.** In the initial moments of a
negotiation, all the structural, cognitive, and social factors
surrounding the negotiation come together and must be inte-
grated quickly if a successful improvisation is to take place.
At this stage, the “right” way to proceed is guided by the
interaction itself, as the parties turn to one another to derive
a logic for the negotiation. The initial greetings and moves by
one party create the opportunity for coordinated responses
from the other, enabling the other to react cooperatively to
one who has provided a model of openness or to put on the
fighting gloves to meet one who has initiated a competitive
match. Pinkley and Northcraft (1994) found that parties’
understanding of a negotiation quickly converges during the
interaction. Providing some insight into how this convergence
occurs, negotiation transcripts examined by Pruitt and Lewis
(1975), and more recently by Weingart et al. (1999) and
McGinn, Thompson, and Bazerman (2002), revealed that
negotiators respond “in kind” to both competitive and coop-
erative tactics, resulting in negotiations in which the actions
of the players appear to match one another.

Because we conceive of improvisations as dynamic, creative
acts, we were interested in how the initiation stage (Holmes,
1992) shaped the negotiation that ensued and how transi-
tions subsequent to this stage eased or hindered coordina-
Improvisation

tion of a shared logic. To investigate this, we separated the first six exchanges from the rest of the transcript and attempted to categorize these initial interactions. For e-mail transcripts that were very brief, we considered the first quarter of the interaction as the initial interaction. In some observations, one of the three improvisations or asymmetric interaction was evident from the onset. In others, parties spent the initiation stage getting to know one another or talking about events or issues other than the sale of the lamp, similar to Garfinkel’s “greeting exchange” (Heritage, 1984). We call this approach to sensemaking in the initial interaction relationship building. Relationship building includes only relational acts, to the exclusion of informational and procedural acts, and focuses entirely on the social rather than the economic nature of the interaction. Below is an example of relationship building in the initiation stage between strangers interacting face to face (#106):

Buyer: Are you an undergrad here?
Seller: No, I’m at XX University, undergrad.
Buyer: Oh, really, that’s interesting, what are you studying there?
Seller: Child study, I was engineering last year but I switched over. My name is Betsey.
Buyer: My name is Shelly, nice to meet you.
Seller: Nice to meet you too.

To explore how negotiating parties come to share a logic of exchange, and to check how social embeddedness affects coordination of a shared logic, we looked for incongruence between the initiation stage and the full improvisation. Guided by definitions of opening up, haggling, working together, asymmetry, and relationship building, both authors and a trained research assistant categorized the transcripts of the initial interactions. The kappa for the final rate of agreement across the three coders was .745, which is interpreted as substantial agreement (Landis and Koch, 1977). Disagreements were settled in discussion between the two authors. Below, we explore in detail those cases in which the initiation stage failed to predict the larger improvisation. When relationship building led to either opening up or working together, we coded this as agreement. In the rest of the cases, we coded observations as agreements only when the initiation stage was coded the same as the full interaction.

Like talented improvisational actors who can begin to engage coherently after only one prompt from the audience, many of our pairs very quickly settled on a logic that guided their entire exchange. Only 22 of the 87 observations revealed a discontinuity between the initial and the ensuing interaction. Nearly all friends (89 percent), regardless of medium, quickly agreed on a logic of exchange and entered into a stable pattern of interaction within the first few moments. The rates of quick coordination for strangers communicating face to face and over e-mail are quite similar, with 75 percent of the strangers interacting face to face quickly settling on an improvisation, rising to 81 percent for strangers using e-mail. Strangers communicating over the phone had the toughest time coming to a shared logic: only 29 percent of pairs in this
social context quickly developed a mutually agreed upon improvisation that held throughout their interaction.

Close examination of those transcripts in which coordination proved difficult provides new information about how embeddedness affects the logic guiding a negotiation. As we read closely the 22 observations in which the initiation stage differed from the full improvisation, we found evidence of three types of transitions that parties used to foster the development of a coherent improvisation: trust testing, process clarification, and emotional punctuation. The type of transition used, and the role of these transitions in the improvisations, varies with the social embeddedness of the parties. Figure 1 presents a summary of the transitions and the role they play in shifting the interaction to new logics.

Process-clarification transitions were used by both friends and strangers. In process-clarification transitions, parties use procedural acts to explicitly question the underlying rules of interaction (Garfinkel, 1964; Mehan and Wood, 1975). The purpose of these procedural acts varies with embeddedness: friends turn to process clarification to increase the cooperation level in the improvisation, while strangers using these transitions increase the level of competition. In the face-to-face interaction below, the friends begin to haggle at the onset of the negotiation (#116):

Buyer: I'm not paying more than $25 for a thing you can take back for $25.
Seller: That's not true.
Buyer: Yes it is. You can return it for $25.
Seller: You're bluffing me.

Figure 1. Transitions between competitive and cooperative logics.
Improvisation

**Buyer:** No, I'm not.

But after a few exchanges of positioning and negative relational acts, the friends stop to question whether competition is appropriate for their relationship and attempt to revise the rules guiding their interaction. They stop to question the logic behind what they are doing:

**Seller:** You've misinterpreted that... The amount that I paid for the lamp was $39... .

**Buyer:** Ooh, okay. So, you would have to get more...

**Seller:** Or I can't break even or make a profit... I want to make a profit.

**Buyer:** So do I.

**Seller:** I want to make the same amount of profit.

**Buyer:** So do I.

With the rules for interaction now clear, the parties move to a new logic of full, mutual honesty and immediately reveal their values to one another.

Process clarification between strangers served to increase the competition between the parties. In the example below, the parties have already exchanged opening niceties over the telephone. After this relationship building in the initiation stage, they begin to clarify the rules that will govern the exchange process (#312):

**Seller:** We're talking about the lamp, right?

**Buyer:** Right...

**Seller:** Well, shouldn't we just disclose how much?

**Buyer:** I don't know how... to work this.

**Seller:** Well, the object as far as I'm concerned is for us both to make a profit. Well... How much is the lamp worth to you?

**Buyer:** I would say, I can't tell you.

**Seller:** Oh, you can. If you don't want to you don't have to, but you can.

They proceed to try out an approach, testing to see if they are agreeing on the rules:

**Buyer:** So you're making a profit here, what would be... what would be your price?

**Seller:**... Let's see, $70 to $90.

**Buyer:** That would be really high for me, that would be really high, so... .

**Seller:** All right, $65 to $85.

A mutually agreeable logic has been established, and they haggle away.

*Trust-testing transitions* involve informational acts in which belief in the information the other party is putting forward is explicitly questioned. Only strangers engaged in this type of transition; friends either had no need or were unwilling to question each other's trustworthiness. In the telephone interaction below, the strangers start out haggling and then, slowly, begin to move together, testing one another by taking small steps and waiting for the other to follow. After a few
rounds of cautious circling, the following exchange ensues (#320):

**Seller:** So, can we close the range a little bit and maybe so we can find a better estimate of where we could moderate the price?

**Buyer:** Okay, let's say. . .

**Seller:** Well, can I restrict yours [value] to $70 to $90?

**Buyer:** Yes. Can I restrict yours [value] to $55 to $70?

**Seller:** Yes.

Gradually, the trust increases:

**Buyer:** So $65 is bad for you and $70 is bad for me.

**Seller:** So I guess we have to go in-between.

While they have not explicitly revealed their private information to one another, they have generated enough trust to begin working together. Not all trust testing led to more cooperative improvisations. When attempts at creating trust failed, the negotiation moved to either asymmetry or impasse.

*Emotional-punctuation transitions* were also observed only in negotiations between strangers. These transitions were marked by highly emotional relational acts, either positive acts of humor or negative acts of anger or bursts of frustration. This was the least common of the three types of transitions we observed in our data. While both process clarification and trust testing lead gradually to a change of logic in the improvisation, emotional punctuations are abrupt, like the temporal-based transitions Gersick (1988) discussed in her study of transitions in project teams. In emotional punctuations, one of the parties becomes noticeably dissatisfied with the ongoing mode of exchange and emotionally tosses out the approach being taken. In the telephone interaction presented below, the strangers begin by exchanging offers, followed by the seller offering repeated and unreciprocated concessions. As this continues, the seller becomes frustrated with the buyer’s refusal to budge on price and angrily puts a halt to the exchange (#307):

**Seller:** Wait, so you’re just offering me $65.

**Buyer:** Yeah.

**Seller:** In that case, I don’t think we can come to an agreement, because I’m not going to make anything out of it.

**Buyer:** O.K. $67 is my final offer.

**Seller:** Well, $67. That’s like, forget about it. I’m just going to make so little out of it . . . my price is $66 and if, I don’t know, like, come on. I know that the range that you [can] buy the thing is . . . $50 to $100. And, I mean, I mean, yeah, we both want to make a profit and so, let’s either we all get a share equal price or like you can’t just laugh at me like that and ask me for $67 and just because I’m honest and I tell you my price is $66, I mean, so . . .

**Buyer:** Yeah, well.

**Seller:** I’m very keen on my principle . . . and I was just saying, let’s either we make the same equal amount of money or whatever because there’s no point on you just maximizing your profit while I’m just sitting here and minimizing my profit. So, let’s be fair, okay?
Improvisation

A break in the competitive logic occurs as a result of the seller's emotional reaction. But the interaction cannot stay at this stage—either the buyer must alter his approach to meet the seller's demands or the seller will cut off the interaction. The seller's emotion stays high, until the buyer finally relents:

Seller: I'm being very frank with you and I hate people not to be frank with me. ... At the beginning I was just asking for your price and you were doing all this calculation ... so I'd rather forego my [profit] than be called a fool.
Buyer: OK, all right.
Seller: It's up to you.
Buyer: OK, sure, I guess we can do a deal. OK.

By the end of the interaction, they have both revealed their values and have agreed to split the profits equally. In response to the seller's angry protestations, the buyer began to see the situation from the perspective of the seller and to understand the benefit that both could gain from openness. As the negotiation concluded, the parties summed up the two logics that had been juxtaposed in their interaction:

Buyer: This is definitely a test of greed, isn't it?
Seller: Or willingness to share.
Buyer: Or greed. Yeah. In a sense it is.

Looking at the transitions in the simple negotiations presented here begins to provide insight into how dynamic, shared sensemaking evolves in a negotiation. Friends are more adept than strangers at coordinating a shared logic from the very onset of the interaction. In interactions in which the initiation stage does not prove workable for one or both of the parties, they attempt to move to a mutually acceptable logic in one of three ways: explicitly questioning rules or process, making small moves that test the trustworthiness of the other party, or punctuating the process with emotional statements. These transitions are influenced by and have different results depending on the social ties between the parties. Parties in socially embedded relationships who begin using a competitive logic turn to process clarification to move to a more fitting, cooperative logic. In contrast, strangers who wish to move to a more cooperative logic must use a very different approach, gradually testing the trustworthiness of one another. If one of the parties fails the test of trust, the interaction moves toward either asymmetry or a more competitive logic, but if both pass the test of trust, the logic successfully shifts toward more cooperation.

Asymmetries. Goffman's (1959: 9) conclusions about norms of human interaction imply that asymmetric interaction is exceptional: "Ordinarily the definitions of the situation projected by the several different participants are sufficiently attuned to one another so that open contradiction will not occur." While the behavior of the majority of the pairs in our study supported Goffman's assertions, arriving at a symmetric approach to the interaction, a minority (20 percent) did not, even after attempts to coordinate through process clarification, trust testing, or emotional punctuation. Coordinated sensemaking was more straightforward for embedded
pairs—of the seventeen asymmetric interactions, sixteen were between strangers (3 e-mail; 7 telephone; 6 face-to-face). These observations provide a window into the tensions inherent in arm’s-length transactions. The two parties in an asymmetric interaction seemed to look at the world through differently colored lenses, and the colors so shaded their interpretations of the situation that they could not take on the other’s understanding or incorporate the other’s assumptions into their own.

Close examination reveals asymmetries in advantage as well as approach—one party was clearly being “taken.” This party was typically attempting to create a more cooperative interaction than the other party was willing to engage in. The disadvantaged party—vainly providing information without reciprocation, attempting to no avail to induce his or her counterpart to behave cooperatively—reacted to the asymmetry in one of two ways: anger or obliviousness. When the disadvantaged party became angry, he or she used emotional punctuation to lash out at the other, to try to get the other party to move to a more cooperative interaction. In the face-to-face interaction between strangers below, the seller revealed her cost as $70, and the buyer responded that he would pay $75 but refused to go higher or to reveal his value (#101):

**Seller:** Let me ask you this question. With the $75 offer, what if your [value is] $100 and that means that you make $25 and I make $5.

**Buyer:** But what if?

**Seller:** Then you’d be screwing me over. That would be unfair.

**Buyer:** This is the business world.

**Seller:** This is no business world.

As the interaction progressed, the seller became increasingly frustrated that the buyer was not “playing by the rules.” Note that these rules were a social construction—there were no externally proscribed rules for the interaction:

**Seller:** I think the $75 bid is screwing me over.

**Buyer:** I don’t think so though.

**Seller:** You sure?

**Buyer:** Well, come on, I don’t want to be too nice. Goodness!

Finally, the seller could no longer handle the contradictions between what she believed should be happening and what was happening, so she made sense out of the situation as best she could:

**Seller:** How much is it costing you at Pier 1, goddamn it! I’ll tell you what. Let’s just say for the sake of argument that you have [to pay] $90 at Pier 1 and you say [90] and I ask $70. We’ll each make a profit of $10. Is that fair?

**Buyer:** That’s fair.

**Seller:** Okay.

This was the only angry asymmetry that resulted in agreement. In the others, the more cooperative parties finally threw up their hands in disgust and broke off the interac-

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7 In the one asymmetry between friends, the buyer’s value was less than the seller’s cost. When the first party revealed her valuation, her friend was so surprised that there was no opportunity for profit that she promptly ended the interaction and would not discuss the lamp at all, rather than questioning her friend’s word.
Improvisation

tions, forgoing agreement. Even the emotion was asymmetric in these interactions. Each party understood that the other was relying on a different logic of exchange, but that was just fine with one party and quite maddening to the other. The very awareness of the asymmetry made it almost impossible for these pairs to move toward a shared perspective. The less forthcoming party was “winning,” and the initially cooperative party had lost all potential trust in the other, which he or she believed necessary for agreement.

The asymmetries in which the more cooperative party was oblivious were less nuanced than those that induced anger. It was as if the oblivious, cooperative actor held such a strong model of appropriate behavior for the situation that nothing the other party did could alter his or her behavior. This is reminiscent of Weick’s (1993) account of why the firefighters in the Mann Gulch disaster rejected the recommendation one of them made to light an escape fire: it did not fit into their model of the situation they believed themselves to be in. In one of our telephone observations between strangers, for example, the seller immediately revealed a cost of $72 at the onset of the interaction. The buyer said nothing about his value, but the seller went on as if both parties were being completely open (#313):

**Seller:** As long as your number is higher than $72, you’ll make a profit.

**Buyer:** By what, a dollar?

**Seller:** By whatever it is. If your number is $75, you’ll make $1.50. If your number is, you know, $80, you’ll make $4. . . . The most it could be would be like what, if yours was $100, it would be like $15 profit. That would be pretty good for you.

**Buyer:** I’m not anywhere near there. Okay, so that’s [$72] the lowest you’ll go on the price of your lamp then?

Notice that the seller assumed not only that the buyer would eventually reveal how much the lamp was worth to him, she also assumed that the buyer would split any profit equally. This happy oblivion allowed one party to be taken advantage of, but to be blissfully blind to this treatment, maintaining instead the fiction that both parties were acting in mutual accord.

This close examination of the asymmetric negotiations reveals how negotiations between strangers can entail interacting without the shared understanding Goffman argued will inevitably be present. Some of the asymmetries appear inherently unstable, with one party visibly angry and willing to halt the interaction if the other does not come around. These interactions nearly always result in an impasse. Others appear stable because one party lacks awareness or understanding of the extent to which he or she is operating out of tune with the other. There is no call for the advantaged party to change his or her behavior to fit that of the other, since the disadvantaged party is not voicing displeasure. These interactions between strangers result in inequalities in payoffs.

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DISCUSSION AND CONCLUSION

The evolution of a shared logic of exchange in economic transactions is strongly influenced by social ties. Our qualitative analyses of 87 transcripts from a simple market transaction revealed three different improvisations—opening up, working together, and haggling—each reflecting its own unique logic of exchange. Controlling for the economic structure and other contextual variables in the negotiation allowed us to see how social ties affect the understanding of what is appropriate behavior in a seemingly straightforward distributive transaction. Arm’s-length transactions, such as those carried out via e-mail between strangers, often prompted haggling and its logic of competitive attempts to get the best deal. In contrast, embedded transactions nearly always involved opening up, reflecting a logic of full, mutual honesty. Unlike the distributive and integrative logics underlying haggling and working together, respectively, a logic of full mutual honesty is seldom mentioned in the negotiation literature or in game-theoretic models of bargaining. Yet this logic appears to map tightly onto the trusting negotiations that Uzzi (1999) asserted form the foundation for socially embedded economic action in markets.

The data from our transcripts support past research that concludes that rules for appropriate interaction can be quickly agreed upon and mutually acted out in a coordinated fashion (Goffman, 1959; Garfinkel, 1964; Bettenhausen and Murnighan, 1985; Messick, 1999). Finding that social embeddedness drives the form of these rules creates an intersection of the sociological and game-theoretic views: the behavior of the parties in a negotiation varies due to the exogenous characteristics of the group represented by or role (e.g., friends) played by the parties, and it also varies due to the endogenous moves of the others within the interaction. This endogeneity or matching of logics, while occurring in 63 percent of interactions between strangers, appears to be nearly universal in interactions between friends. It is not just that socially embedded relations affect the form of coordinated interaction through the logic of exchange; close ties affect the very presence of coordinated action.

Our findings shed light on prior, contradictory findings regarding the effects of social embeddedness on negotiated outcomes. We presented two possible explanations: that the effects of embeddedness are moderated by the medium of communication or that the effects of social ties are mediated by the logic of exchange that evolves during the interaction. We found provisional support for the first explanation: a close relationship significantly enhances cooperation, increases the likelihood of trade, and reduces differences in payoffs in negotiations carried out over the telephone or e-mail, but social ties only marginally affect these variables in face-to-face negotiations. Our qualitative review of the transcripts suggests that in telephone negotiations, but not in e-mail or face-to-face negotiations, strangers have to work harder than friends to coordinate a shared logic: negotiations between strangers interacting over the telephone are more likely to involve identifiable transitions than friends or strangers communicating through a different medium.

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We found considerable support for our second explanation, that social ties are leveraged through negotiation processes. Our findings suggest that we will portray both socially embedded and arm's-length transactions more accurately if we study them as social improvisations, as attempts at mutual sensemaking within an economic context, rather than as individually strategic attempts at profit maximization. The nature of the interdependency and the ensuing logic driving exchange varies with the relationship between the bargaining parties. Across media, friends reach agreement more frequently and distribute resources more equally, but these effects are fully mediated by the improvisation enacted by the parties. In our qualitative analyses, we found that friends are more likely than strangers to exhibit symmetry in their interaction, evidence that social embeddedness carries with it its own logic for exchange. Friends also had an easier time coordinating a shared logic, requiring fewer transitions than strangers to reach a mutually agreeable approach to the negotiation.

We did not study interactions within a full network, so our findings cannot counter weak-tie arguments that benefits accrue in loosely tied networks, nor do we bolster strong-tie arguments that benefits accrue primarily from direct ties. Instead, we offer a deeper understanding of how parties rely on one particular dyadic social tie, friendship, to make sense of and enact negotiations. These insights into the micro-processes in two-party negotiation help us understand how social embeddedness can have the notable impact found in research on transactions within markets and organizations. Social distance impinges on the parties' understanding of appropriate behavior within the negotiation—it guides the logic on which the parties base their economic action.

The improvisations had real economic implications that should be considered in future prescriptions for negotiators. Defining efficiency as the percentage of potential surplus actually attained by the negotiators, an opening-up improvisation resulted in 100 percent efficiency, working-together improvisations achieved 64 percent efficiency, haggling captured 63 percent efficiency, and asymmetries resulted in 72 percent efficiency. Opening up maximizes the chance of agreement, thus maximizing expected payoffs. But there is good reason behind the natural reticence to be fully open with private information in economic transactions with strangers: unreciprocated or naive openness may lead to a disadvantageous asymmetry in both process and outcome. Open responses to the other party's initial displays sometimes occur in error, with a gullible party responding in kind to surface openness, ignorant that this opening up is disguising underlying guile. Asymmetry is a risky adventure even for the guarded party, who can do well at the expense of the more open party only if the asymmetry does not lead the open party to anger or exit. Teaching negotiators how to create coherent improvisations through trust testing, process clarification, or emotional punctuation may allow parties to take greater control over their own negotiations.

A frequent criticism of experimental work is that it does not, in fact cannot, accurately replicate real-world events. We con
cur. The negotiation our participants faced was a simple one, taking place between students in a classroom building. While we could argue that we paid substantial performance incentives, created a scenario that was plausible and easily imagined by the student participants, studied real friendships, and varied the actual medium in which the interaction took place, these arguments would be beside the point. Real-world events are more complicated, have more history, contain more multifaceted economic structures, and involve more future implications for individuals, relationships, and organizations than experimental exercises. These complications make it more, rather than less, likely that negotiations in organizations and markets will be socially determined. The improvisations enacted in real-world interactions are likely to be more varied, complex, and nuanced than the improvisations we identified in the laboratory. But our findings suggest that the improvisations that arise in negotiations within organizations and markets are likely to reflect at least three different logics of exchange, and the choice among these logics will be strongly affected by the social ties between the parties.

We hope that the micro-level research presented here, though a simplification of real-world events, provides new insights from which macro-level studies of transactions within organizations and markets can build and expand. The distinctions between socially embedded and arm’s-length transactions cannot be fully understood by looking at outcomes alone. Nor is it sufficient to assume that differences in preferences for mutually beneficial outcomes explain all the differences across these transactions. Embedded interactions involve their own logic of exchange, sometimes facilitating efficient agreements, as in the study presented here, but perhaps at other times reducing efficiency. While arm’s-length transactions are often guided by a logic of profit maximization, socially embedded transactions are seldom focused on outcomes alone—friends concentrate on following the rules of friendship rather than the rules of the market.

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