Participation Shifts:
Order and Differentiation in Group Conversation*

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Abstract

Conversation is both rule-governed and a venue in which people are differentiated, in how they act and are acted toward. I propose a new framework for the analysis of conversational sequences that captures both aspects simultaneously, based on the concept of participation shift. This refers to the moment-by-moment shuffling of individuals between the "participation statuses" of speaker, target, and unaddressed recipient. An analysis of participation shifts in meetings of thirteen managerial groups reveals the operation of sequential rules that limit who can speak and be addressed in a given turn; several dimensions along which individuals are differentiated in terms of their participation shift involvements; and effects of conversational context on individuals' sequential tendencies. The analysis bridges conversation-analytic concerns with the sequential production of talk and small-group researchers' interest in conversational discrimination and points to several new lines of micro-sociological research.

There are two things that we know for certain about conversation. The first is that conversation is rule-governed: in the very least, who speaks and what they say are both subject to rules that ensure a basic level of order and intelligibility. Absent such rules, conversation as a recognizable phenomenon would not exist; instead, every encounter would be chaotic, and chaotic in a distinctive way, as the unmitigated manifestation of the particulars of the people present, their

relations with one another, and their physical surroundings. Conversational rules transform what is highly variable into something that is less so: an encounter in which, for the most part, only one person speaks at a time (Dabbs, Ruback & Evans 1987; Sacks, Schegloff & Jefferson 1974), in which people can understand one another (Goffman 1983a; Hanks 1996; Schegloff 1992), and in which the forces of discord are held in check to the extent needed to keep the exchange going (Goffman 1967; Lerner 1996; Sacks 1987).

The second thing we know about conversation is that not everyone is dealt the same hand, in terms of opportunities to speak and be addressed, and in terms of what each can hope to say as speaker and to hear as addressee. Conversation, in other words, is a site for the differentiation of persons, perhaps, though not necessarily (Goffman 1983b), along lines established by attributes, personalities, or positions in an encompassing institutional structure. This is consequential for outcomes such as decisions — if, for instance, people who speak more exercise more influence (Berger, Cohen & Zelditch 1972) — and the mutual perceptions that people leave with, perceptions that can later crystallize into reputations (Sacks 1995a:639).

These two facts, of rule following and differentiation, are in tension, and the tension is greatest at the structural level of participation. Rules for turn taking are an intrinsic feature of conversation (Wilson, Wiemann & Zimmerman 1984), while at the same time some people take many more turns[1] than others (Bales et al. 1951). Little work, however, has addressed both aspects of conversation simultaneously. While conversation analysts have made considerable progress in unearthing conversational rules and have recently turned their attention to the way in which people occupying particular roles may enjoy (or suffer from) particular conversational advantages (or disadvantages) in brief interactional episodes, there has been virtually no effort to make the link to quantitative differentiation — for instance, in how frequently people speak or are addressed over extended periods.[2] On the other hand, small group researchers, who *are* concerned with such quantitative patterns, have tended to give rules a backseat, though no differentiation occurs except to the degree that rules permit it.

In this article I develop a new framework for the analysis of interaction sequences that yields insight into the problem of rule-governed differentiation, in part by helping us to reconcile these two subfields. The framework is based on the concept of participation shift, which refers to the moment-to-moment movement of individuals between the positions of speaker, target (addressee), and unaddressed recipient (everyone else). Since participation shifts move people into and out of the positions of speaker and target, they are integrally connected to conversational order and are therefore likely to reflect some of the rules that safeguard that order. At the same time, because participation shifts capture how people behave and how others behave toward them, they should also reflect processes of differentiation.

These assertions are substantiated through an analysis of participation shifts in meetings of thirteen groups of managers working in a large corporation. My objectives in the empirical analysis are, first, to identify regularities in participation shift patterns that can be reasonably attributed to the operation of generic turn-taking rules; and, second, to determine how people are typically differentiated in their participation shift activity (or at least how these managers were), and thus in their rule-governed behavior. This results in a reconceptualization of the notion of role in the context of participation shift involvement, to which formal roles, such as that of superior, correspond to a lesser or greater degree. Then the analysis is taken one step further, to determine whether the distribution of these roles across groups is influenced by a group's function, or raison d'être. It transpires that not only is the answer yes, but that the effect of group function on a person's role appears stronger than that of sex, the attribute most studied by small-group researchers. I argue that the connection between roles and group function is due to the sorts of substantive exchanges that a particular function encourages and the sorts of conversational identities it consequently induces. I conclude with some directions for future research, stressing, in particular, the need to combine qualitative and quantitative methodologies.

Perspectives on Conversational Differentiation

The study of face-to-face interaction is today largely conducted by conversation analysts and small-group researchers working in the expectation states tradition. Both have made inroads into the issue of conversational differentiation, but I will argue that expectation states researchers have done so at the expense of an understanding of conversational rules, while conversation analysts have restricted themselves to an unnecessarily narrow understanding of differentiation.

EXPECTATION STATES THEORY

Expectation states theory (EST) has as its main premise that interaction in task settings — when there is a clear task with no obvious solution and an orientation to cooperatively solving it — is guided by the expectations that people have for themselves and one another on the relative value of their potential contributions (Berger 1974; Knottnerus 1997). These expectations can be formed on the basis of preexisting attributes or endogenous processes of hierarchy formation,[3] and when based on attributes can derive from diffuse characteristics such as race and sex, or specific characteristics such as expertise in an area related to the task (Berger, Rosenholtz & Zelditch 1980).

Researchers in expectation states theory have made significant strides in relating expectations to outcomes such as the frequency with which people speak (Fisek, Berger & Norman 1991; Smith-Lovin, Skvoretz & Hudson 1986), the duration of their remarks (Shelly & Troyer 2001; Shelly et al. 1999), whether a person yields to someone with a contrary view (Berger, Cohen & Zelditch 1972; Kalkhoff & Barnum 2000; Troyer & Younts 1997), and mutual perceptions (Ridgeway et al. 1998). Less advanced is the field's theoretical conceptualization of, and empirical examination of, actual face-to-face interaction — this in spite of the fact that from the beginning, almost all of the field's main theoretical statements (e.g., Berger & Conner 1974) have sought to characterize the typical interaction sequences thought to be involved in the status formation process. Take, for instance, the especially detailed and highly regarded elaboration of the theory offered by Fisek, Berger, and Norman (1991). They suggest that interaction can be parsed into two-turn interaction cycles, each consisting of a performance output (e.g., someone expresses an opinion) followed by a negative or positive reaction to that output.[4] Once the terms of a given dyadic relationship are settled, they argue, the higher-status actor in that dyad will be found to consistently offer outputs to which the lower-status actor reacts positively, while the lower-status actor offers outputs to which the higher-status actor reacts nonpositively (e.g., dismissively). When the group hierarchy has completely formed, subsequent cycles will merely confirm previously established relations, in which case Fisek, Berger, and Norman say that the interaction cycles together constitute an internally consistent "behavior interchange pattern" (117).

A problem with this account is that Fisek, Berger, and Norman's *predictive* model has only a tenuous relation to their account of the process of interaction as just described. Their predictions derive instead from a model of the cognitive associations that are presumed to underlie that interaction. And those predictions are not about sequential patterns of the kind that would directly confirm or disconfirm their ideas about interaction cycles and behavior interchange patterns, but about the ultimate distribution of speaking turns. Thus, while there is much theorizing about sequences in their article, the sequences themselves are neither built into the formal model nor predicted by it. (See Robinson & Balkwell 1995 for a related critique.)

This gap between EST theory and research practice has become increasingly evident to researchers working in the field. In particular, Shelly and Troyer (Shelly 1997; Shelly & Troyer 2001) have recently sought to confirm EST claims about interaction cycles, while Okamoto and Smith-Lovin (2001) have taken the additional step advocated here, and analyzed topic shift sequences in light of EST claims about status differentiation and, simultaneously, conversation-analytic claims about sequential rules. But these recent (though important) exceptions aside, EST scholars have typically operated at some remove from

the actual details of empirical interaction, concentrating on summary statistics that are artifacts of sequences rather than on the sequences themselves.[5]

This neglect of empirical sequences is consequential because people speak only in connection with particular conversational sequences, and these sequences are, conversation analysts argue, subject to rules that circumscribe the range of things that can happen at any point in time, rules that are independent of the people present, and thus, by extension, of the expectations they form of one another (Sacks, Schegloff & Jefferson 1974). (As I explain in the next section, these sequential rules are crucially different from the sequential regularities predicted by EST.) A consequence is that the effects hypothesized by expectation states researchers may sometimes be confounded, at least over short periods, and perhaps over longer ones as well. If, for instance, a high-status individual is expected to speak frequently, he or she may not be able to do so over some interval if the turn-taking rules prevent it — say, by fueling a sustained dyadic exchange involving two other individuals (e.g., Sacks 1995a:679). Another implication is that not all acts of participation are created equal. If, for instance, one thing that status does is give a person more latitude to complete particular sequences that are otherwise discouraged, then a few instances of involvement in such sequences might say much more about that person's standing than many more instances of involvement in a more common sequence.

What expectation states theory needs is some way of capturing conversational participation that reflects both the operation of rules and actors' differential involvement in the sequences that those rules shape. This is exactly what the participation shift framework, which I will describe shortly, is intended to do.

CONVERSATION ANALYSIS

Conversation analysis (CA) has championed the study of conversational rules that operate to maintain a basic level of order (Sacks, Schegloff & Jefferson 1974), mutual intelligibility (Schegloff 1992, 1996a), and considerateness (Lerner 1996). An important general insight produced by CA is that these rules operate through the principle of *adjacency*, such that what happens at one moment constrains what can happen in the next, while displaying an orientation to whatever happened the moment before (Schegloff 1988). When it comes to turn taking, it is the forward-looking aspect of this equation that is paramount, for if what happened in one turn did not constrain who is likely to speak next, conversational order would constantly break down, overwhelmed by speakers fighting for the floor.[6]

It is important to understand the difference between rules in the conversation-analytic sense and the sequential regularities posited by EST. The

latter are presumed to arise from a particular set of conditions, when a group of people who do not know each other become interested in solving a well-defined task without an obvious solution, one which no one is especially passionate about, and about which no one has any particular expertise (though perceptions of expertise are often manipulated by the experimenter)(Fisek & Ofshe 1970). The former, in contrast, are thought to be generic to conversation per se. Empirically, however, the matter will turn out to be somewhat more complicated, for we will see that the empirical claims that EST makes about conversational behavior under the scope conditions just given are rather similar to those made by CA apropos of conversation in general, especially at the level of participation shifts.

The rules of conversation analysis are, at one level, indifferent to the details of any particular encounter, since conversation can be a recognizable phenomenon regardless of such details, including the number of people present, their personalities and interests, the presence or absence of preexisting relations, and details of the physical surroundings (Lee 1987). At the same time, those rules, including the turn-taking rules, are capable of reflecting those details, at least to some extent. In introducing their turn-taking argument, Sacks, Schegloff, and Jefferson (1974:699) emphasize "the important twin features of being context-free and capable of extraordinary context-sensitivity." That being said, they are not concerned with how, in fact, people *are* differentiated in conversation. One rule, for instance, is that the target of an "adjacency pair first part," such as a question, will reply to it in the next turn, but this tells us nothing about who gets asked questions or who asks them, that is, about who gets consistently implicated in adjacency pair sequences in the positions of (in this example) questioner and questioned. The analysis of rules does not, consequently, build immediately to the analysis of roles or to outcomes that hinge on particular individuals' sequential tendencies.

Though the topic of conversational differentiation does not interest Schegloff or the other practitioners of what might be referred to as elementary CA, a wave of recent research into institutional talk does take up this issue. The common concern of this work is with how people use, and modify, conversational resources borrowed from normal conversation to get things done in organizational settings (Drew & Heritage 1992), given that organizational tasks frequently involve problematic exchanges (e.g., Boyd 1998; Clayman & Reisner 1998). Especially when this work focuses on the interaction of people occupying different institutional roles, such as doctors and patients, the issue of conversational differentiation takes center stage. The interesting theoretical question is then seen to be how these roles get translated into differences, or asymmetries, in conversational entitlements and obligations (see, e.g., Maynard 1991). Molotch and Boden (1985), for instance, find that the power of interrogators resides in their ability to demand simple answers from the people

they question, which means denying these people the opportunity to provide background information in light of which some past behavior might be more accountable.

What institutional conversation analysts look for are stark conversational asymmetries that are visible in short exchanges, such as, to take another example, in newspaper editorial conferences in which the power of the managing editor over subordinate section editors pervades practically every utterance (Clayman & Reisner 1998). There is more, however, to conversational differentiation than this. People are also differentiated in their longer-term sequential profiles, or their propensities to become *repeatedly* implicated in particular sequences, including those that might seem unremarkable when looked at in isolation. Indeed, this sort of iterative differentiation may be just as important in terms of how roles are enacted. From the perspective of conversation analysis, however, this form of differentiation is unapproachable. The reason is that it can be discerned only through the quantitative analysis of large numbers of observations, whereas conversation analysts are committed to the qualitative analysis of short conversational excerpts. They have valid reasons for this: quantification too often becomes the analysis of rates, which conceals sequential effects (Schegloff 1987b, 1993), while the analysis of individual episodes enables conversation analysts to concentrate on subtle details that are forfeited in the process of quantification (Goodwin & Heritage 1990). All the same, something important is lost as a result, for lack of a framework within which to study individuals' sequential involvements over long periods. This is what the participation shift framework provides.

Participation Shifts

At any point in time, conversation can be characterized in terms of its participation framework, which refers to the momentary assignment of individuals to the participation statuses of speaker, target (addressee), and unaddressed recipient (for current purposes, everyone else). In developing this insight, Goffman (1981:124-59) was principally interested in the way in which the boundary between participants and nonparticipants in an encounter is maintained, and with further dissecting the status of speaker. This is a static view of conversation, however, in which positions are already assigned. In fact, conversation involves a constant reshuffling of the participation framework, or a succession of what I refer to as participation shifts. Thus, from one speaking turn to the next, the initial target can become the speaker or an unaddressed recipient, the initial speaker can become the target or an unaddressed recipient, and any one of the initial unaddressed recipients can become speaker or target.[7]

TABLE 1: Inventory of P-shifts with Examples

P-shift	Example
Turn receiving	
AB-BA	John talks to Mary, then Mary replies.
AB-B0	John talks to Mary, then Mary addresses the group.
AB-BY	John talks to Mary, then Mary talks to Irene.
Turn claiming	
A0-X0	John talks to the group, then Frank talks to the group.
A0-XA	John talks to the group, then Frank talks to John.
A0-XY	John talks to the group, then Frank talks to Mary.
Turn usurping	
AB-X0	John talks to Mary, then Frank talks to the group.
AB-XA	John talks to Mary, then Frank talks to John.
AB-XB	John talks to Mary, then Frank addresses Mary.
AB-XY	John talks to Mary, then Frank addresses Irene.
Turn continuing	
A0-AY	John talks to the group, then addresses Mary.
AB-A0	John talks to Mary, then makes a remark to the group.
AB-AY	John talks to Mary then to Irene.

Note: The initial speaker is always labeled A, and the initial target B, unless the group is addressed (or the target was ambiguous), in which case the target is 0. Then the shift is summarized in the form [speaker$_1$][target$_1$]-[speaker$_2$][target$_2$], with A or B appearing after the hyphen only if the initial speaker or target serves in one of these two positions after the shift. When the speaker after the shift is someone other than A or B, X is used, and when the target after the shift is someone other than A, B, or the group, Y is used.

Participation shifts, or P-shifts, are distinguished by the precise transformation of the participation framework that each entails. In the prototypical dyadic exchange, for instance, the speaker and target in one turn switch places in the next. I refer to this as an AB-BA P-shift: A addresses[8] B, and then B addresses A in return. B has other options as well, however, which include addressing the group (AB-B0) or some third person (AB-BY). Alternatively, someone other than B may speak after B is addressed and may then address the initial speaker (AB-XA), the initial target (AB-XB), the group (AB-X0), or someone else entirely (AB-XY). There are thirteen possibilities in all, including those that begin with an undirected (or group-directed) remark and those that involve a change in target but not speaker. A complete inventory is given in Table 1, with examples and an explanation of the notation.

For later purposes, the P-shifts are classified by the way in which the second speaker acquires his or her turn. First, a person may speak after being addressed, or "turn-receive." Second, a person may speak after someone *else* is addressed, which I call turn usurping, under the assumption, for which we will shortly

have indirect evidence, that the target of a remark is supposed to speak next. Third, a person may speak after someone speaks to the group, which I refer to as turn claiming. Finally, when someone who is already in possession of the floor changes targets, I speak of turn continuing. Note that while it is often convenient to speak of P-shifts as involving two speaking turns, the turn-continuing P-shifts occur within the space of one turn.

P-shifts have a dual nature. On the one hand, they represent basic, systematic transformations in the organization of an encounter, as people are moved back and forth between the participation statuses of speaker, target, and unaddressed recipient. Especially with respect to movement to and from the position of speaker, these transformations must be rule-governed, since for the most part only one person is deposited into this status at any particular moment (Dabbs, Ruback & Evans 1987; Sacks, Schegloff & Jefferson 1974).

On the other hand, P-shifts reflect *action*. Most directly, this means the action of taking the floor, giving it (through addressing), and losing it. But it means more. Although P-shifts occur instantaneously and are themselves devoid of content, they reflect the discursive things people *do* in speaking and addressing and the things they have done to them. AB-BA, for instance, is a favorite of conversation analysts and small-group researchers alike: for the conversation analysts, this is the structural form of adjacency pairs such as question-answer and accusation-denial (Sacks, Schegloff & Jefferson 1974); while for the small-group researchers, this is the structural form of the interaction cycles (output-reaction) described earlier (Fisek, Berger & Norman 1991; Shelly 1997). Another example is AB-XB, which has been argued to play a particular role in argument sequences, allowing one person (X) to affiliate with a negative opinion expressed by another (A) vis-à-vis a third (B) by seconding that view in the next turn. Goodwin and Goodwin (1990) refer to this as "piggybacking," and Coulter (1990) as "latching."[9]

In directing our attention away from the interiors of speaking turns to the interstitial spaces between them, and emphasizing both the rule-governed nature of turn transitions and their implications for conversational action, the participation shift framework appropriates and formalizes some of the best insights of conversation analysts.

> While from the point of view of "talk itself" the turns themselves are the key elements and the transition spaces merely their boundaries, from the point of view of the organization of the interaction as an event realized *in situ* in real time, it is at the transition spaces that the determination of next chunks is accomplished, amid dense interactional considerations. Taking turns-at-talk as focal (as is the usual stance), the transition spaces are "negative space" — what comes in between instances of the units. Taking the transition spaces as focal, the *turns* become negative space — mere respites between episodes of determination of when the action shall pass to another, to whom, and for what. (Schegloff 1996b:96-97)

This quotation also helps us understand the critical difference between a P-shift and a speaking turn. A speaking turn is the interval of time during which one person has undisputed, or only unsuccessfully disputed, control of the floor. Speaking turns can be tallied so easily because they have no inherent sequential component, no logical connection to what comes before or after. In contrast, a participation shift is, to repeat, the change affected in the allocation of individuals between the fundamental positions of speaker, target, and unaddressed recipient when someone new speaks or is addressed. It is inherently sequential, in that a P-shift points to the reshuffling of people from one turn to the next, to the way in which people are wrenched from some positions and thrust into others.

Where I part with Schegloff and other conversation analysts is in asking how people are differentiated in terms of their quantitative involvement in particular transitions — here, P-shifts. That such differentiation should occur follows from the claim just made that P-shifts reflect discursive sequences such as adjacency pairs and piggybacking, assuming that people are differentially disposed to such sequences according to their (formal or emergent) conversational roles. The interesting question is how this differentiation occurs given the rules alluded to above. P-shifts, in short, both reflect the operation of conversational rules and are a means of discursive differentiation; the purpose of the empirical analysis is to unpack this duality in one particular conversational setting.

Data

Because my theoretical concern is with how pressures toward differentiation are mediated by conversational rules, the ideal research setting is one in which both those pressures and those rules are inescapably present. The data analyzed here come from research on discussions of managerial groups that met in an organizational — and, specifically, corporate — setting. Because reputations and resources are on the line in such encounters, they are frequently animated, since silence, like nonattendance, is a sure way of forfeiting influence over the goings-on there (Boden 1994:89). At the same time, attendees understand that the purpose of the meeting is to conduct a single conversation that ostensibly commands everyone's attention. Consequently, conversational rules must operate to keep things orderly, in spite of fluctuations from one meeting to the next in terms of who is present and what is on the agenda. On the other hand, in such meetings, externally given differences — for instance, in competencies and status — are regularly brought to bear, and these differences presumably play a large part in driving conversational differentiation.

TABLE 2: Group Characteristic, by Type

	Strategizing (7 groups)	Division of Responsibility (2 groups)	Information Sharing (4 groups)
Task	Formulate strategic recommendations	Coordinate individual contributions to group project	Pool information and experiences, coordinate use of shared resources (e.g., technology, training)
Level	Upper	Middle	Lower
Authority role	One member is assigned to serve as leader.	Chair is individual with principal responsibility for project.	Formal superior to whom all members report.
Relationships outside meetings	Members were previously unacquainted, from different parts of the company.	Members work in the same organizational unit but do not have daily contact with one another.	Members work together daily.
Common meeting activities	Debate over content and wording of recommendations, reporting on background research conducted by individuals.	Allocation of responsibility for work to be done, reports on progress to date, discussions of accountability for delays.	Reports on individuals' areas of specialization, reports on experiences with clients, notification by superior of policy changes, discussion of shared resource requirements and usage.
Meeting structure	Loosely structured: rough or no agenda and minimally assertive leader (with one exception).	Moderately structured: set agenda allows extended periods of unfettered discussion.	Highly structured: set agenda, and many exchanges initiated by superior.
Tone	Animated, occasionally contentious.	Matter-of-fact, but occasionally accusatory/defensive.	Collegial; agenda items tend to engage only a few people at a time.
No. males/females	44/9	37/19	40/36

The organizational setting of the research affords two further advantages. First, groups in organizations meet repeatedly. The large quantity of data per group that results will be especially important for the analysis of differentiation and roles reported later, which entails constructing each subject's propensities to behave, or to be behaved toward, in certain ways under certain conditions. Second, groups in organizations meet for different reasons, in response to diverse organizational imperatives. Differences in group function and composition will enable me to explore the connection between the differentiation of persons in groups and the differentiation of groups within an organization. Ultimately, I will argue that the former cannot be understood in isolation from the latter.

The research centered on the scheduled meetings of thirteen managerial groups in a large Fortune 500 corporation operating in the financial sector. It was conducted in the company's Manhattan headquarters, mostly between October 1997 and August 1998.[10] This was a period during which this traditionally hierarchical firm was experimenting, albeit tentatively, with more lateral, team-based organizational practices. Most of the groups studied owed their existence to this initiative: the upper-level groups (described below) were formed at the direct behest of top executives, while others were created by enterprising managers at lower levels of the organization who were eager to emulate the example they saw set on high.

Three distinct types of groups were studied. Their principal features are summarized in Table 2. The upper-level managers in the seven strategizing groups were drawn from various areas of the company and assembled for two to three weeks to discuss strategic issues of interest to senior management, and to formulate recommendations. The middle-level managers in the two division-of-responsibility groups normally worked in different offices (but in the same larger business unit) but were assigned to some project or set of interrelated projects that required weekly or monthly meetings. (The label is meant in two senses, because meetings involved both dividing up a complex task and assigning responsibility for things that had gone awry, especially work that had not been completed according to schedule.) Finally, the lower-level individuals in the four information-sharing groups, who worked regularly with one another in durable offices or departments, met weekly or monthly in order to pool their experiences and to coordinate their use of common resources. (Sex breakdown is also given in Table 2 for a discussion to follow.)

Though business meetings are sometimes thought to be highly structured (Boden 1994), these meetings were organized in the first place to encourage open dialogue, which is partly a reflection of the corporation's culture during this period and partly a function of the company's understanding that the research required groups that conducted relatively unfettered discussions. Still, meetings varied in just how unfettered they were. The least structured were meetings of six of the seven strategizing groups. Though these always revolved

around the issues that the groups were assigned to strategize about, conversational participation was mostly spontaneous, and the appointed leaders resisted micro-managing, stepping in *as* leaders mostly to keep the groups on topic and on schedule.

More structured were meetings of the division-of-responsibility groups, which involved set agendas and more active chairs — group members who had formal responsibility for organizing and running meetings — but which still left space for long periods of unconstrained conversation around particular agenda items.[11] The most structured meetings were those of the information-sharing groups, in which formal superiors spoke more than anyone else, frequently asking questions and giving feedback through dyadic exchanges with individual subordinates; agendas were important here as well. This also describes the remaining strategizing group, which elected to endow its leader with autocratic powers. But even in these groups, most of the turns were taken by nonsuperiors (or in the strategizing group, nonleaders) who were not directly responding to the leader/superior, with the exception of one group, in which only 36% of turns fit this description.

All the groups had regular, scheduled meetings and, with one exception, little or no turnover from meeting to meeting. Groups ranged in size, with between four and twenty-five attending any particular meeting. (There were 185 primary group members, excluding occasional guests and observers.) Some of the groups met monthly, others weekly, and others — the strategizing groups — for several hours a day over the 2–3 week period. Each group was observed between four and twelve times, and ninety-eight meetings were observed in all. Total observation time was approximately 140 hours, resulting in a data set of about 48,000 observations. Each observation consisted of two parts: the identity of the speaker and the identity of the target. On this second dimension, a person was coded as the target of a remark only if he or she was obviously being addressed; otherwise the remark was entered as undirected. Note also that the coders did not try to distinguish between remarks intended for the group as a whole and those that were ambiguous with respect to target; though this is undoubtedly an important distinction, it is not one easily made in practice, and in what follows I will speak interchangeably of remarks that were undirected and remarks that were directed to the group.[12]

Order

Conversation would not be possible without rules operating to keep it orderly. Paramount is the one-speaker rule; indeed, it is practically constitutive of conversation, since we are reluctant to describe an encounter as a conversation if many people are talking at once. It is important, however, to understand what this rule requires. It does *not* require that there are no moments in which two

(or more) people are simultaneously vocalizing. It does not even require that such instances are uncommon, though, judging from analysis of conversations recorded in the laboratory (Dabbs, Ruback & Evans 1987), they are. What it *does* require is that when overlapping speech occurs, it is either recognized as a normative violation and subject to repair efforts, or else is deliberately designed so as to be nonthreatening to conversational order. An example of the latter is "back-channeling" utterances like "uh-huh" and "hmm," which signal comprehension and encouragement, rather than an attempt to seize the floor. Another example is provided by Schegloff (1987c), with respect to overlapping speech at the margins of a speaking turn. Often someone will begin speaking before, but not long before, another completes a grammatical unit (such as a sentence or clause), not in order to interrupt, but so as to make the earliest possible attempt on the next speaking slot. What the two examples have in common is that neither type of simultaneous vocalization is inconsistent with there being a ratified speaker who is recognized as such by everyone involved.

The one-speaker rule is enormously important to conversation, since it limits both what can happen in the short run — most parties to a group conversation have to accept verbal passivity at any given moment — and what can happen in the long run — in particular, not everyone can dominate conversation.[13] The rule does not, however, specify *who* will speak in a given turn; indeed, it is more of a rule about what will *not* happen than a rule about which of the remaining possibilities will actually occur. Consequently, there must be other rules operating to uphold this one, akin to traffic rules that are not followed for their own sake, but to avoid collisions. (Imagine a no-collision metarule.)

An a priori reason to think that the workings of these rules will be manifested on the level of P-shifts is how closely linked P-shifts are to the very conversational order that these rules must safeguard. P-shift frequencies and conditional probabilities are given in Table 3, which aggregates data across groups. The P-shifts are divided into two groups, those beginning with an undirected remark (A0-) and those beginning with a directed one (AB-), and are then rank-ordered by diminishing conditional probability. (It is because some P-shifts start with an undirected remark, and some with a directed remark, that conditional probabilities are more telling than frequencies, since undirected and directed remarks are not equally common.) A0-XA, for instance, occurred with a conditional probability of .46 (in column A) — conditional, that is, on the initial undirected remark — while AB-BA occurred with a conditional probability of .45, given the initial *directed* remark. Column B gives probabilities that are conditioned upon a change in speaker. For instance, the conditional probability of AB-B0 was .14 *given a change of speaker*, which means that when someone new spoke after a directed remark, 14% of the time it was the person just addressed making a remark to the group. The

TABLE 3: P-Shift Frequencies and Conditional Probabilities

P-shift	Frequency[a]	A. Conditional Probability	B. Conditional Probability Assuming Change of Speaker[b]
A0–XA	6,982	.46	.49
A0–X0	5,643	.38	.40
A0–XY	1,523	.11	.11
A0–AY	738	.05	
AB–BA	13,935	.45	.47
AB–B0	4,036	.13	.14
AB–X0	3,730	.12	.13
AB–XA	3,370	.11	.12
AB–XB	2,777	.09	.10
AB–A0	1,205	.04	
AB–BY	891	.03	.03
AB–XY	621	.02	.02
AB–AY	545	.02	

[a] The total number of P-shifts, 45,996, is less than the number of observations made, 48,291, because of coding breaks, entered for a variety of reasons, that disrupted the sequence of observations.

[b] Excludes turn continuing.

calculations behind the probabilities in column B, the relevance of which will become apparently shortly, thus exclude the turn-continuing P-shifts.

Underlying the frequencies and conditional probabilities of the 13 P-shifts are three basic propensities. In enumerating these, I momentarily leave aside the question of their relationship to the conversational rules that people consciously or unconsciously obey; indeed, the term *propensity* was selected exactly because of its neutrality in this respect. The first propensity was for the target of one turn to become the speaker in the next. Targets spoke next with a conditional probability of .61 (.45 + .13 + .03, corresponding to AB-BA, AB-B0, and AB-BY, respectively, in column A), while the other 39% of the time, either someone turn-usurped, or else the initial speaker turn-continued. I will refer to this as the "turn-receiving propensity."

Second, directed remarks were normally made to the prior speaker or to the prior target, or else to the group as a whole; only rarely did an unaddressed recipient of one turn come to be addressed in the next. I will refer to this as the targeting propensity. Deviations from it occurred only 11% of the time after an undirected remark (A0-XY), and only 5% of the time after a directed one (AB-BY [.03] and AB-XY [.02], all in column B[14]). And this is in spite of the fact that these percentages refer to the likelihood of *any* unaddressed recipient being turned into a target in the next turn, though in a group of any size there

FIGURE 1:   Number of Turns Since Current Target Last Spoke or Was Addressed
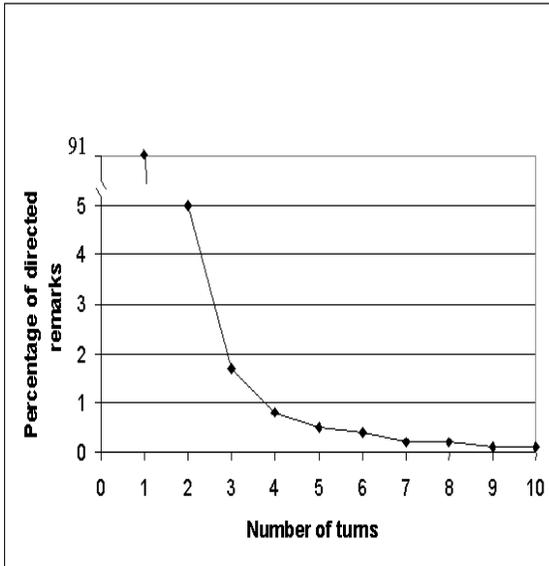
are many people residing in the unaddressed recipient category at any moment. Moreover, when someone else *was* addressed, it was normally someone who spoke or who was addressed very recently. Figure 1 shows that 91% of directed remarks were addressed to people who spoke or who were addressed in the previous turn, and most of the remaining 9% were addressed to people who spoke or were addressed in the two turns prior to that.

Finally, the turn-continuing P-shifts as a group were very rare. The probability of turn-continuing after an undirected remark (A0-AY) was .05, and .06 after a directed remark (AB-A0 and AB-AY, all in column A), even though one might think that once a person has the floor he or she is entitled to decide what to do with it. I will refer to this as the termination propensity, since it means that a speaker's turn was terminated before he or she could take up a second (successive) target — leaving open for the moment whether speakers self-terminate or have their turns forcibly terminated by others.

Though this is not conveyed by Table 3, the propensities describe the behavior of the vast majority of the individual subjects, at least probabilistically. As to the turn-receiving propensity, almost everyone enjoyed an advantage in

speaking after being addressed, and almost everyone was able to bestow this advantage upon others by addressing them. As to the targeting propensity, almost everyone addressed the last speaker or target with a greater likelihood than someone else, and almost everyone was more likely to be addressed after they spoke or were addressed than was anyone else.[15] And in terms of the termination propensity, no one, having already addressed an individual or the group, was more likely to turn-continue by changing targets than to have the floor taken by someone else first, and indeed, almost everyone turn-continued with a conditional probability of less than .10.[16]

That nearly everyone demonstrated the same basic propensities, albeit to different degrees, also means that they operated in all three types of groups, as described in the data section. This makes sense, if propensities at the level of P-shifts are evidence of the operation of generic turn-taking rules that make conversation possible regardless of the details of any particular encounter — who is present, what relationships they already have with one another, what their discussions are about, and so on (Lee 1987; Sacks, Schegloff & Jefferson 1974). But what, exactly, is the relationship between propensities at the level of P-shifts and these conversational rules? Are conversational rules *about* P-shifts? Or do P-shift patterns, summarized here as a set of three propensities, indirectly reflect the operation of conversational rules that govern behavior at some other level?

The relationship between behavioral patterns and underlying rules is always complex, and this is especially the case when the regularities are a matter of relative propensities to which there are frequent exceptions. In linguistics, it is common practice to stipulate a rule as operating at one level, such as that of syntax, even if the underlying reason for that regularity, such as brain organization, is not understood, and even if the rule has known exceptions (Jackendoff 2002:55-57, 144-49). Along these lines, we might formulate each P-shift propensity as a rule: *speak when you are addressed; address the prior speaker or target or group; do not change targets in the middle of a turn.* But because P-shifts lack the internal complexity of syntax, based as they are on the categorization of a relatively small number of inter-turn transformations rather than the much greater number of syntactic variations, we come quickly to the analytical limits of this level of analysis, at which point the propensities *qua* rules promptly beg for further explanation.

What we need is an explanation of the P-shift propensities that appeals to rules or constraints operating at other levels. The obvious candidates are those formulated by conversation analysts in their attempt to explain the orderliness of turn taking, to which P-shifts bear an obvious relation. Consider, in particular, the rules famously promulgated by Sacks, Schegloff, and Jefferson (1974). The "current-selects" rule endows a speaker with the ability to select his or her successor through application of an "adjacency pair first part," such as a

command or question, which makes it very likely that the person so addressed will respond with the second part (acceptance or refusal, an answer). As indicated earlier, such adjacency pairs prototypically take the form AB-BA, which might explain why this P-shift occurred so frequently, if many of the directed remarks in these groups were utterances such as questions, commands, and requests.[17] That AB-B0 was also relatively common may indicate that some adjacency pair first parts set up an obligation for their recipients to address the group in the following turn. An adjacency pair taking the form of AB-B0 might, for instance, begin with, "John, can you please tell us how this is going to influence the group's work?" — whereupon John might go on to speak to the group.

While A0-XA might be seen as resulting from adjacency pair first parts issued to the group (e.g., "Can anyone tell me . . .?"), AB-XA seems to have little relationship to adjacency pairs (since if someone turn-usurps to respond to a question directed to someone else, this would count as a violation of the adjacency pair rule), and the same is even more true for AB-XB. However, both AB-XA and AB-XB, as well as A0-XA, are consistent with a more general requirement identified by Sacks and colleagues, for speakers to respond to, or in some other way build upon, whatever was said previously. "Regularly, then, a turn's talk will display its speaker's understanding of a prior turn's talk, and whatever other talk it marks itself as directed to" (Sacks, Schegloff & Jefferson 1974:728).[18] The first part could easily account for the frequency of AB-XA and A0-XA, both of which involve addressing the prior turn's author, while the second part points to the possibility of AB-XB, which involves addressing the person to whom the prior turn was itself directed, and thus (presumably) whatever talk that person was recently responsible for.

Finally, the termination propensity makes sense in light of Sacks and colleagues' claim that someone new is entitled to speak whenever the current speaker reaches a "transition-relevance place." While Sacks and colleagues focus on transition-relevance places that occur at the instant of grammatical completion (e.g., of a clause or sentence), Ford and Thompson (1996) have found that the completion of a pragmatic act is an even stronger predictor of speaker transition. It is not difficult to imagine that any attempt to switch targets mid-turn will involve a grammatical or pragmatic completion, which would provide ample opportunity for someone else to seize the floor at the instant that the switch is attempted or, as Sacks and colleagues like to say, "projected" as imminent.[19]

Though it is thus plausible to account for the main contours of Table 3 in light of conversation-analytic principles, another possibility needs to be addressed. The turn-receiving and targeting propensities, if not the termination propensity, are equally sensible from the perspective of expectation states theory — not as reflections of generic turn-taking rules, but as patterns arising within

task settings specifically. As explained earlier, EST researchers claim that interaction in such settings — at least when the other scope conditions are met — boils down to (optional) action invitations, whereby someone is invited to offer an opinion; performances, whereby the opinion sought is offered; and evaluations, whereby the opinion is met with approval or (if the person speaking is not respected) disapproval (Berger & Conner 1974). This could, in principle, account for the turn-receiving propensity, if many of the directed remarks that precipitate turn-receiving are action invitations. Moreover, Fisek, Berger, and Norman (1991) conjecture that to the extent that status differences arise from interaction itself, rather than from attribute differences, the outcome of one dyadic contest empowers the winner to take on someone else, while identifying the loser as someone others might also hope to dominate (see also Chase 1980). "Thus, at any time, a new behavior pattern is more likely to involve an actor who was involved in a previous behavior pattern than an actor who was not involved" (Fisek, Berger & Norman 1991:119) — which could conceivably translate into P-shifts such AB-XB and AB-XA. (I think that EST, however, would not have anticipated the extreme rarity of AB-BY.)

Conversation analysis and expectation states theory are predicting similar things: that people will respond when addressed, particularly with a question; and that unaddressed recipients get drawn into conversation with the people already active in it — where in both cases, the first prediction is explicit, while the second is more implicit. Though the standard approach to adjudicating between competing theories is to find a crucial test that confirms one but not the other, I think that another possibility is available to us here. The predictions of EST might be viewed against the backdrop of CA's turn-taking machinery, as pertaining to the specifics of how conversational options created by underlying rules and constraints are used in this particular setting — in which, for instance, the questions that precipitate responses, as per conversation analysis, are not about the weather or the latest gossip, but the problem-solving task at hand. This is wholly consistent with Sacks and associates' (1974) claim that their rules are, as quoted earlier, "context-free and capable of extraordinary context-sensitivity" (699), for in this case the context is defined by EST's scope conditions.

While this absolves us from having to choose one interpretation over another, there are other reasons to prefer the more conversation-analytic interpretation of the P-shift patterns found in these 13 groups. For one thing, EST's scope conditions only remotely applied to this setting: while the groups all had tasks to accomplish in the meetings, not all were well-defined (the strategizing groups especially struggled with the nature of their task); of those that were, not all posed a significant challenge (the information-sharing groups, in particular, had few challenging problems to solve); group members certainly had different levels of expertise on any particular matter; it is not at all apparent

that all members of the groups were committed to the group's work (some of the division-of-responsibility group members seemed especially indifferent); and group members frequently knew each other in advance, and if they did not (as in the strategizing groups), they were even more concerned with managing the nascent relationship. Consequently, we have little a priori reason to anticipate that EST dynamics will be paramount in this setting. In contrast, insofar as these were largely spontaneous discussions, we have reason to expect that people made liberal use of the conversational resources they entered into the room with, which is exactly the concern of CA.

The second reason to prefer a CA interpretation of the findings is that the typology of speech acts advanced by EST is difficult to reconcile with any speech act scheme that attempts to do justice to the variety of things people can accomplish when they talk (Austin 1962; D'Andrade & Wish 1985; Levinson 1983:226-43). EST researchers can take either of two positions on this observation. The first is that the variety of speech acts is dramatically reduced when EST scope conditions are met, something which could be demonstrated through a speech act inventory of experimental groups, but which, to my knowledge, has not been. The second position is that while such an inventory, if guided by one of the more detailed speech act typologies, would turn up many types of utterances, each essentially fills one of the three functions of invitation, performance, and evaluation. In that event, the typology needs to be confirmed deductively, by coding all utterances in terms of these categories, and then testing the claims that EST makes about sequential patterns. Recent work along these lines (Shelly & Troyer 2001) has not produced the kind of unambiguous validation that was expected.

The CA rules of turn taking are, in contrast, compatible with a range of speech acts, and conversation analysts are not given to pre-judging what these might turn out to be. Thus the CA interpretation of the P-shift propensities is more compatible with the interpretation of group differences that I provide later, in which I point to the sorts of substantive exchanges that different group conditions encouraged.

Granting the (nonexclusive) CA interpretation of the P-shift propensities, what are we to make of their probabilistic nature, since all of them encountered exceptions? First, I have stressed that the P-shift propensities are themselves only imperfect manifestations of the operation of underlying rules. Rules do not prescribe specific P-shifts, but discursive expectations the satisfaction of which finds natural, but not inevitable, embodiment in particular P-shifts. Second, conversation analysts do not assume that their rules, such as the current-selects rule, operate with law-like regularity, only that these rules shape expectations of what *should* happen, with the result that the absence of an anticipated response — such as an answer to a question — is itself palpable, requiring an explicit appeal to extenuating circumstances or other repair ef-

forts (Goodwin & Heritage 1990). Consequently, a rule can pervasively operate and yet not always be followed in the straightforward sense. That being said, if a given rule were excusably violated more often than satisfied, the expectations that that rule normally shapes would be weakened, so that while conversation analysts deny that their rules have any straightforward statistical implications (e.g., Goodwin & Heritage 1990), it is conceivable that a statistical pattern — a rule which is infrequently followed — would have implications for their rules.

Third, an important insight of recent (institutional) conversation analysis is that in many organizational settings, conversational entitlements and obligations fall differently upon people, according to their formal roles — such that, for instance, a formal superior may be entitled to override the current-selects rule by interjecting a comment after one subordinate asks a question of another, before the latter can reply. To the extent that deviations from the P-shift propensities actually do reflect violations of the rules governing ordinary discourse, then, we would expect to find that they are disproportionately caused by individuals occupying roles to which are attached exceptional responsibilities or entitlements — which in fact is amply demonstrated in the next section.

The Differentiation of Persons

P-shifts, I have suggested, reflect not only the operation of rules but also the substantive things people *do* in conversation, such as asking and answering questions, piggybacking and being piggybacked upon, stating opinions and objecting to the opinions of others, and so forth. Since people do different things, and have different things done to them, they should also have different tendencies to become involved in particular P-shifts. But how is such differentiation possible, given that people are subject to rules that affect when they can speak, what they can say, and whom they can address?

If we assume that unmitigated violations of conversational rules are rare — this an important but generally unstated finding of conversation analysis — then differentiation does not mainly derive from individuals' differential tendencies to break those rules, but from their differential involvement in the range of conversational sequences that those rules permit (including those that involve superficial rule violations that are justified by extenuating circumstances, or by the prerogatives attached to someone's formal role). It is in this light that we should interpret differentiation in P-shift involvement, as reflecting differential involvement in permitted sequences, even those that amount to deviations from the P-shift propensities which, as I indicated in the last section, are rule-related but not directly rule-dictated.

With respect to the P-shift propensities, there are three logical ways in which people can be differentiated.[20] First, to the extent that P-shift propensities encounter exceptions, or deviations, people can be differentiated both in their respective tendencies to deviate (e.g., some people may be given to turn usurping) and in their tendencies to benefit or suffer from the deviations of others (e.g., some people may be frequently addressed in a turn after one in which they were an unaddressed recipient, or frequently prevented from speaking by some turn-usurper). Second, while the turn-receiving propensity singles out one person as the likely next speaker, and the termination propensity merely brands turn continuing as improbable, the targeting propensity identifies a *range* of likely next targets: the prior speaker, the prior target, or the group as a whole. This opens the way for people to be differentiated both in their tendencies to select one permitted target over another upon speaking (e.g., some people may be given to addressing the group whenever possible), and in how they are affected when the same latitude is exercised by others (e.g., some people may find that no one ever speaks to them after they address the group). Third, the turn-receiving propensity specifies only who is likely to take the floor after a directed remark. It is silent with respect to who is likely speak after an undirected remark, that is, with respect to who is likely to turn-claim, and some people may be more adept at this than others.

The subjects, as it turns out, were differentiated along all of these lines, as is evident in their different tendencies to become involved in different P-shifts, both as speakers and targets. We can summarize a person's P-shift involvements as a profile that takes the form of a vector of conditional probabilities that a particular P-shift will be completed conditional upon its first half, where ego, the individual in question, appears as speaker or target at least once in the P-shift.[21] For example, $\Pr(BA|A_iB)$ is the conditional probability that ego (i), having addressed someone (A_iB-), will receive an immediate reply from that person in the next turn (-BA) — that is, the probability of A_iB-BA happening given the occurrence of the first-half, A_iB. Similarly, $\Pr(X_iB|AB)$ is the conditional probability that ego will turn-usurp and address the last target, following a directed remark in which ego was not involved, and of course given ego's physical presence. I refer to each of these possibilities as P-shift "slots," or "P-slots." Note that all P-shifts involve at least two P-slots. AB-XA, for instance, includes three — A_iB-XA, AB_i-XA, and AB-X_iA — where the subscript is used to identify the first appearance of the focal position (i.e., A_iB-XA rather than AB-XA_i). Together these capture all of the ways in which a person can be "involved" in that P-shift: as the first speaker/second target (A_iB-XA), as the first target (AB_i-XA), or as the second speaker (AB-X_iA).
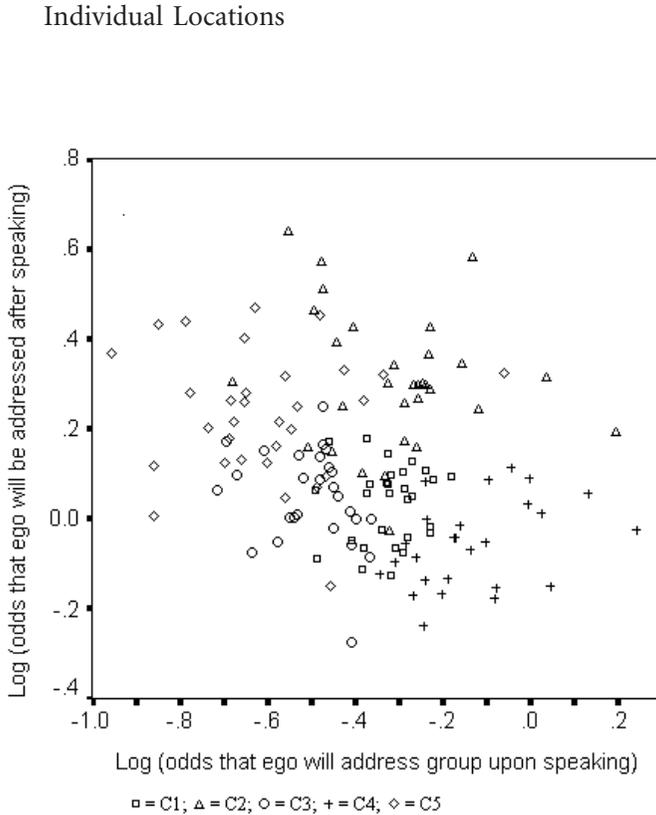
A person's P-shift profile is, in an important sense, a representation of his or her role, which Parsons defines as "what the actor does in his relations with others seen in the context of its functional significance for the social system"

(1951:25). Here, "what the actor does in his relations with others" is complete particular P-shifts: turn claiming and talking to the last speaker (A0-X_iA), turn-receiving and talking to someone other than the last speaker (AB-B_iY), turn-usurping and talking to the last target (AB-X_iB), and so on. The social system is the conversational system, a recognizable social entity to the perpetuation of which people contribute by speaking and addressing, that is, by completing P-shifts and thus constructing the turn sequences that are *constitutive* of that system (see also Luhmann 1995).

I will refer to the set of things that an "actor does in his relations with others" as his or her agent tendencies. P-shift profiles also capture another important feature of roles, however: "the behavioral characteristics we have in mind when talking about roles," writes Nadel (1957:23-4), "will always include, besides the actor's own mode of behaviour, that of others toward him." Just as people execute P-shifts, people can have P-shifts executed with respect to them, by others. Thus, using the same examples, a person can be addressed after he or she speaks to the group (A_i0-XA), or he or she can talk to someone and then watch that person address someone else (A_iB-BY), or he or she can address someone and then have another person do the same (A_iB-XB). I will refer to behaviors of this sort, for which ego is on the receiving end, as recipient tendencies.

Because no two people are entirely alike, even when subjected to the discipline of conversation, we have as many distinct profiles as we have people, and yet we would not want to say that there are as many roles as persons in the world. Normally, roles are thought to number fewer than people, so that a given role can have different occupants. Here I take an inductive approach to identifying P-shift roles — that is, roles as defined by P-shift involvement — by asking how, in fact, people were typically differentiated from one another in their P-shift profiles. This was achieved through application of the tabu search clustering algorithm (Glover 1989), which allows for the identification of relatively similar cases vis-à-vis some set of variables or dimensions — here, P-slot conditional probabilities. Here I restrict myself to summarizing the results of this analysis, leaving details for Appendix A. The first thing that became apparent in the clustering analysis was that a person's capacity for self-selection, or to speak when he or she was not addressed in the prior turn, needed to be separated out from all of the other information contained in the P-shift profiles before clusters could be discerned in the latter. Once the capacity for self-selection is extracted out, what is left of the P-shift profiles are (1) a person's likelihood of being involved in one of the P-shifts conditional upon speaking or being addressed in the first of the two turns in question, and (2) a person's likelihood of completing a particular P-shift *conditional upon their turn claiming or turn usurping*.[22]

FIGURE 2: Two Major Dimensions of Cluster Differentiation

Individual Locations

Log (odds that ego will address group upon speaking)

□ = C1; △ = C2; ○ = C3; + = C4; ◇ = C5

Five stable clusters of P-shift profiles were identified by the algorithm, where "stable" here means, colloquially, that this constitutes a nonarbitrary classification of individuals in terms of their P-shift profiles. I refer to these as C1 through C5. Their distinguishing characteristics are presented in Figure A1–A5 in Appendix A, which indicates how many cluster occupants fell above the median conditional probability for each profile element.

Though the clusters implicate many P-slot combinations, and each cluster appears to be a hodgepodge of P-shift traits, we can discern two major axes of differentiation that help unify many of the particular patterns that characterize individual clusters, and that allow us to array all of the clusters along a smaller number of dimensions. In terms of agent tendencies, a main axis of differentiation involves an actor's penchant for addressing the group upon speaking: the occupants of C2 and C4 demonstrated a stronger-than-average tendency to make undirected remarks (AB_i-B0, A0-X_i0, and AB-X_i0), as did those in C1, at least upon turn claiming (A0-X_i0) and turn usurping (AB-X_i0).

FIGURE 2:   Two Major Dimensions of Cluster Differentiation (Cont'd)

Cluster Locations
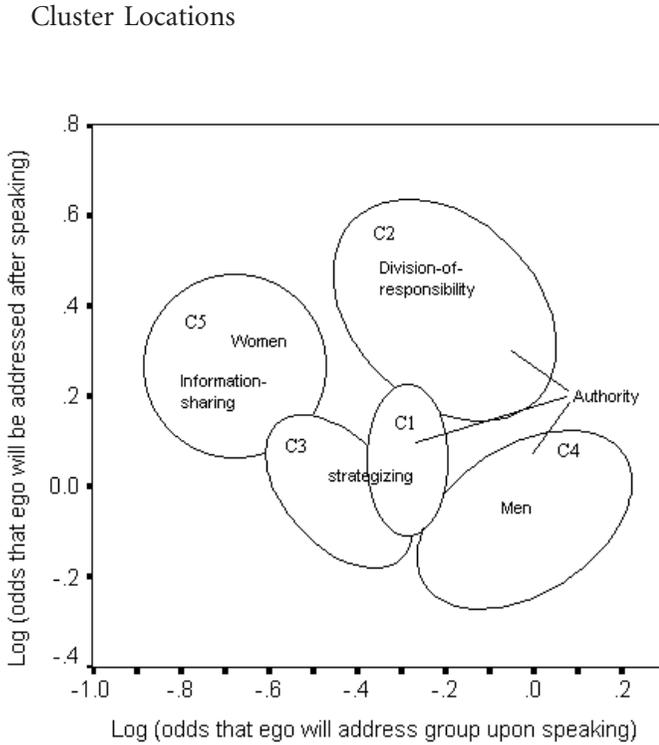
In contrast, the people in C3 and C5 were less likely than average to talk to the group, and more likely to talk to the prior speaker (AB$_i$-BA, A0-X$_i$A, AB-X$_i$A) or, in the case of C3, to the prior target (AB-X$_i$B) or someone else altogether (A0-X$_i$Y).

As to recipient tendencies, the main axis along which P-shift clusters are differentiated is related to whether ego's successor to the floor addressed ego or someone else, inclusive of the group. People in C2 and C5 were relatively likely to be addressed after speaking (A$_i$B-BA and A$_i$0-XA). People in C4 were less likely to be addressed next, with their successors demonstrating a greater-than-average tendency to talk to the group (A$_i$B-B0, A$_i$0-X0, and A$_i$B-X0). Subjects assigned to C3 were different still, more likely to trigger, in the next turn, a remark to someone *else*: the prior target (A$_i$B-XB), the group (A$_i$0-X0, A$_i$B-X0), or someone else altogether (A$_i$0-XY) — though only if the next speaker self-selected.

We can graph subjects' locations in the two-dimensional space defined by these axes. I do this by first calculating the agent tendency axis as the log odds

FIGURE 3: Self-Selecting Probabilities, by Cluster
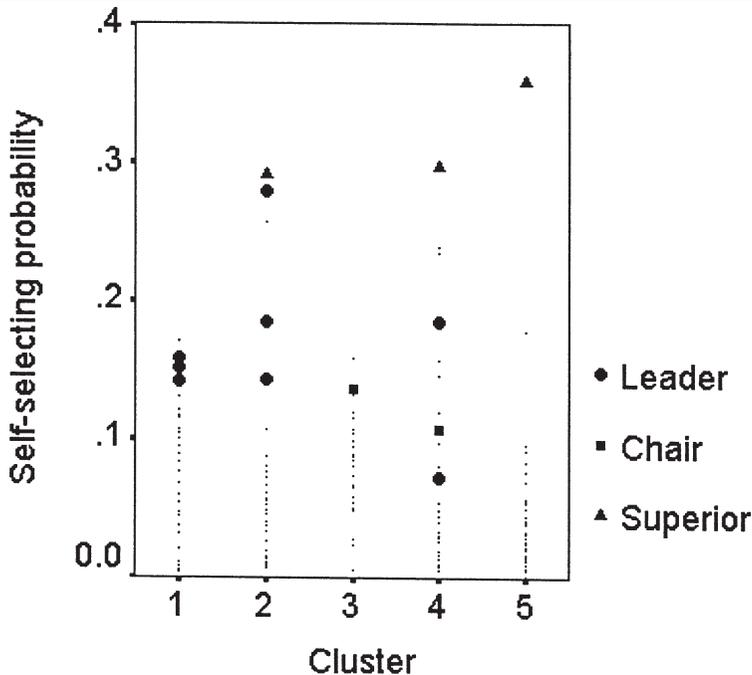
of ego addressing the group upon speaking, and the recipient tendency axis as the log odds of ego being addressed after speaking.[23] Individuals are graphed against these dimensions in Figure 2a, and the clusters themselves are graphed in Figure 2b (in what is basically a simplification of 2a); the labels on 2b anticipate later findings. That the clusters are not neatly segregated in Figure 2a is not surprising: the two-dimensional space is a gross simplification of the profiles that were submitted to the clustering algorithm, collapsing across the twenty-nine P-slots that constitute an individual's P-shift profile in an effort to extract two especially important dimensions. Further, some of the cluster information does not figure directly into Figure 2 at all, as the graphs do not discriminate between ego's targeting options when he or she made a directed remark, nor who was addressed by ego's successor if it was not ego; nor are the turn-continuing P-shifts, one of which (A_i0-AY) is a distinguishing feature of C5, reflected in Figure 2. To repeat, the purpose of Figure 2 is not to depict the profiles graphically, for which twenty-nine dimensions would be necessary, but to array the clusters along two continua that appear, based on the clustering output presented in Appendix A, to have played a particularly large part in discriminating between individuals.

While the clusters capture much of a person's conversational role, insofar as this is reflected in P-shifts, P-shift roles have another important component

as well: a person's ability to self-select, which was bracketed for the purposes of the clustering analysis. Figure 3 plots self-selecting agent tendencies, calculated as the conditional probability of a person speaking after a turn in which he or she was not addressed, against the five clusters. Clearly, there was substantial differentiation along this dimension as well, with one person self-selecting with a conditional probability of .36, but most doing so with a conditional probability of under .075, while twenty people never self-selected at all.

Let us take stock of what all of this says about how differentiation occurs vis-à-vis the P-shift propensities. Differentiation in terms of self-selection — itself an agent tendency — is possible because of the relative permeability of the turn-receiving propensity, which encounters frequent exceptions, and which, furthermore, is silent with respect to who might be expected to turn-claim after an undirected remark. That turn usurping was relatively common also helped define C1, the occupants of which were relatively unlikely to transfer the floor through addressing. Differentiation in terms of P-shift profiles, in turn, is largely attributable to the fact that the targeting propensity is compatible with a number of target options. That the P-shift propensities were underdetermining in these respects was apparent in Table 3; what the analysis of P-shift profiles provides is insight into the kinds of conversational identities, or roles, that were made possible as a result.

Formal Roles

In speaking about P-shift roles, a question that naturally arises is whether roles in this sense correspond to formal roles that are fixed in advanced of an encounter. Are people, in other words, predictably differentiated according to the parts they are assigned to play? As explained earlier, in each of the groups studied, one person was assigned to the role of formal authority, though this meant something different for each of the three types of groups. The location of these individuals is given in Figure 3, with the different kinds of formal authority roles — team leaders, chairs, and formal superiors — indicated separately. What all had in common was a strong capacity for self-selecting; indeed, in most groups, these individuals were better at this than anyone else. Furthermore, all but two are in the three clusters — C1, C2, and C4 — that were characterized by a positive agent tendency to address the group, as indicated in Figure 2. This is consistent with past findings that dominant individuals — those who speak the most overall — address an unusually large proportion of their remarks to the group (Bales 1999:248; Fisek, Berger & Norman 1991).

Moreover, two-sided t-tests of their involvement in particular P-slots reveals that the holders of formal authority had a penchant for turn-continuing, whether this entailed speaking to two individuals in succession (A_iB-AY,

$p < .01$), to an individual and then to the group (A_iB-A0, $p < .05$), or to the group and then to some individual (A_i0-AY, $p < .05$). Formal authority, it appears, found expression through deviations from the termination propensity — which is not to say that leaders, chairs, and superiors did this frequently, only that they were more likely to do so than others.

Still, it is apparent from Figure 3 that there were several ways in which authority could be enacted (and reacted to). Were it otherwise, superiors, leaders, and chairs would fall into the same cluster, perhaps one reserved for them exclusively, whereas they are actually dispersed among several. This variation can be found even among the leaders of the seven upper-level strategizing groups which, with one exception, assigned to their leaders basically the same set of responsibilities: for group progress towards a set of objectives, for resolving conflicts, and for scheduling, convening, and adjourning meetings. This is particularly interesting from the perspective of the conversation-analytic study of institutional talk (e.g., Maynard 1991), since this sort of (iterative) differentiation does not follow in any obvious way from the conversational obligations and entitlements that these individuals should have held in common. The implication is that how formal authority is exercised in conversation is partially contingent on local circumstances, on how the authority role is understood and collaboratively enacted by the members of a particular group.

The discussion in the bulk of this section has been about differentiation from the bottom up, about the way in which people differentiated themselves and one another through individual P-shifts, and the way in which these distinctions accumulated over time into standard profiles. What is lacking from the analysis so far are groups, within whose boundaries differentiation occurs, subject both to internal constraints and interdependencies that mold the range of possible profiles (or roles) and to the force of external expectations that constitute the conversational context. This context operates "from above" upon conversational sequences that are, at the same time, constrained "from below" by conversational rules. These group-level considerations are my concern in the next section.

The Differentiation of Groups

"The division of labor progresses the more individuals there are who are sufficiently in contact with one another to be able mutually to act and react upon one another" (Durkheim [1893] 1984:201). Durkheim's account of differentiation within societies applies to small groups as well, inasmuch as their members contend for access to the scarce resource of speaking time. People can coexist within a conversation only insofar as there is differentiation. We have seen that this occurs on two different levels. First, moment by moment,

the turn-receiving, termination, and targeting propensities differentiate between likely next speakers and next targets and unlikely ones. Second, these moment-by-moment distinctions concatenate into longer sequences that consistently discriminate between individuals. What this reveals about the underlying conversational rules is, first, that they work via adjacency (Schegloff 1988), whereby what happens in one turn constrains what can happen in the next; and second, that these constraints are not inconsistent with a range of possibilities at each juncture, or with the recurring reintroduction of identities as factors relevant to the selection among those possibilities.

Furthermore, behind all of this is the one-speaker meta-rule, the long-term implication of which is that people have to divide up a strictly delimited opportunity space in such a way that their contribution patterns fit together. This fitting together is easily discerned in terms of self-selection tendencies. Because one person can consistently self-select only insofar as others do not, a group's carrying capacity for frequent self-selectors is limited. Predictably, then, the larger the group, the greater the proportion of members who fell into the bottom of Figure 3. Conversational roles fit together in a subtle way as well, however, through the way in which P-shift profiles interdigitate. Here what matters is the principle of dyadic complementarity: every time you turn-receive and address the last speaker (AB$_i$-BA) there is someone else who "turn-gives" (i.e., transfers the floor through a directed remark) and gets addressed next (A$_i$B-BA); every time you are addressed after speaking to the group (A$_i$0-XA), there is someone who turn-claims and addresses the last speaker (A0-X$_i$A), and so on.

While these are useful truisms, on the basis of which one might, for instance, examine the way in which the clusters as such were interrelated, in the remainder of this section I wish to take a different tack, to examine whether, and how, P-shift roles are induced "from above," by a group's official function, and some of the particulars of how it goes about fulfilling that function. Recall the threefold group type distinction described in the data section. As summarized in Table 2, this involves a number of dimensions: organizational level, nature of the task(s), subjects' relationships to one another outside the meetings, nature of the formal authority role, typical conversational activities, degree of meeting structure, and general conversational tone. All of these but maybe the last are aspects of the conversational context, the conditions under which conversation was conducted in a particular group. (Tone might be seen as an outcome.) My question here is whether, and how, these combinations of conditions were differentially associated with the P-shift roles explored in the last section.

The chi-square statistic for the cross-tabulation of cluster by group type is 80.1, with eight degrees of freedom, which indicates significant association at the $p < .001$ level.[24] This means that the clusters were not equally represented

TABLE 4: Loglinear Models for Effects of Sex (S) and Group Type (T) on
Cluster (C)

Model	L^2	d.f.	p
1. {ST} {C}	103.0	20	.00
2. {ST} {SC}	91.5	16	.00
3. {ST} {TC}	10.9	12	.54
4. {ST} {SC} {TC}	2.4	8	.97
5. {STC}	0	0	1.00

across the three group types, controlling for marginals (the total number of
people from each cluster and the total number of people to whom cluster
membership could be assigned in each group type).

It is possible, however, that the observed association between group type and
cluster is actually an artifact of attribute effects and the way in which attributes
are themselves distributed between the different types of groups. As explained
earlier, the importance of attributes for conversational behavior has been well
established by small-group researchers, and while such research has not
examined P-shifts per se, it is conceivable that men, for instance, engage in
different P-shifts from women and are differentially engaged by others, with
the result that any association between group type and cluster may prove to
be spurious once those attributes are taken into account.

People have many attributes, and it would be impossible to examine the
effects of all of them. We can, however, make a start at determining the relative
importance of attributes vis-à-vis group type by simultaneously analyzing the
effects of group type and sex, the attribute whose effects have been most
thoroughly explored, on cluster occupancy. For this, hierarchical loglinear
analysis was applied, taking a person's cluster as the response (dependent)
variable and including in each model the two-way term capturing the
distribution of men and women among the group types (Agresti 1990:152).
(Leaders, chairs, and superiors were excluded from this analysis.)

The results are reported in Table 4. While the addition of the sex-effect term
{SC} to the baseline model results in a significant improvement in fit —
compare models 1 and 2 — the addition of the group type term {TC} in model
3 does much better, judging from the larger reduction in the likelihood-ratio
statistic (L^2) and the much larger p-value of the resulting model (.54 in model
3 vs. .00 in model 2). The improvement in model fit is significant at the $p < .001$
level. Adding the sex effect term to *this* model results in a much smaller
improvement in model fit — compare the reduction in the likelihood-ratio
statistic between models 1 and 3, and between models 3 and 4 — which is
significant only at the $p < .10$ level. What this means is that the effect of sex on
a person's cluster assignment was much weaker than the effect of group type.
To the extent that we take the barely significant sex effect seriously, women were

TABLE 5: Association between P-shift Clusters and Group Type —
Adjusted Residuals from Loglinear Independence Model, and
Raw Frequencies

Group type	C1	C2	C3	C4	C5
Strategizing	5.0* (23)	−2.4* (4)	3.0* (18)	−.6 (8)	−4.9* (0)
Responsibility	−1.8 (2)	4.2* (17)	−1.6 (2)	−1.3 (2)	.6 (9)
Information	−3.4* (4)	−1.0 (11)	−1.6 (7)	1.7 (18)	4.3* (23)

* $p < .05$

more likely to be found in cluster 5 and men in cluster 4, controlling for the effects of group type. It is interesting to note that this places them on opposite ends of the two axes in Figure 2, with men more likely to speak to the group and not to be addressed in the next turn and women more likely to make directed remarks and then to be addressed.[25]

What the loglinear analysis provides is some evidence for the importance of conversational context for the range of conversational behaviors that occur within an encounter and the way in which individuals are differentially implicated in these. It is not intended as a test of EST, for while the effects of sex were fairly weak, at least with respect to cluster assignment, there are many other status-relevant variables that would have to be considered before we could decisively say that attributes played a secondary role. Instead, this should be viewed as one piece of evidence for the larger argument that conversational patterns are generated at the point of contact of conversational context and conversational rules, an argument which I now flesh out with observations of a more ethnographic nature. This does not preclude the possibility that attributes have some impact, but it problematizes this impact to a greater extent than is typical within EST. In the Conclusion I will argue that this is ultimately to the benefit of EST researchers.

Setting sex aside now, we can examine the precise relationship between cluster assignments and group type by looking at Table 5, which reports the adjusted residuals from the loglinear independence model for the relationship between cluster and group type, along with raw frequencies. A positive residual indicates a higher-than-expected concentration of people from that cluster in that type of group, while a negative residual indicates a lower-than-expected concentration. Residuals that are statistically significant at the .05 level are marked with an asterisk. The strategizing groups clearly had more than their share of people from C1 and C3, but very few from C5 — in fact, none at all. The division-of-responsibility groups, in contrast, were distinguished by concentrations of people from C2, and the information-sharing groups by the

relative shortage of anyone from C1 and an abundance of people from C5. The occupants of C4 found about equal representation in all three types of group.

An explanation of these findings has to relate group type to particular P-shifts, and more precisely, to the way in which different P-shift patterns were induced around particular individuals. As a starting point, recall my earlier claim that P-shifts are reflective of different substantive speech acts, further confirmation for which can be found in Gibson (2001). This suggests that a group's assemblage of P-shift roles can be explained by appeal to the sorts of substantive exchanges common to it, as engendered by its organizational assignment or function. What I provide here is some reasonable conjecture along these lines, pointing the way toward future research that can shore up the connection between a group's conversational activities and the P-shift roles it induces through a more direct and sustained analysis of conversational content.

To start, meetings of the strategizing groups were dominated by discussions about the organization's existing culture and practices, and possible recommendations for improving them, along with a great deal of agonizing about the acceptability of particular recommendations to crucial higher-ups. In this discursive genre, adjacency pairs, which take the form of AB-BA, may not be very prevalent. For one thing, many adjacency pairs, such as request-grant and command-assent, are oriented toward practical action, whereas the discussions in the strategizing groups were deliberative, often conducted in a hypothetical mode. For another, in an organizational context, adjacency pairs — including the two just given as well as question-answer — are often instruments of formal authority (Boden 1994:112), whereas these groups were, with the exception already noted, deliberately designed to be as egalitarian as possible without being leaderless.

This helps explain why the strategizing groups tended to push people into C1, which has as its core feature the relative infrequency of the adjacency pair P-shift AB-BA, both after ego speaks and after ego is addressed (see cluster 1 in Figure A1 in Appendix A). It may also explain why the strategizing groups had so many people in C3, since a speaker is less likely to be addressed next (A_i0-XA) if he or she shuns issuing adjacency pair first parts to the group that would otherwise obligate next-speakers to reply. C1 and C3 differ, however, in important respects. In particular, occupants of C3 were themselves quite *likely* to address the last speaker, especially upon turn claiming ($A0$-X_iA) and turn usurping (AB-X_iA). What might explain this is the fact that the more talkative people in this cluster — that is, those who self-selected most frequently — were also the most contentious, constantly challenging others' assertions and any attempt others would make to draw conclusions and achieve closure on particular topics. And observe how others were apt to respond: not so much by replying directly, but by speaking to the group (A_i0-X0 and A_iB-X0) or to the prior target (A_iB-XB), or even, to a greater extent than usual, to someone else entirely (A_i0-XY), perhaps so as to dodge a direct confrontation. While

this contentiousness was probably not unrelated to personality factors, that it found expression in these meetings is tied to the type of discussions being conducted, which were geared toward the formulation of recommendations for which all members would be held responsible.

Now consider the concentration of occupants of C2 in the division-of-responsibility groups. Much of the meeting time of these groups was devoted to account-giving, whereby one member would explain what he or she had spent the prior week or month doing, and often, why something had gone wrong — usually due to the interdependencies that the group was originally created to work around. This explains the main features of C2: its occupants frequently addressed the group upon speaking (AB_i-B0, A0-X_i0, AB-X_i0), and were addressed by the next speaker (A_iB-BA, A_i0-XA) — arguably by someone looking for further information or justification.

C5 occupants, utterly absent from the strategizing groups, were concentrated in the information-sharing groups. To a much greater extent than in the strategizing and division-of-responsibility groups, the meetings of these groups were undermotivated, having been called by well-intended superiors in order to foster team work, but lacking in agenda items that would engage any more than a few people at a time.[26] Much conversation consequently involved the superior and whatever subset of individuals was responsible for the agenda item on the table, with interested others piping in with supporting information or requests for clarification. This accounts for the prevalence of individuals from C5, a distinguishing feature of which was a stronger-than-average tendency to address the last speaker (with a question, or with information made relevant by whatever was just said), and then to be addressed in the next turn (with an answer, or to be pressed for more details).

This same feature may also explain the involvement of people in C5, and thus in the information-sharing groups, in AB_i-A0 and A_i0-AY. And some such explanation is needed, since on the face of it, AB_i-A0, whereby ego is addressed and then passed over before having the chance to respond, and A_i0-AY, whereby ego holds the floor long enough to accomplish a rare change in targets, should describe the behavior of different people entirely, if what is at issue is simply control of the floor. But if, as I have suggested, the people in C5 were basically sources of information, engaged when they were thought to have relevant information to provide and not otherwise, the relative commonality of AB_i-A0 might be seen to follow. Specifically, if ego, upon being addressed, failed to turn-receive, the initial speaker's remark might not be of general enough interest to motivate anyone else to turn-usurp, a circumstance which, according to Sacks, Schegloff, and Jefferson (1974), will leave that person (A) with the responsibility of continuing to speak; that he or she was then especially likely to make an undirected remark (AB_i-A0) may indicate a tendency to attempt to reengage the rest of the group.

The relatively high likelihood of A_i0-AY among people in C5 might have reflected the same lack of interest on the part of unaddressed recipients to speak following ego's undirected remark, except that A_i0-XA was relatively common. It is important to remember, however, that the first half of this P-shift, whereby ego addresses the group, was rare for occupants of C5 who, recall, preferred to make directed remarks. A_i0-AY may reflect exactly this preference: having failed to clearly identify a target at the outset, the C5 occupant quickly remedied this by unambiguously selecting someone out, perhaps the person for whom the information was most pertinent.

To summarize, I have argued, with some statistical backing, that the nature of a group's work is important in the shaping of its internal "role ecology," or the way that people are differentiated from one another in their involvement in participation shifts, and (extrapolating now) the substantive exchanges for which these P-shifts serve as structural hinges. Roles, in other words, are induced by a group's raison d'être, or more precisely, at the intersection of this and conversational rules and constraints that keep conversation orderly. To put this another way, roles are affixed to individuals at the point of contact between the organizational exigencies that occasion encounters and the conversational rules that undergird them. Since organizations require that many sorts of tasks get accomplished, we can say that the organizational differentiation of conversational encounters creates the lower-level environments in which the conversational differentiation of persons takes place.

Conclusion

I started with the problem of how conversational rules accommodate conversational differentiation, a problem that I argued neither conversation analysts nor small-group researchers have adequately addressed: conversation analysts for lack of an adequate conceptualization of conversational differentiation, and small-group researchers for lack of an appreciation of the details of actual interaction sequences and of the rules that underlie these. Given these limitations, and given the importance of the problem of differentiation for our understanding of micro-interaction and all that follows from it, a new approach seems warranted. What I have advocated here is one that builds on the concept of participation shift, which captures the turn-by-turn transformation of the participation framework, and thus, at least indirectly, the operation of conversational rules, as well as the multiple ways that individuals are implicated in these transformations.

One thing that expectation states researchers should take from this research is the idea that sequential constraints may partially impede, or account for, their hypothesized attribute effects. In particular, the targeting propensity, whatever its conversation-analytic basis, has an immediate implication for the

oft-noted finding of a correlation between the frequency with which a person speaks and the frequency with which he or she is addressed (e.g., Bales et al. 1951; Berger, Cohen & Zelditch 1972; Gould 2002; Robinson & Balkwell 1995). Though the usual explanation is that both speaking and being addressed are indicators of status (e.g., Berger, Cohen & Zelditch 1972), Table 3 suggests that being addressed follows on the coattails of speaking, which would guarantee the correlation in question, though without explaining how people with certain attributes come to speak more in the first place. What EST researchers then need to do is study how status perceptions influence conversational decisions at particular junctures, subject to constraints on the range of acceptable options. This will ultimately prove to their advantage, if status effects can be more precisely specified thereby.

What is relevant to conversation analysts is the possibility that there are long-term sequential patterns that are difficult or impossible to discern from the examination of a small number of episodes. I am referring specifically to the various ways in which people are differentiated from one another as a result of the choices they make in selecting themselves and one another for involvement in sequences that may appear unremarkable when considered individually. Whether conversation analysts consider this to be consequential depends on, first, whether these patterns are themselves consequential for conversational outcomes — for instance, by giving some people the floor more frequently, thereby allowing them to exercise more influence, as suggested by EST — and second, whether conversation analysts wish to extend their reach beyond basic rules to the results of the constant application of these rules for persons and groups.

Future research should proceed along a number of lines. First, conversation-analytic methods might be used to advance our understanding of what precisely particular P-shifts are used to do, discursively; speech act coding schemes, such as those reviewed by D'Andrade and Wish (1985), would also be useful in this respect. While there has been some work on AB-BA (Fisek, Berger & Norman 1991; Sacks, Schegloff & Jefferson 1974; Shelly 1997) and AB-XB (Coulter 1990; Goodwin & Goodwin 1990), that leaves 11 P-shifts unexplored, and no doubt AB-BA and AB-XB have other applications yet uncharted. Of particular interest are those rare, but occasional, P-shifts that violate the targeting rule. If conversation analysts are right in assuming that "there is order at all points" (Sacks 1984:22), so that conversational order can be found in all instances of talk (Schegloff 1987a), conversation-analytic methods might be able to uncover the conditions under which a P-shift such as AB-XY, with its stark consequences for conversational participation, is permissible.

While such research would help anchor participation shifts to the substantial insights of conversation analysis, further research on how P-shift

patterns map onto attributes and formal roles would do the same with respect to expectation states theory. In addition, research is currently underway into the impact of social networks — such as of friendship, confiding, and task interdependence — on the way in which pairs of people are co-involved in P-shifts (Gibson 2003). The ultimate ambition is to understand how formal roles, attributes, and networks, all of which precede an encounter, are translated into conversational events such as arguments, idea production, and decisions, subject to rules that are always working in the background to prevent conversation from collapsing under the weight of these very details.

To conclude, participation shifts are not just superficial features of conversation but its scaffolding, the underside of speech acts, and the vehicles for the enactment of roles. The P-shift framework, in turn, is more than a formalization, but a means of analyzing conversational sequences that is sensitive to interdependencies: between what happens to one person and what happens to another at any given juncture, between one person's long-term propensities and someone else's, and between conversation's infrastructure, meaning the rules that keep it orderly, and its superstructure, meaning the myriad things that people try to accomplish when they talk to one another. It should thus serve as an important tool in future micro-sociological research.

Notes

1. By "turn" (or "speaking turn") I mean the period of time during which one person has undisputed (or only unsuccessfully disputed) control of the floor.

2. A rare exception is Zimmerman and West (1975).

3. The first is the concern of the status characteristics branch of expectation states theory, and the second of the behavioral expectation branch. For a review, see Knottnerus (1997).

4. Some cycles may involve three turns, beginning with an action opportunity, such as a question, which invites the performance output.

5. For another example, consider the E-state structuralism model of Skvoretz and his colleagues (Skvoretz & Fararo 1996; Skvoretz, Webster & Whitmeyer 1999). This is more explicitly interactionist, incorporating interactional contingencies related to the sequence of exchanges, bystander effects, and the possibility that a diffuse status characteristic will be disregarded. Their approach to model testing, however, is similar to that of Fisek, Berger & Norman (1991), involving not the direct examination of interaction sequences, about which they have much to say, but the analysis of turn distributions.

6. In this I am glossing over an important feature of Sacks, Schegloff, and Jefferson's (1974) turn-taking model, namely the first-starter provision for self-selection, which does not rely upon adjacency in this sense.

7. Note that in each case, *initial* refers to the first of the two consecutive terms under examination, not the very first turn of the conversation.

8. I mostly use the noun *target* to refer to the person to whom a remark is directed, and the verb *address* when referring to the act of so directing.

9. None of the researchers cited employs the P-shift terminology or notation, of course. But in each case the conversational sequence at issue is distinguished structurally by the indicated P-shift.

10. Three of the groups were studied in October 1996.

11. Some agenda items entailed presentations by group members, though a long presentation would correspond to only a single speaking turn, so that most of the data derived from these periods pertain to dialogue about the presentation, rather than to the presentation itself. And note that while presentations may distort natural speaking propensities, forcing even taciturn individuals to take the floor, this gives us an opportunity to witness how others *responded* to such individuals. Such responses are an important aspect of a person's P-shift profile, as defined later.

12. The research benefited from extraordinary access to the internal workings of a privacy-conscious corporation, which organizational researchers are typically hard-pressed to encroach upon (Jackall 1988). For reasons of confidentiality, however, the company did not permit tape recording. Coding was consequently done in real time, using technology borrowed from animal behavior research. Simultaneous coding of two meetings revealed a high level of intercoder agreement between the two coders: in the first test, performed toward the beginning of the research period, there was 95% agreement on the identity of the speaker in a given turn and 85% agreement on the identity of the target; and in the second test, performed at the very end of the research period, 94% and 86% agreement on speaker and target, respectively. A disproportionate amount of the disagreement centered on intra-turn P-shifts (AB-AY, A0-AY, AB-A0), when shifts from one target to another (usually from a person to the group) were sometimes gradual. Earlier work applying the same coding dimensions also found the scheme to be generally reliable (Bales et al. 1951; Burke 1974; Stephan & Mishler 1952).

13. I assume that the problem of turn taking is the problem of dealing with competition to speak, rather than competition to remain silent, which can also threaten conversation. While the latter situation is not unheard of, the former is more common in Western culture (Burke 1993; Derber 1979). There is also a probabilistic argument to be made, since overlapping speech requires only that two people wish to talk, while complete silence requires that *all* participants wish to abstain from speaking.

14. When someone turn-continues, it is not clear who counts as the prior speaker or prior target, since in a sense he or she *was* the prior (pre-P-shift) speaker, while a single speaker cannot readdress the same target and still be considered to have completed a (turn-continuing) P-shift. Consequently, the targeting propensity is meaningful only when the P-shift involves a change in speaker, which is what column B iss a condition upon.

15. Exclusive of the last target if ego was the last speaker, or the last speaker if ego was the last target.

16. Each "almost everyone" in this paragraph means between 95% and 100% of subjects.

17. Conversation analysts are uncertain about how ubiquitous adjacency pairs are in conversation. Sacks, for one, writes that they are "massively present" (1995b:532), while Goodwin and Heritage (1990) and Schegloff (1988) distance themselves from any such claim. Note that the commonness of AB-BA could also be predicted from Goffman (1967:38), though his analysis of conversational sequences lacks the rigor of more recent conversation analysts.

18. Sacks and colleagues (1974) do not explicitly call this a rule, probably because its implications for turn taking, the focus of their article, are indirect.

19. Sacks and colleagues (1974) identify a third rule, specifying that when the current-selects rule does not select a next speaker (when no adjacency pair first part has been issued), the first person to begin speaking is granted the floor. Since this rule does not have any distinct P-shift implications, it is of less interest here.

20. Note that if it is not already evident, the question I am asking here is not how the process of differentiation within an initially undifferentiated group proceeds, which is the concern of the behavioral expectations branch of expectation states theory (e.g., Fisek & Ofshe 1970). Rather, I am concerned with the analytical question of how differentiation *as such* is possible, and with the empirical question of discerning the main dimensions along which people varied in their P-shift involvements. I am grateful to a reviewer for alerting me to this possible point of confusion.

21. I borrow the notion of profile, constructed on the basis of conditional probabilities, from Mischel and Shoda (1998).

22. Thus, for instance, while $Pr(X_iB|AB)$ started out as the conditional probability of ego re-addressing the prior target given a directed remark in which ego was not involved, now this refers to the conditional probability of ego addressing the prior target given that ego has already managed to turn-usurp.

23. The axes are logged to unpack the dense cluster of points in the lower left corner of the prelogged graph.

24. Excluded from this analysis are individuals who could not be assigned to a cluster for lack of sufficient data. See Appendix A.

25. These effects, of sex on P-shift involvement, were further confirmed through t-tests akin to those presented in the section on formal roles. An analysis of sex effects on self-selecting propensities reveals that women were just as likely as men to be above-median self-selectors in their respective groups. Sex, in other words, had no apparent effect on self-selecting. That women self-selected as much as men and were even more likely to be addressed after speaking might be surprising from the perspective of past research indicating that women suffer from multiple conversational disadvantages related to, for instance, how much they are able to speak (Smith-Lovin, Skvoretz & Hudson 1986) and how much they are interrupted (Smith-Lovin & Brody 1989; Zimmerman & West 1975). It is possible, however, that in an organizational setting, the effects of diffuse status characteristics such as sex are attenuated. Anyone who finds his or her way into a large, profit-oriented organization, and especially into its higher reaches, will be seen to have earned the company's stamp of approval, which may automatically override any attribute-based stereotypes. They would, in other words, have already overcome what expectation

states researchers (Fisek, Berger & Norman 1991:123) refer to as the "burden of proof assumption," which is the assumption that an attribute like sex or race carries a positive or negative signal about competence unless there is strong evidence to the contrary — which is exactly what the hiring and promotion systems arguably provide. That women were especially likely to be addressed after speaking may indicate a particularly strong ability to command attention — this perhaps being a characterological trait favored in women vying with men for corporate advancement.

26. The pace of discussions in two of these groups was so unhurried, in fact, that my assumption hitherto that people compete to speak may not have held at all times in these groups; indeed, at times it seemed as if people were competing *not* to speak, like students in an undergraduate seminar.

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APPENDIX A: Clustering of P-shift Profiles

The tabu search clustering algorithm (Glover 1989), included in the network-analysis program Ucinet (Borgatti, Everett & Freeman 1999), was employed to identify clusters in the P-shift profiles. The algorithm took as input a matrix of dyadic dissimilarities, where the distance between two individuals' P-shift profiles was calculated as the square root of the sum of the squared differences between their respective profile elements.

The initial application of this procedure to the P-shift profiles failed to deliver a stable partition, which suggests that the profiles did not, as initially construed, evidence any degree of actual clustering. There was, however, good reason to subdivide each person's profile prior to any attempt to discern clusters, so as to separately cluster (1) that portion that includes P-slots in which ego is in the position of initial speaker or initial target (e.g., AB_i–BA, A_i0–X0), and (2) that portion that includes P-slots that involve ego in neither position, but rather as second speaker or second target (e.g., A0–X_iY, AB–X_iA, AB–BY_i). Specifically, when these components are not distinguished, the clustering algorithm undervalues the significance of the P-slots that involve ego turn-usurping or turn-claiming, to which there are attached low probabilities with correspondingly small variances. (The algorithm assigns greater weight to vector elements [P-slots] with higher variances than to those with lower variances.) This is problematic because a relatively small probability of, say, turn usurping and completing AB–X0 (the P-slot AB–X_i0) is of more importance to how much a person speaks than a higher probability of turn-receiving and completing AB–B0 (AB_i–B0) conditional upon being addressed, since the former assumes a prior event (not speaking and not being addressed) that is much more common from the perspective of the average person than the prior event assumed by the latter (being addressed).

When the second component (b) was clustered separately, however, it became apparent that all of its elements move in lockstep: in one cluster, everyone has relatively high probabilities for *all* of the relevant P-slots, in another cluster they have relatively low probabilities for all of the relevant P-slots, and so forth, according to the number of clusters specified. These three tendencies, in other words, appear to move together: one's tendency to turn-claim, one's tendency to turn-usurp, and one's tendency to be addressed after neither speaking nor being addressed. Accordingly, bivariate correlations were all around .90.

It is likely that a single ability is at work here, to speak in a turn after one neither spoke nor was addressed — that is, to self-select. By definition, this encompasses both turn-claiming and turn-usurping. The connection to the third tendency, of being targeted after neither speaking nor being addressed, is made by means of Figure 1: since an unaddressed recipient was most likely

## APPENDIX A: Clustering of P-shift Profiles (Cont'd)

to be addressed next if he or she spoke recently, people who self-selected frequently were therefore more available to be addressed by speakers deviating from the targeting propensity. All three tendencies can thus be reduced to a single capacity for self-selecting. There was no clustering of individuals along this dimension, which is why it is treated as a continuum in Figure 3.

Once self-selecting has been bracketed out, what remains of component (b) are the conditional probabilities of the various turn-claiming and turn-usurping P-slots in which ego is the second speaker, *conditioned now upon ego's having already managed to turn claim or turn usurp.* A conditional probability of .20 for AB–X_i0, in this sense, would mean that upon turn usurping, ego addressed the group with a probability of .20. With this new conditionality, the profile elements in (b) are comparable to those in (a), so they were recombined into a single profile vector, to which the clustering algorithm was again applied. As indicated in the text, the clustering algorithm identified five stable clusters using this information as input. Subjects for whom complete profiles could not be constructed for lack of data, but for whom at least half of the profile elements could be computed (based on a minimum of 10 instances of the subject's involvement in the P-slot's first half), were assigned to clusters once the latter had been established using the subjects with complete profiles. This assignment was performed by constructing a summary profile for each cluster, with median conditional probabilities for each element, and then assigning a previously unassigned individual to whichever cluster had a median profile most similar to his or her own partial one, again using the aforementioned measure of distance. As a result of this two-step process, 148 of 185 subjects ultimately received cluster assignments; most of those who did not were in the information-sharing groups.

The cluster characteristics are presented in Figure A1, which, for each cluster, gives the proportion of cluster occupants whose P-slot values fell above the overall median. (The proportion below the median can also be inferred, since none of the observed values was ever exactly equal to the median value.) The notation is explained in the text. The first nine profile elements begin with ego being addressed. The next four begin with ego speaking to the group. Then there are nine in which ego begins with a directed remark. The conditional probabilities corresponding to all of these are conditioned on the first half just described: on ego being addressed, speaking to the group, or speaking to some individual. The final seven elements, in contrast, involve ego in the position of turn claimer or turn usurper. As just explained, the probabilities corresponding to these elements are conditioned on the turn-claiming or turn-usurping itself. (As a reminder that these are derived differently, they are collectively underscored in Figure A1.)
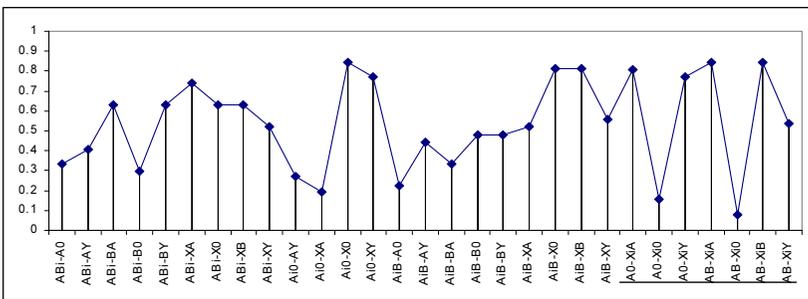
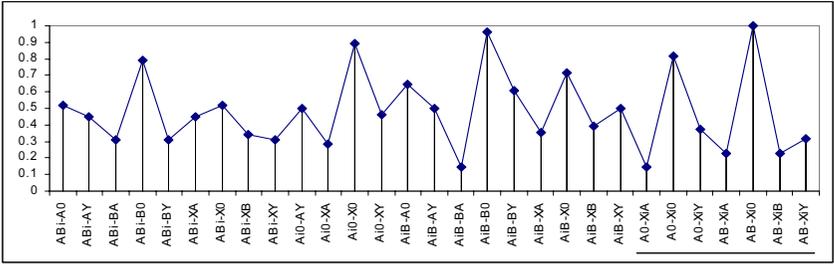**FIGURE A1: Clustering Results**

Cluster 1
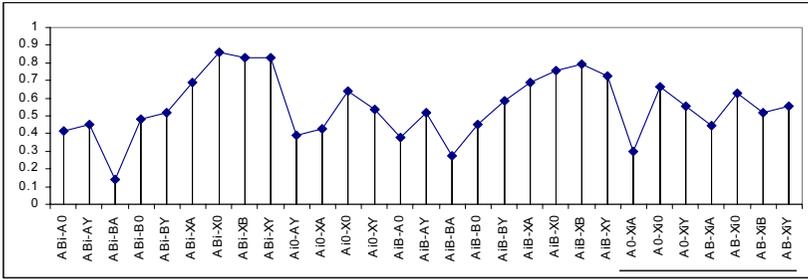
Cluster 2
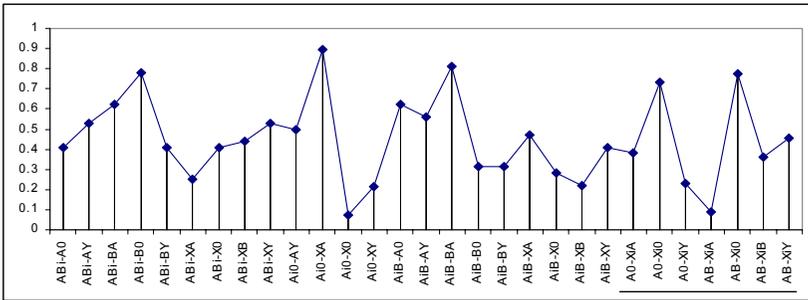
Cluster 3

FIGURES A1: Clustering Results (Cont'd)

Cluster 4

Cluster 5