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Women, Men, and Interruptions:
A Critical Review

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Overview of Research Results: Questions in Need of Answers

Within the language and gender literature one of the findings most widely cited as well established is that men interrupt women more than women interrupt men. For example, Rosenblum (1986:160) states that "men are more likely to interrupt and overlap women's speech than the reverse." Aries (1987:152) observes that "men have frequently been found to interrupt women more than women interrupt men." And Holmes (1991:210) concludes that "the balance of evidence [seems] to confirm the view that men interrupt others more often than women do, and that, more specifically, men interrupt women more than women interrupt men."

This chapter will show that a review of studies appearing between 1965 and 1991 and dealing with gender differences in the use of interruptions does not support this conclusion; most research has found no significant difference between the genders in number of interruptions initiated, in either cross-sex or same-sex interaction. It will be argued that this result is unsurprising, given the multifunctional nature of simultaneous talk. The question then arises of whether women and men differ in the functions for which they use simultaneous talk. Potential ways of determining whether men use simultaneous talk as a means of dominating interactions to a greater extent than do women are surveyed; it is shown that the research to date provides no firm evidence for such a gender difference when any such criterion is taken into account. However, since no criterion approaches being a fully adequate measure of whether an instance of simul-

taneous talk constitutes a dominance attempt, it cannot be definitively concluded that no gender differences exist in this respect. Some evidence is then provided that women are more likely than men to use simultaneous talk to show involvement and rapport, a fact that would be consistent with other findings in the literature on gender differences in conversational behavior. Finally, the potential effects of various subject and situational variables on women's and men's use of simultaneous talk are discussed; it is noted that existing research provides comparatively little information with respect to these. Further, a number of methodological problems are noted which may have led to misleading results, and to which future researchers should be alert.

The research on interruptions deals, broadly speaking, with instances in which one person initiates talk while another person is already talking. Most researchers in the area of language and gender, in the area of family interaction, and in the psychological literature in general have assumed that the basic function of such behavior is to prevent the first speaker from being able to finish what he or she wants to say, and to allow the second speaker to take over the floor. Mishler and Waxler (1968:140), for example, state that "a person-control strategy such as an interruption [says] 'Stop talking' or 'I am no longer listening to what you say.'" Interruption is interpreted as violating normal conversational rules, as being negative or undesirable behavior, and as constituting an attempt to exercise power and to dominate and control the interaction through control of the floor and of the topic of conversation. Thus, for example, West (1984:55) states that "an interrupting speaker is engaged in violation of the current speaker's right to be engaged in speaking"; Octigan and Niederman (1979:52) observe, "An interruption or overlap is taken as a violation and a sign of conversational dominance." Given this assumption, the commonly cited finding that males interrupt females more than the reverse has been seen as unsurprising, since males have more power and status than females. Males are therefore likely, it has been supposed, to presume that they have a right to take the floor from females, whereas females will not make the same assumption with respect to males. Perhaps, too, because of their higher status, males are assumed by both sexes to be more likely to be right about things than are females, so that it would be seen by both sexes as more legitimate for males to interrupt females than the reverse (this would be the prediction of status characteristics theory—Berger, Rosenholtz, and Zelditch [1980], and see James and Drakich [this volume]—an approach which takes into account how status differences can affect expectations and beliefs about oneself and others).

An alternative theoretical approach to accounting for gender differences in verbal behavior posits that females and males, because of their differing socialization in sex-separate peer groups, come to have different interactional goals and to use different verbal strategies to attain those goals (e.g., Maltz and Borker 1982, Tannen 1990). This approach, too,

would predict that males would interrupt more (assuming the preceding interpretation of the role of interruptions to be correct), since males learn that an important goal for them is to assert their status, to appear a leader, to "win"; frequently seizing and holding the floor provides a means of achieving this goal. Females, on the other hand, appear to learn to focus instead on establishing and maintaining harmonious relationships with others; this would militate against their violating conversational rules by interrupting others.

Contrary to these predictions, a review of the studies which have examined the use of interruptions in mixed-sex interaction (whether dyadic or group) reveals that it is not, in fact, the case that most have found men to interrupt women more than the reverse. Indeed, the majority of studies have found no difference between the sexes in this respect. The findings of these studies are summarized in Table 9.1.[1] We consider here only the results in terms of the relative number of interruptions initiated (one complication being that different studies have used different measures of interruption; this point will be discussed shortly). Of twenty-one studies which have compared the number of interruptions initiated by females and by males in dyadic interaction, only six, or fewer than a third, have found men to interrupt women more than the reverse. Thirteen studies have found no significant difference between the sexes in total number of interruptions, and two have found women to interrupt men more. In addition, twelve studies have examined interruptions in groups of more than two. Of these, five have found men to initiate more interruptions overall; four have found no significant difference between the genders in this respect; and three have found women to initiate more interruptions. Of course, to determine whether males interrupt females more than the reverse, one must also, for group studies, factor in the sex of the person interrupted (since, for example, a finding of men's interrupting more overall could conceivably result from their interrupting other men with particular frequency; there might be no significant difference in quantity between men's interruptions of women and women's interruptions of men). Only seven of the studies of groups have done this systematically. In all but one of these cases, the results have correlated with the findings with respect to who interrupted more overall; for example, if the study found men to interrupt more than women overall, it also found men to interrupt women more than the reverse. (The one exception is Kennedy and Camden [1983], in which women were found to interrupt others more than men overall, but women and men were found to interrupt each other to an equal extent.) Studies of groups which took into account the sex of the person interrupted are indicated by an asterisk in Table 9.1.[2]

These studies—along with those to be presented in Table 9.2—have most frequently employed as subjects unacquainted college students; the great majority of studies of dyads have been set in an experimental laboratory, while most of those examining groups have dealt with naturally

Table 9.1 The Relationship Between Gender and Number of Interruptions
Initiated in Mixed-Sex Interaction
(A = studies of dyads; B = studies of groups)

A (1) Studies Which Found No Significant Difference Between the Genders in Number of Interruptions
Bilous & Krauss 1988
Dindia 1987
Duncan & Fiske 1977
Frances 1979
Jose, Crosby, & Wong-McCarthy 1988
Kollock, Blumstein, & Schwartz 1985
Leet-Pellegrini 1980
Leffler, Gillespie, & Conaty 1982
Marche 1988
Martin & Craig 1983
Roger & Nesshoever 1987
Simkins-Bullock & Wildman 1991
Welkowitz, Bond, & Feldstein 1984

(2) Studies Which Found Males to Interrupt Females Significantly More Than the Reverse[3]
Bohn & Stutman 1983
Esposito 1979
Octigan & Niederman 1979
Peterson 1986
West 1979, West 1982, West & Zimmerman 1983 (all three describe the same study)
Zimmerman & West 1975

(3) Studies Which Found Females to Interrupt Males Significantly More Than the Reverse
Sayers 1987
Shaw & Sadler 1965

B (1) Studies Which Found No Significant Difference Between the Genders in Total Number of Interruptions
Beattie 1981*
Smith-Lovin & Brody 1989*[4]
Willis & Williams 1976
Woods 1989

(2) Studies Which Found Males to Interrupt Significantly More Than Females Overall
Brooks 1982
Case 1988
Craig & Pitts 1990*
    (significantly more successful[5] interruptions of students by male rather than female tutors; more successful interruptions of female students by male students than the reverse; no statistics provided for relative overall number of [successful] interruptions produced by male and female students)

Table 9.1 (*Continued*)

Eakins & Eakins 1976
McMillan, Clifton, McGrath, & Gale 1977

(3) Studies Which Found Females to Interrupt Significantly More Than Males Overall
Connor-Linton 1987*
Kennedy & Camden 1983*
Murray & Covelli 1988*[6]

occurring interaction. Virtually all of these studies have been conducted in the United States or Britain. (For a discussion of the possible relevance of such variables, see pp. 260–265.)

Also of interest here is the question of whether males differ from females in interruption behavior when same-sex interaction is compared. If the major determinant of interruptive behavior is simply having more status or power than others with whom one is interacting, there is indeed no reason to expect differences between all-male and all-female interaction with respect to number of interruptions. If, on the other hand, learned differences in goals and verbal strategies are an important determinant, and if asserting a leadership role by taking the floor is an important strategy for males but not for females, then one would expect there to be more interruptions in all-male than in all-female interaction.

The results of studies which have compared number of interruptions in same-sex interaction are presented in Table 9.2. The great majority—seventeen of twenty-two—found no gender differences. This might appear to suggest that status or power, rather than gender differences in interactional goals, is the more important determinant; nevertheless we will see that the situation cannot be assumed to be as simple as this. Two further studies found more interruptions in all-male interaction, and three studies, contrary to both types of prediction just made, found more interruptions in all-female interaction.

Our survey of the gender-related interruptions literature, then, poses several important questions. First of all, why is it that the majority of studies have not found men to interrupt women more than the reverse in mixed-sex interaction? Second, why has there been so much variation in the results of studies? Third, why is it that some studies have found women to interrupt more than men, in both mixed-sex and same-sex interaction? And fourth, are there aspects of interruption behavior other than simply the relative number of interruptions initiated by women and men which would be more revelatory of gender differences?

With respect to the first question, one explanation for the lack of significant gender differences may lie in the fact that the commonly held assumption that interruptions serve primarily to dominate and control

Table 9.2 All-Female Versus All-Male Interaction
with Respect to Number of Interruptions

(All are studies of dyads, except Smith-Lovin and Brody [1989]
and Dabbs and Ruback [1984], which examined three-person
and five-person groups respectively.)

**(1) Studies Which Found No Significant Difference in
Number of Interruptions**
Dabbs & Ruback 1984
Dindia 1987
Duncan & Fiske 1977
Esposito 1979
Frances 1979
LaFrance & Carmen 1980/LaFrance 1981 (these describe the
    same study)
Marche 1988
Martin & Craig 1983
McLachlan 1991
Octigan & Niederman 1979
Peterson 1986
Roger & Schumacher 1983
Rogers & Jones 1975
Simkins-Bullock & Wildman 1991
Smith-Lovin & Brody 1989
Trimboli & Walker 1984
Welkowitz, Bond, & Feldstein 1984

**(2) Studies Which Found Significantly More Interruptions
in All-Male Interaction[7]**
Bohn & Stutman 1983
de Boer 1987

**(3) Studies Which Found Significantly More Interruptions
in All-Female Interaction**
Bilous & Krauss 1988
Crosby 1976
Street & Murphy 1987

suggests that simultaneous talk may frequently be unrelated to dominance.
A later section on the functions of interruptions (pp.238–247) reviews
this literature and surveys the ways in which "interruptions" can and do
perform useful, healthy functions in conversation; it also surveys evidence
suggesting that the majority of interruptions in casual conversation may
not be dominance-related, and that the proportion of dominance-related
interruptions may be highest in certain types of context. In addition,
that section examines so-called successful and unsuccessful interruptions,
showing that the former are sometimes more strongly associated with
dominance than the latter, but that no simple correlation can be assumed.

(pp. 247–258) focuses on types of criteria which might shed light on the
question of whether men are indeed more likely to use interruptions to
dominate interactions than are women and shows that no reliable conclu-
sion may be drawn. A section on gender and cooperative interruptions
(pp. 258–260) presents some evidence that women are more likely to use
simultaneous talk for supportive and rapport-building functions than are
men. Lastly, a section on miscellaneous factors affecting gender-related
interruptions (pp. 260–268) reviews possible explanations for the incon-
sistencies in the findings of different studies, examining different variables
which may affect the number of interruptions initiated by each gender and
other aspects of the methodologies employed which might also have con-
tributed to the variations in the results found.

The Use of the Term "Interruption" in This Review

A comment must be made before continuing with respect to our use of the
term "interruption." First, while interruptions are normally thought of as
involving simultaneous talk, an utterance may perform the same types of
function as an interruption without simultaneous speech actually occur-
ring; for example, the interruptor may begin to speak immediately upon
the interruptee's completing the utterance of a word while in midturn, and
the interruptee may consequently cease speaking and relinquish the turn.
Such phenomena have been noted by Meltzer, Morris, and Hayes (1971)
and Ferguson (1977), among others; they are most commonly referred to
(after Ferguson) as "silent interruptions." Although relatively few re-
searchers have investigated the latter,[8] we include these as part of the
phenomena of concern here. In effect, this survey deals with all those
instances in which the switch between speakers is not completely
"smooth," in the sense of Ferguson (1977); in "smooth speaker switches"
the first speaker completes his/her turn and there is no simultaneous
speech. In order to refer to these, a term is needed which refers to this set
of phenomena and which is at the same time free of connotation as to the
role or function of the second speaker's utterance, since, as noted previ-
ously, such an utterance may not necessarily be disruptive. Unfortunately
no such term exists in English. The word "interruption," both in ordinary
usage and in the usage of most researchers, has negative connotations,
implying violation of another's right to speak. The term "overlap" has
been used by Tannen (1983 and subsequent works) and by some others to
indicate simultaneous talk without any negative connotation; however,
this term is problematic for our purposes in that it does not allow for
"silent interruptions," and in that it has been commonly used in the inter-
ruptions literature in two different specific technical senses.[9] Moreover, in
colloquial usage the word "overlap" carries the implication that the first
speaker completes his/her utterance without ceding the floor, and the term
needed for our purposes should not be restricted to these cases alone.
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"interruption" to mean simply "any deviation from a smooth speaker switch." Ferguson (1977) and those researchers who have adopted her classification of types of interruption (e.g., Beattie 1981, Marche 1988, Craig & Pitts 1990) use it with this interpretation (see also Beattie 1989:334 for further discussion of this point). Under the circumstances, and in the absence of any clearly more satisfactory alternative, we have chosen to follow this precedent in our general comments on the research in this area; in this context, then, "interruption" should be understood as meaning "any deviation from a smooth switch between speakers," with no implication as to whether speaking rights are violated.

One point should be kept in mind, however: since the great majority of researchers have been concerned with interruption behavior as a measure of dominance, most have attempted to exclude from consideration those instances which they viewed as non-dominance-related (these constituting, usually, only a very small class of cases); thus they have counted interruptions in such a way as to exclude such instances. This will be commented on further in the next section (see pp. 238, 240–241, and note 11). Thus, when the term "interruption" is used in reports of the results of specific studies, the precise set of phenomena included is determined by the individual study.

The Functions of Interruptions

Interruptions as Supportive and Cooperative Speech Acts

There exists one type of simultaneous utterance which has long been recognized by most researchers as supportive rather than disruptive in nature. This category is most commonly referred to (after Yngve 1970) as "back channel utterances" or "back channel responses"[10]; these consist of one-word utterances such as "mhm," "yeah," "uh-huh," and "right" (and nonverbal equivalents such as nods) and are uttered by a listener primarily to indicate interest and attention to what the speaker is saying. They need not be, but frequently are, uttered simultaneously with the speaker's talk. The great majority of studies have explicitly excluded these from their count of interruptions (the only clear exceptions are Willis & Williams [1976], Shaw & Sadler [1965], and Welkowitz, Bond, & Feldstein [1984]).

It has been widely assumed in the past, however, that aside from back channel utterances, simultaneous talk is relatively rare in conversation, and that the basic rule is that only one person speaks at a time. Sacks, Schegloff, and Jefferson (1974:700–701), in setting out what has become the most widely accepted theory of turn taking in conversation, state: "Overwhelmingly, one party talks at a time. . . . Transitions from one turn to the next occur, for the most part, with little or no gap and little or no overlap." Given this assumption, it is not surprising that it has been supposed that instances of simultaneous talk other than back channels and very brief

overlapping between turns necessarily constitute negative and dysfunctional acts. However, it has become increasingly apparent in more recent research that such simultaneous talk is, in fact, common and, far from being necessarily disruptive, may even function to signal and promote solidarity between speakers. One of the first to comment on this was Kalčik (1975), who noted in an examination of communication in two women's rap groups that interruptions were frequent, rarely seemed to be objected to, and were primarily supportive or collaborative in nature, often produced as the women worked out a topic or a story together as a group. Other researchers who have noted that simultaneous talk frequently has a supportive function include Bennett (1981, this volume), Beattie (1982), Shultz, Florio & Erickson (1982), Kennedy 1989, 1990), Testa (1988), Moerman (1988), Coates (1989), Goldberg (1990), and Herman (1991). Edelsky (1981, this volume), for example, in a well-known study of faculty committee meetings, argued that two types of "floor" could be distinguished, singly developed floors and collaboratively developed floors. In single floors, in which the discussion was highly task-oriented (focusing on such matters as reporting on items), the "one speaker at a time" rule was followed, and there were few interruptions. In collaborative floors, however, this rule no longer applied, and simultaneous speech was normal. In this type of floor, through talking simultaneously, participants developed an idea together, produced a joint answer to a question, or shared in joking. Edelsky notes that a high degree of involvement in the interaction characterized the use of simultaneous speech in collaborative floors.

Similar observations are made by Coates (1989), in a study of conversations among a group of women friends. She found that simultaneous speech was very common, but that it normally consisted of "work[ing] together to produce shared meanings" (p. 113), rather than attempts to take the floor from another speaker. Most commonly one speaker would make a comment or ask a question during another speaker's turn, this functioning simply as a sign of active listenership; a speaker would complete another's utterance, without in any way attempting to obtain the floor; or two or more speakers would contribute simultaneously to the same theme, in a manner very similar to that described by Edelsky.

Tannen (1983 and later works) has also argued that simultaneous talk can have a cooperative function; she suggests, indeed, that it can serve as a way of indicating that one is interested in, enthusiastic about, and highly involved in the conversation. This is particularly true, she suggests, of a certain type of conversational style characteristic of some cultural groups (for example, New York Jewish speech). In this style, which is also characterized by a rapid pace, expressive phonology, exaggerated intonation contours, frequent back channel utterances, and other features, Tannen argues that higher priority is placed on honoring the positive face of others (their need to k

Levinson 1987) than on honoring others' negative face (their need not to be imposed upon) (Tannen 1989:272). Thus, in this style interruptions are very frequent and serve to carry a metamessage of interpersonal rapport; indeed, failure to interrupt is interpreted as indicating lack of interest.

Thus it is evident that far from being disruptive in nature, interruptions may frequently be supportive, collaborative, and rapport-building.[11]

Other Circumstances in Which Interruptions Do Not Violate the Speaking Rights of Others

Various researchers have pointed out other uses of interruptions which, while not being particularly associated with collaboration and rapport, nevertheless do not constitute violations of conversational rules. For example, one might interrupt because of a problem with the communicative process. For example, if one is failing to understand what the speaker is trying to communicate because one did not catch or did not understand a word used, one might legitimately break in to ask for clarification; or, if one realizes that the speaker, in answering a question one has posed, has not properly understood it, one might legitimately interrupt in order to rephrase the question in a clearer way. Goldberg (1990) and Bull and Mayer (1988), among others, discuss the existence of such "relationally neutral" uses (the term is Goldberg's). Similarly, certain types of situation may require immediate speech, and here too interruptions are obviously appropriate (e.g., "Fire!"; "Don't touch that, it's hot!") (see, e.g., Tannen 1989:268–269 and Goldberg 1990:886–888). As one further type of example Testa (1988) contends that if A is explaining something to B and in the middle of the explanation B gets A's point, it is appropriate and not disruptive for B to interrupt A. Jefferson (1973) makes a similar point. (There may be cultural and individual variation as to the acceptability of such types of interruption as these last.)

A particularly common circumstance in which simultaneous talk, while not supportive in function, is also obviously not disruptive, is the case of the simple mistiming error. For example, B may recognize that A is about to finish her or his turn and begin to speak slightly before A has stopped; or B may make a mistake in judgment about whether A is ready to finish and begin to speak when A is not, in fact, ready to relinquish the turn. Usually in the latter case the interruptor stops speaking after realizing that the current speaker is continuing. (Coates [1989] suggests that enthusiasm is particularly likely to lead to such errors, Dindia [1987], that they may result from nervousness or awkwardness.)[12]

It is relevant to note here that a number of studies adopting the Sacks, Schegloff, and Jefferson (1974) theory of turn allocation in conversation have attempted to exclude systematically such mistiming errors from their count of interruptions (all remaining simultaneous talk, other than back channels, is normally then assumed—unjustifiably, as is clear from the rest

of the discussion in this section—to be disruptive). Following Schegloff (1973) cases of mistiming in this approach are termed "overlaps," as opposed to interruptions; these are defined as occurring at or just before a "transition-relevant place" (that is, a possible completion point, defined as the end of any "unit-type") in the current speaker's talk. As a mechanical measure for distinguishing mistiming errors from other types of simultaneous talk, this is quite problematic and has been extensively criticized; see pp. 266–267.[13]

In actual fact, the extent to which an interruption is interpreted as negative and disruptive is probably not a black-and-white matter, but rather a matter of degree. Murray (1987), arguing for this point, suggests a number of factors which may contribute to degree of disruptiveness; these include whether the interruptee has made her/his first point, whether s/he has finished what s/he wanted to say, whether s/he has been unduly monopolizing the floor, and whether the interruptor has a special claim to be heard (this being the case if, e.g., the interruptee has previously not allowed the interruptor to answer a third person's question or has been attacking the interruptor and not letting him/her respond to the attack).

The Extent to Which Interruptions Are Likely to Be Dominance-Related in Different Types of Interaction

To evaluate the results of the studies dealing with the relationship between interruptions and gender accurately, it is necessary to consider what proportion of the interruptions in an interaction are likely to be of the disruptive, dominance-related type, and whether the proportion is likely to be higher in some kinds of interaction than in others.

It is possible that in casual conversations between friends, many of the interruptions are cooperative and rapport-building. Some support for this is provided by Coates (1989), who reports that only a minority of the simultaneous speech in her data could be analyzed as representing attempts to take over the floor, and by Tannen (1989), who states that when students in her course counted "overlaps" in half-hour casual conversations they had taped, roughly 75% of these were judged to be cooperative rather than obstructive.[14] It is possible, however, that the proportion of interruptions which are dominance-related might be higher in other types of interaction.

One approach which might potentially shed light on these matters involves classifying interruptions in terms of their content relative to the interruptee's talk. A few studies have made such a classification. Kennedy and Camden (1983), in a study of graduate students interacting in seminars and work programs, classified 38% of the interruptions in the data as instances of agreement and 11% as instances of clarification (here, the interruptor attempts to understand the interruptee's message). The remaining interruptions constituted disagreement, changes of subject, and tangential remarks.[15] Insofar as agreement and clarification can be as-

sumed to be supportive and cooperative, half of the interruptions in these contexts, then, would not have been of the disruptive type. Kennedy and Camden note (p. 58), "In many cases, the interruptions seem to serve a healthy, functional and confirming communicative role." Sayers (1987), in a study of unstructured conversation in dyads, found similar results: approximately half the interruptions constituted agreement, elaboration, or requests for clarification. In Willis and Williams (1976), a study of high school students' speech in class discussions and casual conversation, 34% of interruptions (in total; setting was not taken into account) were found to constitute agreement, and 51% disagreement; the remainder were not classified.

These results, then, in particular those of Kennedy and Camden and of Sayers, appear to provide further support that a significant percentage of interruptions in interactions may not be dominance-related. The difference between unstructured conversation (Sayers 1987) and conversation in seminars or work groups (Kennedy & Camden 1983) appears not to have affected results.

However, some caution is called for in interpreting the findings of these studies. It does not necessarily follow that when one interrupts to agree or ask for clarification, such interruptions never constitute attempts to seize the floor; for example, as is pointed out by Dindia (1987) and by Smith-Lovin and Brody (1989), one can agree with what is being said as a precursor to taking over the floor. Further, interruptions involving disagreement are not necessarily disruptive; even in collaborative, rapport-building simultaneous talk, one speaker may be gently disagreeing with another. Examples of this can be found in the data provided by Coates (1989) (e.g., p. 112). Thus, a more adequate analysis of what an interruptor may have been attempting to do must take into account not simply the content of an interruption, but also the larger context in which the interruption is used.

A quite different type of approach to the role of interruptions in interactions, specifically directed toward determining the extent to which the interruptions in an interaction are likely to be dominance-related, is provided by eight studies which have attempted to test the relationship between interruption use and dominance by indirect means. Six of these studies examined experimentally the relationship between an individual's use of interruptions and his or her predisposition toward dominance over others, as measured by a psychological test;[16] one examined the relationship between interruptions and relative power in intimate couples, where power was measured by a questionnaire dealing with relative influence over day-to-day decision making (Kollock, Blumstein & Schwartz 1985); and one examined the relationship between interruptions and overall "domineering behavior," the latter being measured in terms of the proportion of messages transmitted which attempted to assert relational control (Courtright, Millar, & Rogers-Millar 1979:180–181).

Of these studies the three which found the clearest link between inter-

ruptions and dominance all examined interactions in which competition and conflict were present, and indeed, it is plausible to suppose that this would be a context particularly likely to elicit dominance-related interruptions.[17] In Kollock, Blumstein & Schwartz (1985), a study of heterosexual and homosexual intimate couples, partners had to decide jointly how to resolve a hypothetical conflict about which they had been given differently slanted versions of the facts; thus, they were "set up" to argue with each other. In couples in which one partner was more powerful than the other in terms of relative influence over day-to-day decision making, the more powerful partner attempted more interruptions; in couples where the partners were equal in power, they did not differ in number of interruptions. The initiating of interruptions, then, was linked with being more powerful. This suggests that a significant percentage of interruptions were of the dominance-related, disruptive type, as there is no reason to expect the initiation of other types of interruptions to be associated with power. In two other studies, Roger and Schumacher (1983) and Roger and Nesshoever (1987), subjects were assigned topics for discussion on which they were known to disagree and were instructed to try to convince their partners of their own point of view. These two studies were concerned not with total number of interruptions but with "successful" interruptions (to be discussed in more detail on pp. 244–246), in which the interruptee yields the floor to the interruptor; both studies found that individuals with personalities high in dominance initiated significantly more such interruptions than those with personalities low in dominance.

In two further studies the interaction was less obviously conflictual, but involved a formal task (Rogers & Jones 1975, Aries, Gold, & Wiegel 1983). In a formal task, participants come together to accomplish a specific instrumental goal such as making a joint decision or working out a joint solution to a problem. Since there is evidence that status differences are more likely to affect interaction in situations involving formal tasks than in those involving informal tasks (in which no collective decision is required) or in non–task-oriented situations (Berger, Rosenholtz & Zelditch 1980), it would be reasonable to hypothesize that a higher proportion of interruptions would be dominance-related in formal task settings. On the other hand, however, the situation is complicated by the fact that even in a formal task setting, some segments of the interaction may be less task-oriented than others, and this may affect interruption behavior. For example, it will be recalled that in her study of faculty meetings—a formal task setting—Edelsky (1981, this volume) found that in the second of the two types of floor that she distinguished (collaborative floors), the interaction became less task-oriented. While collaborative floors took up only a small part of the interaction, the bulk of the simultaneous talk took place in this type of floor, and this talk was primarily cooperative rather than disruptive. Thus even with a formal task context it appears that it is possible for the majority of the simultaneous talk to be nondisruptive in nature. What, then, were the results of the work of Rogers and Jones

(1975) and Aries, Gold, and Weigel (1983)? Both observed a relationship between interruptions and a high dominance predisposition, but this did not hold for all types of subject or all types of setting. Rogers and Jones, studying same-sex dyads, found a positive link between number of interruptions and high dominance for male dyads but not for female dyads; and Aries et al., studying same-sex and mixed-sex groups, found such a link for all-male groups but not all-female or mixed-sex groups. (The relevance of these findings to gender is discussed on pp. 251–253.)

In two other studies, Courtright, Millar and Rogers-Millar (1979) and Marche (1988), subjects were instructed to discuss assigned problems; while they were not required to reach a collective decision, it is nevertheless possible that such a context would be more likely to elicit dominance-related interruptions than would unstructured, non–task-oriented friendly conversation. Courtright et al., in a study of married couples, did find that the more "domineering" the spouse, or the greater the proportion of messages s/he transmitted that attempted to assert relational control, the more likely s/he was to interrupt the other partner. Marche, studying two age groups averaging fourteen and nineteen years old, found that in the case of the fourteen-year-olds, high-dominance subjects initiated significantly more interruptions overall than low-dominance ones; however, no such pattern was present in the case of the nineteen-year-olds.

Of the eight studies under review that have explored the relationship between dominance and interruption use, only one (Ferguson 1977) examined unstructured conversation between friends. This was the only study of the group which found comparatively little correlation between interruptions and dominance predisposition;[18] this provides some additional support for the hypothesis that dominance-related interruptions are less likely to occur in casual conversation between friends than in other contexts.

It would appear, then, that a significant percentage of interruptions in casual conversation may be non-dominance-related. The proportion of interruptions which are dominance-related may be higher in contexts involving formal tasks, and highest in interactions involving competition and conflict. However, much more research is needed to determine the facts in this area.[19]

"Successful" Interruptions and Dominance

It has been assumed by some researchers that one specific type of interruption event, defined in terms of formal observational criteria, is particularly strongly associated with dominance. Clearly, if correct, this must be taken into account in any consideration of the relationship between interruption use and gender. This approach to investigating the link between interruptions and dominance recognizes that conversation is jointly produced: not only is the behavior of the interruptor relevant, but so also is the behavior of the interruptee. Of central importance is the distinction between a

situation in which, on being interrupted by B, A yields the floor to B (here, the interruption is called, in the most commonly used terminology, "successful"); and a situation in which A continues speaking and B, the interruptor, stops speaking without gaining the floor (here, the interruption is termed, most commonly, "unsuccessful").[20] This distinction appears to have been first made in family interaction studies such as Farina (1960) and Mishler and Waxler (1968). It has been generally assumed that successful interruptions constitute a much clearer manifestation of dominance on the part of the interruptor than do unsuccessful interruptions (e.g., Smith-Lovin & Brody 1989:427, Kollock, Blumstein, & Schwartz 1985:40, Natale, Entin, & Jaffe 1979:875).

There is obviously a certain amount of plausibility in the idea that interruptions in which the first speaker yields the turn are particularly likely to be associated with dominance. One type of evidence for this hypothesis is provided by McLaughlin (1984), who found that when asked to rate speech samples, subjects rated successful interruptions as more domineering than unsuccessful ones (unless there was a readily apparent reason why the interruption had occurred). In addition, several of those studies mentioned earlier (see pp. 242–244) which have dealt with the relationship between use of interruptions and dominance predisposition or power have also examined whether this link is stronger for successful interruptions than for unsuccessful ones, and/or whether it is stronger for those interruptions which are successful than for total attempted interruptions. Results have been mixed. Both Roger and Schumacher (1983) and Roger and Nesshoever (1987) did indeed find a positive correlation between successful interruptions and dominance predisposition, but no correlation between unsuccessful interruptions and dominance. However, both studies note that this latter result may have been due to the fact that there were relatively few unsuccessful interruptions in their data. Kollock, Blumstein, and Schwartz (1983) found that the more powerful partner in a couple produced a greater number of successful interruptions; however, unsuccessful interruptions were not examined separately and it is possible that this finding was simply a result of the fact that the more powerful partner initiated more interruptions overall. Aries et al. (1983) concluded that for all-female groups, while there was no link between dominance predisposition and total attempted interruptions, there was indeed a positive correlation between dominance predisposition and successful interruptions; for all-male groups the correlation held for both but was stronger in the case of successful interruptions. For mixed-sex groups, however, no correlation was found for either attempted or successful interruptions. Marche (1988) concluded that for her fourteen-year-old subjects, there was a positive correlation between dominance predisposition and successful interruptions, but a negative correlation between dominance and unsuccessful interruptions. However, no such pattern held for nineteen-year-olds, and indeed some results were the opposite of what might be expected: for example, for nineteen-year-old females, the less

dominant they were, the more successful interruptions they initiated. Further, Ferguson (1977) found no correlation between dominance predisposition and either successful interruptions or unsuccessful interruptions. And while Rogers and Jones (1975) found a positive correlation between total attempted interruptions and dominance predisposition, they found no link between successful interruptions and dominance.

These findings suggest that while successful interruptions are sometimes more strongly associated with dominance than unsuccessful ones, this is far from universally true. We will not attempt here to sort out the reasons for the variations in the findings of these studies. It should, however, be noted that clearly no one-to-one relationship exists between successful interruptions and dominance. Perusal of examples of simultaneous talk given in Tannen (1989:271, 273, 278), in Edelsky (this volume:196–198), and in Coates (1989:112), for example, reveals a number of instances of what are technically successful interruptions, but which are clearly both intended and perceived as collaborative and rapport-building. Similarly, "neutral" interruptions of the types discussed earlier (see pp. 240–241) are normally successful (the interruptee is expected to cease speaking, as noted by Goldberg [1990:888]), yet are not dominance-associated. Further, it does not follow that unsuccessful interruptions are necessarily unrelated to dominance. Edelsky (this volume:218), for example, notes that in more task-oriented floors or contexts, "self-stops," as she calls them, were sometimes preludes to new topics ("OK, now what about—") and sometimes incipient rebuttals ("but—"), and that speakers often produced a series of these in close sequence; she suggests that these may act as signals that the speaker is "reserving a spot" to develop an idea alone. While not violating others' right to the floor, in the appropriate context such behavior could be perceived as intimidating by other participants. It is overly simplistic, then, to assume that those instances of interruption which are manifestations of dominance can be accurately and straightforwardly identified in terms of the successful versus unsuccessful distinction.

The Functions of Interruptions: Conclusions

It is clear then that while interruptions may function to prevent others from completing their talk and to allow the interruptor to take over the floor, this is only one of various functions which they can perform. What proportion of interruptions are likely to be of this disruptive type in any given conversation is probably affected by various aspects of the interaction, including such factors as the degree of conflict present. It may well be that in many conversations only a relatively small proportion of the interruptions are of the disruptive type (it must be kept in mind, too, that there is no simple dividing line between disruptive and nondisruptive interruptions, as pointed out by Murray [1987]). Lastly there is some evidence that "successful" interruptions tend to be more strongly associated with

dominance and disruptiveness than "unsuccessful" ones; however, it is clear that no simple one-to-one relationship is involved here.

Clearly, a central problem in analyzing the function of interruptions is that there exist no simple, objective ways of determining the function of an interruption. Only an analysis which takes into account the larger context in which the interruption takes place, including the semantic content of the interruption, the general trend and content of the conversation up to that point, and the relationship between the participants—and which also considers the conversational style employed by the interruptor, given that individual's cultural background—is likely to ascertain adequately the role which an interruption was intended to perform.[21]

Gender and the Use of Dominance-Associated Interruptions

The preceding discussion helps to shed light on why the majority of studies listed in Tables 9.1 and 9.2 have not found males to interrupt more than females. While there are reasons to expect that males would initiate more interruptions of the disruptive, dominance-related type, as was discussed earlier (see pp. 232–233), here is no reason to expect that they would initiate more interruptions of other types than would females. If many interruptions, perhaps even the great majority in many interactions, are not intended or perceived as disruptive, it is not surprising that females and males have, in most cases, been found not to differ in number of interruptions.[22]

Certain questions, however, remain. First, is it in fact the case that males' interruptions are more likely to constitute dominance-related attempts to seize the floor than are those of females? Ways of approaching this question exist other than that of comparing the relative number of interruptions produced; some of these have already been touched on earlier. The five sections that follow will investigate these.

A second question of interest is: Are males'—and, indeed, females'—interruptions more likely to be dominance-associated when the interruptees are female than when they are male? Since females have lower status, it may be viewed as more legitimate to attempt to seize the floor from females than from males (Berger, Rosenholtz & Zelditch 1980). On the other hand, given that the male interactional style stresses competing and winning (e.g., Maltz & Borker 1982, Tannen 1990), and given that various studies have found more sex-stereotypic behavior in same-sex than in mixed-sex interaction (e.g., Piliavin & Martin 1978, Carli 1989), and that levels of dominance behavior have been found to be higher in all-male than in all-female groups (e.g., Ridgeway & Diekema 1989), it is also conceivable that the highest levels of dominance-associated interruptions might occur between males. Interruptee gender will be touched on where relevant in the four sections to follow (see pp. 248–253). The fifth section (see pp. 253–258) will survey research on the extent to which females and males discriminate on the basis of coparticipants' gender in their overall

interruption attempts and will discuss possible interpretations of the results.

Semantic Content as a Gauge of Gender Differences with Respect to Dominance-Related Interruptions

As was mentioned earlier (see pp. 241–242), a few studies have classified interruptions into different types on the basis of their content relative to the interruptee's talk (e.g., agreement, disagreement, support). It has been noted there that no one-to-one relationship can be assumed between these categories and the relative disruptiveness of an interruption; for example, one can agree but still be attempting to seize the floor, and one can disagree but in a context in which the interruption nevertheless has a collaborative function. Still, any common patterns in gender differences running through these studies could be relevant to the question of whether males produce more interruptions of the disruptive type, and to the question of whether females are more likely to receive interruptions of this type than are males.

Five studies have compared the genders with respect to the content of interruptions. (Four of these found the genders not to differ in relative number of interruptions; one, Sayers 1987, found females to interrupt more.) Kennedy and Camden (1983), Sayers (1987), and Dindia (1987) classified interruptions as agreement, clarification, disagreement, and disconfirmation (in disconfirmation the interruption either changes the subject or in some way minimizes or makes light of the interruptee's talk). None of these three studies observed any gender differences with respect to the semantic content of interruptions when the sex of the interruptor alone was taken into account. Kennedy and Camden, studying mixed-sex groups, did not investigate the effects of interruptee gender. Sayers studied mixed-sex dyads only. Dindia, investigating mixed and same-sex dyads, did find interruptee gender to be relevant in some respects: males made more disconfirming interruptions toward females than they did toward males or than females did toward either sex; at the same time, however, both genders produced more agreeing interruptions when addressing members of the opposite sex than when addressing members of the same sex. Males also used more disagreeing interruptions when addressing other males than any other sex combination. A further study dealing with interruption content, Willis and Williams (1976), classified interruptions in mixed-sex groups as agreement, disagreement, irrelevant to the speaker's topic, and miscellaneous. Female interruptors used more agreeing interruptions with males than with other females, and more disagreeing interruptions with other females than with males; no other gender differences were observed. Lastly, Smith-Lovin and Brody (1989), examining mixed-sex and same-sex groups, classified interruptions as supportive, negative, or neutral. The only gender difference found was that males were more likely to initiate a supportive interruption toward another male when in an all-male group than when in a mixed-sex group.[23]

Even assuming, oversimplistically, a correlation between disruptiveness and aspects of content such as disagreement, these studies clearly fail to provide any convincing support for the hypothesis that males initiate more interruptions of the dominance-related type than do females. Overall, comparatively few differences were discovered. Dindia's finding that males used more disagreeing interruptions with other males than any other sex combination is partially supportive of a pattern of more competition, and thus possibly more disruptive interruptions, in all-male interaction; however, Smith-Lovin and Brody's results appear to contradict this. Some of Dindia's and Willis and Williams's results suggest that more disruptive interruptions may be directed against women than against men, but other results—such as Dindia's finding that men use more agreeing interruptions toward women than toward men—do not support such a conclusion.

Type of Context as a Gauge of Gender Differences with Respect to Dominance-Related Interruptions

It was suggested earlier (see pp. 241–244) that the proportion of interruptions which represent dominance attempts may be particularly low in casual, friendly conversation; may possibly be higher in formal task contexts (although this is unclear); and may be particularly high in interactions which involve competition and conflict. If it were the case that in casual, unstructured conversation the sexes were most likely not to differ in relative number of interruptions initiated, and in competitive, conflictual contexts males were frequently found to initiate more interruptions than females, this would provide some support for the hypothesis that males' interruptions are more likely to be dominance-related than are those of females. Is this, then, the case?

Five studies listed in Tables 9.1 and 9.2 have investigated interruptions in a context involving a relatively high degree of competition or conflict. Three of these are Kollock, Blumstein, and Schwartz (1985), Roger and Nesshoever (1987), and Roger and Schumacher (1983). As was discussed earlier (see pp. 242–243), these studies also tested whether individuals who were the more powerful member of a couple (in the case of Kollock et al.) or who had a high predisposition toward dominance in their personalities (in the case of the other two studies) initiated more interruptions, attempted or successful, than individuals of whom this was not the case; the results supported this hypothesis in all three studies. None of these studies found the sexes to differ in relative frequency of interruptions (Roger and Nesshoever examined mixed-sex dyads, Roger and Schumacher same-sex dyads, and Kollock et al. both types). However, subjects were preselected in such a way that an equal number of females and males represented the more powerful member of their couple or had a high predisposition toward dominance (see note 16 and p. 242); thus, power or a high dominance tendency may have simply outweighed gender as a determinant of ...

females are not equally likely to be high in power or dominance predisposition.

Two other studies compared interruption behavior in competitive and in more cooperative contexts (e.g., Trimboli and Walker [1984] compared, on the one hand, friendly chats dealing with topics on which subjects held similar views and, on the other, arguments dealing with topics on which subjects held opposite views). Trimboli and Walker found that while there were more interruptions in the competitive situation, all-male, all-female, and mixed-sex dyads did not differ in overall number of interruptions in either type of context; behavior of the sexes in mixed-sex dyads was not compared. Jose, Crosby, and Wong-McCarthy (1980), examining mixed-sex dyads, reported with respect to gender only that females were interrupted more often in the more cooperative setting than any other gender and context combination. Clearly, then, these studies are not supportive of the hypothesis that competitive contexts would be particularly likely to elicit findings of males exceeding females in the extent to which they interrupt others. Equally clearly, however, more research is needed in this area.

A comparison of studies of unstructured conversations and studies involving a formal task also reveals no clear difference between these two types of context in the proportion of cases in which males were found to interrupt more than females, for either same or mixed-sex interaction. However, as was noted earlier (see p. 243), it is not in fact obvious that more interruptions of the disruptive type are to be expected in formal task contexts than in unstructured, friendly conversation. Thus, we find here, as previously, no evidence to support the hypothesis that males initiate more interruptions of the dominance-related type, either against females or against males.

"Successful" Interruptions as a Gauge of Gender Differences with Respect to Dominance-Related Interruptions

In a previous section (see pp. 244–246) it was observed that "successful" interruptions may be more likely to be associated with attempts to seize the floor from others than are "unsuccessful" interruptions, although not all the relevant evidence is supportive of this hypothesis, and successful interruptions certainly need not be dominance-related. Despite the fact that there are some problems here, one obvious avenue to pursue, in attempting to determine whether males initiate more interruptions which represent dominance attempts than do females, is to survey the results of studies which have compared the genders with respect to the number of successful interruptions initiated. In addition, if successful interruptions are particularly likely to occur when the interruptee is female, this would suggest that females are more willing to yield the floor than are males, whether because of differences in female and male interactional styles, or because of males' higher status (in the case of cross-sex interruptions) or both.

Eleven studies have examined gender in relation to the initiation of successful interruptions. Nine have dealt with mixed-sex interaction. Of these Woods (1989), studying three-person groups of colleagues interacting at their place of work, found males to initiate a greater number of successful interruptions than females; Craig and Pitts (1990), dealing with tutorials, found male students to initiate a greater number of "successful speaker switches" involving interruption of females than the reverse. The remaining seven studies found no gender differences (Beattie 1981, Roger & Nesshoever 1987, Kollock et al. 1985, Welkowitz et al. 1984, Smith-Lovin & Brody 1989, Marche 1988, and Natale et al. 1979). In addition the last five of these, plus two further studies (Rogers & Jones 1975 and Roger & Schumacher 1983), examined same-sex interaction. Here, Kollock et al. (1985) found—contrary to what might have been predicted—that there were more successful interruptions in female than in male homosexual couples. No other study found a gender difference. However, with respect to the "no difference" findings of Kollock et al. (1985) and Roger and Nesshoever (1987) for mixed-sex interaction, and of Roger and Schumacher (1983) for same-sex interaction, having higher power or being high in dominance may have outweighed gender here as a factor in interruption behavior; see the previous comments on pp. 249–250 (this would, however, leave the results of Kollock et al. for same-sex pairs unexplained). In any case the same-sex results clearly fail to provide any support for the notion that there might be more dominance-associated interruptions in all-male than in all-female interaction. Of the mixed-sex results, where a difference exists males were found to initiate the greater number of successful interruptions; this difference appears only in a small minority of the studies, however.

Three studies—West (1979), Kennedy and Camden (1983), and Dindia (1987)—have also examined in detail the responses of males and females to being interrupted. None found either sex to be more likely to yield the floor to an interruptor.

Overall then there appears to be no convincing evidence that males initiate a greater number of successful interruptions than females toward either gender, and little evidence that females are more likely to be successfully interrupted than are males. Thus, this criterion, like those in the two immediately preceding sections (see pp. 248–250), does not support either the hypothesis that males surpass females in the use of dominance-related interruptions or the hypothesis that females more often have dominance-related interruptions directed at them. However, it should be kept in mind that the connection between "successful" interruptions and dominance is, in any case, neither simple nor straightforward.

Dominance Predisposition and Power as Gauges of Gender Differences with Respect to Dominance-Related Interruptions

We have seen that a small number of studies have dealt with the extent to which the number of interruptions initiated correlates with having a high dominance predisposition or having greater power in a relationship. For

are male, a result that might follow from females' lower status relative to males. Alternatively, it is also possible that the highest number of dominance-related interruptions might be directed by males against other males. It has been shown in the four previous sections that from the perspective of the criteria there dealt with, although the results of some individual studies have matched the predictions of one or the other of these hypotheses, research results taken as a whole provide no clear support for either hypothesis. However, as was previously noted, the criteria employed in these sections may not be completely reliable. A number of researchers have addressed the question of whether either sex is more likely to have dominance-related interruptions directed at them simply by comparing the frequency with which females and males are interrupted; most of these have also factored in the sex of the interruptor. The results are summarized in Table 9.3; nine studies of mixed-sex groups and twelve studies which compared same-sex and mixed-sex dyads are surveyed here. This section will review and evaluate this research.

Perusal of Table 9.3 reveals one striking pattern. In thirteen of these twenty-one studies females were interrupted more than males by either one or both sexes (those studies listed in [2]–[6]; in the case of Craig and Pitts [1990], this was true of student-student interruptions only, as noted in [1] and [2]). However, males were interrupted more by either sex in only two studies (those in [5]; in the case of Brooks [1982], male students, but not male professors, were interrupted more than females [by females], as noted in [2] and [5]). Clearly, the hypothesis that dominance-related interruptions are generally more likely to be directed against females than against males, as a result of the status difference between them, would provide one explanation for this discrepancy in numbers. Also of interest are the results by sex of interruptor, summarized from the nineteen studies listed in (1)–(5) in Table 9.3. In a significant subportion of these studies (eight) males interrupted females more than they did males, and in one further study (Craig & Pitts 1990) males interrupted females more in the case of student-student interruptions, although they interrupted both sexes equally in the case of tutor-student interruptions. In the remaining ten studies males interrupted both sexes to an equal extent. In the case of female interruptors, the majority of studies (twelve) found them to interrupt both sexes to an equal extent. In only four studies did females interrupt other females to a greater extent overall than they did males. In one study, they interrupted males more; in two studies the results were mixed—in Craig and Pitts (1990), females students interrupted other female students more than they did male students but interrupted both sexes equally in the case of tutor-student interruptions, while Brooks (1982) found (by contrast) that female students interrupted male students more than they did other female students but interrupted female professors more than male professors.

It is noteworthy that in no study have males interrupted other males more than they have females. This would initially appear to weigh against

Table 9.3 Studies Which Have Examined Whether Each Gender Interrupts Females or Males More

(1) Studies in Which Both Females and Males Interrupted Females and Males to an Equal Extent
Beattie 1981
Craig & Pitts 1990
  (with regard to successful interruptions of students by tutors, or the reverse; cf. [2])
Duncan & Fiske 1977
Frances 1979
Greif 1980[25]
Leffler, Gillespie, & Conaty 1982[26]
Martin & Craig 1983
Murray & Covelli 1988
Simkins-Bullock & Wildman 1991

(2) Studies in Which Both Sexes Interrupted Females More Than They Did Males
Brooks 1982
  (with regard to students' interruption of professors; professors' interruptions of students not tabulated; cf. [5])
Craig & Pitts 1990
  (with regard to successful interruptions of students by other students; cf. [1])
McMillan et al. 1977
Peterson 1986

(3) Studies in Which Males Interrupted Females More Than They Did Other Males, But Females Interrupted Both Sexes to an Equal Extent
Octigan & Niederman 1979
Smith-Lovin & Brody 1989
Willis & Williams 1976
Zimmerman & West 1975

(4) Studies in Which Females Interrupted Other Females More Than They Did Males, But Males Interrupted Both Sexes to an Equal Extent
Bilous & Krauss 1988
Marche 1988

(5) Studies in Which Males Interrupted Females More Than They Did Other Males, and Females Interrupted Males More Than They Did Other Females
Brooks 1982
  (with regard to students' interruption of other students; cf. [2])
Dindia 1987

(6) Studies in Which Females Were Interrupted More, But It Is Not Reported Whether They Were Interrupted More By Males, Females, or Both Males and Females[27]
Eakins & Eakins 1976
Kennedy & Camden 1983

the hypothesis that the highest number of dominance-related interruptions would be directed by males against other males; however, this begs the question of the functions being performed by the interruptions, a point to which we will return again.

It is also significant that male interruptors appear to have "discriminated against" females to a somewhat greater extent than female interruptors did in these nineteen studies; they did this in nine studies, as opposed to only six in the case of female interruptors (if we include both Craig and Pitts [1990] and Brooks [1982] as studies in which at least some group of females was "discriminated against"). One possible interpretation of this result is that males' interruptions are, in general, more likely to be dominance-related attempts to seize the floor than are females', because it is only in this case that the status of the interruptee should make a difference. There is no reason to expect interruptions which are intended as cooperative or supportive, or such types of interruption as mistiming errors, to be more frequently directed toward lower-status individuals (females) than toward higher-status individuals (males). If male interruptors "discriminate against" females more than female interruptors do, this could mean that males' interruptions are more frequently attempts to seize the floor.

However, other possible explanations for the findings must also be explored. For example, with respect to the issue just raised, Smith-Lovin and Brody (1989), who found males to interrupt females more than other males but females to interrupt both sexes equally, propose that cross-sex conflict explains this apparent inconsistency between male and female behavior. In this account both males' and females' interruptions are held to be primarily dominance attempts. Smith-Lovin and Brody, noting that some studies have yielded indirect evidence that there is more conflict in mixed-sex than in same-sex interaction (e.g., South et al. 1987),[28] suggest that while in the case of males, the status difference and the element of cross-sex conflict both work in the same direction, leading them to interrupt females more than other males, in the case of females the two factors lead in opposite directions; status differences lead women to defer to men while interrupting other women, but adversarial conflict leads them to interrupt men while respecting or supporting the speech of others of their own sex. If the two effects were roughly equal in strength, these authors point out, they could cancel each other out, causing women to interrupt both sexes equally.

This account offers an explanation for the results of the four studies listed under (3) in Table 9.3, and it might also serve to explain the findings of the two studies listed under (5), in which both sexes interrupted the opposite sex more than their own, if we assume that for female interruptors some factor caused cross-sex conflict to outweigh deference to males in these two studies. The results of the remaining studies listed under (1), (2), and (4), however, would not be readily explained by this account.

Moreover, it is also possible that factors unrelated to dominance were at work in these studies. For example, in Dindia (1987) (one of the studies under [5]), more than half the interruptions in mixed-sex dyads were instances of agreement. This suggests that these interruptions may not have been of the disruptive type, and thus that cross-sex conflict may not provide the best interpretation of these data; Dindia proposes as an alternative that mixed-sex conversations—at least among strangers, presumably, as in her study—may be more "awkward" than same-sex conversations, leading to more mistiming errors.[29] It is also possible that in the studies comparing same- and mixed-sex dyads in which females interrupted other females more than males, the reason was not that females felt it was more legitimate to attempt to take the floor from other females, but rather that interruptions of the rapport-building, cooperative type are particularly characteristic of all-female interaction; that is, the increase may have involved an increase in supportive, rather than disruptive, interruptions. Evidence for this will be discussed later (see pp. 258–260), where it will be suggested that this best explains the findings of the two studies listed under (4) in Table 9.3. (This type of highly rapport-building interaction may, however, be more appropriate in some contexts than in others; this may explain why some dyadic studies did not find females interrupting other females more than males.)

Consideration of the cooperative function of interruptions, in turn, raises the issue of whether males might initiate more interruptions of the cooperative type when talking to females than when talking to males; could this be at least part of the explanation for the fact that so many studies have found males to interrupt females more than they did other males? As noted earlier, various studies have shown males' behavior to be less sex-stereotypic in mixed-sex than in same-sex interaction; also, Bilous and Krauss (1988) found that both males and females manifested some speech accommodation in the direction of the other gender's style. If cooperative interruptions are more characteristic of the female than of the male verbal style, it is possible that males may tend to increase their use of these when interacting with females. In the absence of detailed comparisons of the roles of males' interruptions in same and mixed-sex interaction, however, this must remain speculation.

In sum, then, one possible interpretation of the findings of the twenty-one studies listed in Table 9.3 is that interruptions tend to be more likely to constitute dominance-related attempts to seize the floor when interruptees are female than when they are male, and that males' interruptions are somewhat more likely to represent dominance attempts than are those of females. However, these findings could also be interpreted in other ways. To the extent that cross-sex conflict is an issue, perhaps females' interruptions are equally as intentionally disruptive as those of males. On the other hand, perhaps the increases in interruptions observed do not in fact represent dominance attempts, but rather nondisruptive types of interruption triggered by such factors as gender differences in verbal style and speech accommodation.[30] In evaluating the findings, then, we come

up once more against the problem of how to interpret the roles and functions of interruptions.

Gender and Dominance-Associated Interruptions: Conclusions

No clear conclusions, then, can be drawn at this time from the existing research findings as to whether males' interruptions are more likely to constitute attempts to seize the floor than are those of females, or as to whether females are more likely than males to have dominance-related interruptions directed against them. It may simply not be the case that males and females differ significantly overall with respect to the use of dominance-associated interruptions; but given the fact that none of the criteria discussed in the preceding five sections constitute truly reliable gauges of whether or not an interruption constitutes a dominance attempt, this cannot be concluded with any certainty.

The central problem, of course, as noted earlier (see pp. 246–247), is that there exist no simple, objective criteria to determine whether or not an interruption constitutes a dominance-related attempt to seize the floor (and indeed, as observed earlier, there is in any case unquestionably no hard-and-fast line between interruptions which are and are not dominance-associated; a continuum is involved). The only approach to determining the role of the interruptions in a given interaction which is likely to approach adequacy is the type of analysis undertaken by such researchers as Tannen, Edelsky, and Coates (see pp. 239–240), which takes into detailed account the larger context in which the interruptions occur. However, determination of the extent to which the interruptions in any given interaction represent dominance attempts is inherently problematic, in that this involves ascertaining the intentions of the interruptor, and these can only ultimately be guessed. (Having the participants contribute to the analysis, as has been done by Tannen and also by, e.g., Roger and Nesshoever [1987], is no doubt a useful tactic here.) In addition, as noted earlier, a further potentially difficult aspect of any such analysis is that the conversational style normally used by the interruptor must also be taken into account; for example, speakers of the style described by Tannen (1983 and later works), as discussed earlier (see pp. 239–240), must be identified and judged differently from speakers of styles in which interruptions may be less widely regarded as rapport-building in function.

Gender and Cooperative Interruptions

We have seen that not only are instances of interruption not necessarily disruptive in nature, but they can function to indicate support, collaboration, and solidarity. There is considerable evidence, however, that women tend to perform more positive socioemotional behavior of this kind in interactions than do men. For example, many studies have found women to do more agreeing and showing of support, in both same- and mixed-sex

interaction (e.g., Leet-Pellegrini 1980, Aries 1982, Wood & Karten 1986, Carli 1989); the majority of studies which have examined the use of back channel responses by listeners have found women to use more (e.g., Bilous & Krauss 1988, Roger & Nesshoever 1987, Edelsky & Adams 1990); and several studies have found women to be more likely to express interest in another's opinions or feelings by such means as asking questions or using tags (Fishman 1983, Holmes 1984, Cameron, McAlinden, and O'Leary 1989).

Given the preceding findings, one might hypothesize that women would be more likely than men to use interruptions to indicate interest and rapport. Three studies which have examined all-female groups—Kalčik (1975), Coates (1989), and Booth-Butterfield and Booth-Butterfield (1988)—have all reported the interruptions in the groups studied to be primarily of this kind. Coates (1989), indeed, suggests that this is the most typical function of simultaneous talk in all-female interaction. However, virtually no studies have applied the same kind of detailed analysis to interruptions in all-male groups so that comparisons might be made between the genders in these respects. One exception is McLachlan (1991), a study which provides some support for the hypothesis under discussion: McLachlan reported that when tackling a problem in which they were in agreement as to the solution (as determined by a pretest), female dyads produced more simultaneous speech classified by coders as nondisruptive than did male dyads.

Moreover there exists one type of indirect evidence which suggests that interruptions may tend to be more commonly of the collaborative, supportive type in all-female than in all-male interaction. As shown in Table 9.2, three studies (Bilous & Krauss 1988, Street & Murphy 1987, Crosby 1976) found significantly more total interruptions in all-female pairs than in all-male pairs. In addition, although Marche (1988) observed no gender difference overall in number of interruptions, in this study of three age groups averaging nine, fourteen and nineteen years old[31] there were significantly more interruptions in female than in male pairs in the fourteen-year-old group; further, across all three age groups, females were significantly more likely to interrupt other females than they were males. One further study, Dabbs and Ruback (1984), reported a tendency for all-female groups to produce more interruptions than all-male groups. What is of particular interest in all five of these studies is that each reports in addition other findings for all-female talk which, together with the interruption findings, suggest a pattern remarkably reminiscent of the conversational style described by Tannen (1983 and later works) and mentioned earlier (see pp. 239–240). To recap, in this "high-involvement" style, interruptions are frequent and serve a primarily positive socioemotional function, indicating interest and enthusiasm. Other characteristics of this style include frequent and expressive back channel responses, a fast rate of speech, and fast pacing with respect to turn taking; Tannen notes that the overall effect of one of intensity and rapid pace (1983:120–121). The

findings of all these studies suggest that this type of speech style characterizes all-female, but not all-male talk. For example, Bilous and Krauss (1988) report of their study that female pairs not only interrupted more than male pairs, but also produced more back channel responses, paused less, produced more total words, produced shorter utterances, and laughed more; they note that this suggests a higher involvement level in female than in male pairs (p. 190). Similarly, Marche (1988) notes that not only did females interrupt other females more than they did males, but female pairs also produced more brief, multiple, and repeated back channel responses; laughed more; and made more brief restatements of the partner's previous utterance (this last is also noted by Tannen as typical of this high-involvement, rapport-building style). Such findings suggest that the relatively high level of interruptions observed in female interaction in these five studies was probably primarily associated with the expression of interest, enthusiasm, and rapport. No study that we know of has reported behaviors such as those mentioned as being more strongly characteristic of male than of female interaction, or even as being equally characteristic of male and female interaction.[32]

In addition, Bilous and Krauss (1988) and Marche (1988) examined mixed-sex dyads as well as same-sex dyads. The features mentioned previously were found to be, in general, less prevalent in mixed-sex than in female dyads in both studies, and Bilous and Krauss report that females significantly reduced most of these behaviors, including interruptions, when talking to males (representing accommodation to the male speech style). Thus, this style may be particularly characteristic of all-female talk, at least under some circumstances.

Other Factors Which May Have Affected Results in the Gender-Related Interruptions Literature

This chapter has reviewed a number of studies dealing with potential gender differences in the use of interruptions and has pointed to considerable inconsistencies in the findings of different studies. What kinds of factors might have given rise to these inconsistencies? Clearly, various subject and situational variables may have been at work here. Beyond this, however, other aspects of the methodology employed may also have contributed to the variations in the findings; methodological considerations, moreover, render the research results of questionable reliability in a percentage of cases. This section will first review subject and situational variables which may have affected results and then turn to methodological problems.

Effects of Subject and Situational Variables

Most of the gender-related research on interruptions has involved unacquainted or minimally acquainted college students interacting in dyads;

the setting has most commonly been that of the experimental laboratory. The effects of such factors as age, degree of intimacy, type of setting, and topic of conversation have rarely been systematically addressed in this literature. We will review here various factors which might potentially affect the results of studies with respect to gender differences in interruption use and comment on the existing evidence as to any such effects, dealing first with subject and then with situational variables.

(1) Age. While, as we have seen, most research on adults has involved no significant gender differences in interruption behavior, the only two studies of very young children—Esposito (1979) and Peterson (1986), which examined three- and four-year-olds—both found that boys interrupted girls significantly more than the reverse in mixed-sex pairs. Obviously, one possible explanation is that these young children are not yet sufficiently socialized to initiate interruptions of the supportive or cooperative type (given that these involve some degree of awareness of the needs of others), and that very young boys are more likely than girls to initiate dominance-related interruptions. However, further research is needed to warrant such a conclusion. With respect to older preadolescent children, Marche (1988) found no significant gender differences in interruption behavior in nine-year-olds, and Welkowitz et al. (1984) found only one gender difference for eight-year-olds: the interruptee was more likely to retain the floor in female dyads than in male or mixed-sex dyads. This may imply fewer disruptive interruptions in the female dyads. Both studies also compared different age groups. The only major age-based difference found by Marche was that for fourteen-year-olds, but not for nine- or nineteen-year-olds, there were more interruptions in female than in male same-sex dyads: it is not clear how this age effect might be best explained. Welkowitz et al. found that the interruptee was more likely to retain the floor in dyads of male twenty-year-olds than in dyads of male eight-year-olds (there was no such effect for female dyads) and was more likely to retain the floor in mixed-sex dyads of twenty-year-olds than in mixed-sex dyads of eight-year-olds. This may imply fewer dominance-related interruptions by the older males and the older mixed-sex dyads than by the younger ones.[33]

(2) Degree of Intimacy. Research suggests that unacquainted individuals are more likely than those who know each other well to rely on characteristics such as sex to define status/power relationships; close friends and intimates may transcend this to create their own personal division of power (Maccoby & Jacklin 1974, Drass 1986). Consistent with this are the findings of Kollock et al. (1985), in which relative power, but not gender, affected interruption use in intimate couples. We might anticipate then, that in mixed-sex interaction males would be more likely to exceed females in the initiation of dominance-associated interruptions when participants are unacquainted or not well acquainted than when they are intimates. Three studies have systematically examined the relationship among interruptions, degree of intimacy, and gender. Two found no evi

dence for such an effect (although it should be kept in mind that both studies dealt only with the raw number of interruptions, and of course it is not clear what proportion of these would have been dominance-associated): Shaw and Sadler (1965), who concluded that females interrupted more than males in mixed-sex pairs, found that they interrupted to an equal extent whether the partner was a husband, a boyfriend, or a stranger, and Crosby (1976) similarly found that whether a (same-sex) dyad partner was a friend or a stranger did not affect number of interruptions. The third study, McLachlan (1991), comparing same-sex interaction between friends and between strangers in a problem-solving task, reported two significant triple interactions involving disagreement, gender, and familiarity for successful interruptions and back channel responses; however, "the cell means were not readily interpreted" and "the results were not considered sufficiently robust for further comment" (p. 210).

Further, a comparison of those studies from Tables 9.1 and 9.2 which involved unacquainted subjects and those which involved friends or acquaintances (no studies other than those mentioned have involved intimate couples) reveals no clear pattern of gender-related differences.

(3) Personality Factors. The relationship between gender and a tendency toward high dominance predisposition as factors in interruption behavior—including the extent to which dominance predisposition may differently affect males' and females' interruption behavior—has been discussed (see pp. 251–253). There is in addition a certain amount of research on the effects of sex-role self-concept on interruption use (e.g., LaFrance & Carmen 1980, Jose et al. 1980, Drass 1986, Marche 1988). Results have been mixed; we will not attempt to review these here. A useful discussion of the problems involved in studying sex-role self-concept in relation to conversational behavior is provided in Crosby, Jose & Wong-McCarthy (1981). In addition, a few studies have examined the relationship between interruption use and such qualities (of interruptor and/or interruptee) as need for social approval, emotional maturity, and degree of extroversion (Natale et al. 1979 [see note 13], Feldstein et al. 1974, Rim 1977). Only Natale et al. examined whether the effects found held equally for males and for females; no gender differences were observed.

(4) Status/Power in the Interaction Resulting From Some Source Other Than Gender. To the extent that interruptions are associated with dominance, it might be expected that individuals with higher status or power in the interaction deriving from some source other than gender would interrupt lower-status, lower-power individuals more than the reverse, and that this might outweigh any effects on interruption use which might otherwise be produced by gender. As previously noted, this may help to explain the findings of no gender differences in Kollock et al. (1985 [see pp. 249–250]), Leffler et al. (1982 [see notes 19 and 26]), and, in part, Craig and Pitts (1990 [see note 19]).

(5) Degree of Conflict Present, and the Extent to Which the Interaction Is Task-Oriented. The possible differential effects of these factors on females' and males' use of interruptions, and the conclusions which can be drawn from existing research with respect to this, have been discussed (see pp. 249–250).

(6) Natural Versus Laboratory Setting. It has sometimes been suggested (e.g., Smith 1985) that a laboratory setting is particularly conducive to the display of control-related behaviors, and thus might favor male dominance displays, although this is a controversial point. However, comparison of studies on interruptions in these two types of setting reveal no systematic differences in the results as they relate to gender. (Thirty-one of the forty-three studies listed in Tables 9.1 and 9.2 involved a laboratory experiment; twelve—for the most part studies of groups—examined naturally occurring speech.)

(7) Dyad Versus Group. Kennedy and Camden (1983:55) suggest that since the amount of speech time and floor access available per person is less in a group than in a dyad, this leads to an increased demand for speeches of shorter duration and a relaxation of turn-taking protocol, and thus interrupting may become a more legitimate means of gaining the floor in a group than in a dyad. (Beattie [1981:29–30] makes a similar point.) If this is true, one might expect that there would be fewer findings of males interrupting more than females in studies of mixed-sex groups than in those of mixed-sex dyads. Indeed, a somewhat higher percentage of studies of mixed-sex groups have found females to interrupt more than males than is the case in studies of dyads (three out of twelve, or 25%, as opposed to only two out of twenty-one, or 9.5%); however, contrary to expectation, slightly more studies of mixed-sex groups than studies of dyads have found males to interrupt more (five out of twelve, or 42%, as compared to six out of twenty-one, or 29%).

(8) Topic of Conversation. If the topic of conversation is perceived as representing a male or a female area of expertise, the gender in question may feel more of an "authority" in that area and thus may feel more justified in making dominance-associated interruptions. It was suggested earlier (see pp. 252–253) that this may explain the finding of Courtright et al. (1979) that wives' "domineeringness" scores were more strongly associated with interruptions than were those of husbands. In most of the studies in Tables 9.1 and 9.2 no information is provided as to the topic(s) discussed; in thirteen, however, the topic is described (in each case, it was assigned for discussion by the experimenter). These topics were sex-neutral in all but two cases, in both of which they dealt with a "female area of expertise." It is noteworthy that one of these two studies (Shaw & Sadler 1965) is also one of the few in which females were found to interrupt males more than the reverse (the topic here dealt with interper-

sonal relationships, as in Courtright et al. [1979]). In the remaining study, however (Leet-Pellegrini 1980), in which subjects were asked to discuss the possible effects of TV violence on children—since it deals with children, arguably a topic on which women would perceive themselves and be perceived by men as particularly competent—the genders were not found to differ significantly in number of interruptions.

(9) Change in Gender Behavior Over the Years. It is also conceivable that the influence of the women's movement might, over time, have brought about changes in women's and men's beliefs and assumptions about their own and the other sex, and consequently changes in their behavior. In fact, when one conducts a comparison of the findings of studies in chronological order, an interesting result emerges. Restricting ourselves here to research on mixed-sex interaction, the single study done during the 1960s (Shaw & Sadler 1965) found females to interrupt males more than the reverse. Of the ten studies published in the 1970s (all between 1975 and 1979; we include here West [1979], the results of which were also published later in West [1982] and West & Zimmerman [1983]), fully seven found males to interrupt more, while three others found no gender difference. Of the twenty-three studies published between 1980 and 1991, however, fourteen found no gender difference, five found males to interrupt more, and four found females to interrupt more. Thus, while 70% of the studies published between 1975 and 1979 found males to interrupt more, only 22% of those conducted between 1980 and 1991 found this more (the distribution is similar for the first and second halves of the decade).

Caution is called for, however, in drawing the conclusion that women must have interrupted men more in the 1980s and 1990s than they did in the 1970s. It is not inconceivable that in the years immediately following the publication of Zimmerman and West's enormously influential 1975 study, the expectation of similar results (i.e., that men interrupted women far more than the reverse) may have caused some element of experimenter bias to enter into the design and/or analysis of some studies. That such bias may affect results is illustrated by the fact that two surveys of studies on gender differences in, respectively, influenceability (Eagly & Carli 1981) and performance in task groups (Wood 1987) have found a significant relationship between the sex of the researcher and the generation of results flattering to that sex. Some ways in which such a bias might enter into analysis will be discussed in the next section. Expectations of researchers that males would interrupt females more than the reverse may have been somewhat reduced in the early 1980s by the publication of such widely cited studies in the interruptions literature as Beattie (1981), which found the sexes not to differ in interruption use.

All of these variables, then, are potentially germane to women's and men's use of interruptions, and at least some may help to account for the inconsistencies in the findings of different studies. There are also, of course, other variables which may be relevant, for example, the subjects'

socioeconomic class, cultural and/or ethnic group, and amount of education. Existing research, however, provides virtually no information about the possible effects of these factors on women's and men's use of interruptions. Clearly, there is much scope for future research into the effects of all these factors on interruption use as it interrelates with gender.

Methodological Considerations

Other aspects of the methodology employed in studies of interruptions may also have contributed to the inconsistencies in their results. One important factor here is undoubtedly the way in which interruptions have been counted; studies have differed in this, rendering their results not truly comparable. Moreover, more seriously, the method of counting used may sometimes have led to misleading or unreliable results. Further, unrepresentatively small subject samples, absence of statistical testing, and faulty statistical methods render the results of some studies of questionable reliability.

Let us being with a consideration of the measures by which interruptions have been counted. While most studies have simply counted instances of interruption in raw numbers, some have instead divided the number of interruptions by the amount of time that the other participant(s) spoke, to produce a rate.[34] This latter way of measuring interruptions takes into account differences in the opportunities afforded to the two participants to interrupt. For example, suppose that A and B, talking together, each initiate the same raw number of interruptions toward the other, but A talks twice as much as B; in that case, B has interrupted at only half of A's rate, since B has had twice as much opportunity to interrupt as A. Thus, a study counting raw numbers of interruptions would conclude that there was no difference between A and B with respect to interruptive behavior, while a study measuring interruption rate would conclude that A interrupted B twice as much as B interrupted A. Measurement of interruptions as a rate would appear to be a more accurate gauge of interruption behavior.

Nine studies dealing with gender have measured rate rather than raw number of interruptions;[35] none of these found a significant difference between the sexes in their rate of interruption. Five of these studies also report results on the amount that women and men spoke. Of these, four found no significant difference (Duncan & Fiske 1977, Frances 1979, Martin & Craig 1983, and Leffler et al. 1982); the remaining study, Kollock et al. (1985), had mixed results. Nevertheless one is led to wonder whether some studies which measured interruptions in terms of raw numbers and found no difference between the genders might not have found a difference if interruptions had been measured as a rate; in view of the fact that most studies have found men to talk more than women in mixed-sex interaction (either overall or under at least some circumstances) (see James & Drakich, this volume), this raises the possibility that men might have

interrupted women at a more frequent rate than the reverse in these studies.

It is also possible that in the five studies listed in Table 9.1 in which females were found—in each case, by the raw numbers measure—to interrupt significantly more than males in mixed-sex interaction, the sexes may not in fact have differed significantly in the rate at which they interrupted each other, if males spoke more than females did in these studies. Males were indeed found to talk significantly more than females in two of these studies, Connor-Linton (1987) and Sayers (1987), and in the case of the latter, there does exist evidence that the female and male subjects did not differ in the rate at which they interrupted.[36]

There have also been, of course, other kinds of differences among studies in how interruptions have been measured, as noted earlier; these too raise questions of comparability with respect to the results of different research. Thus while most studies have excluded back channel utterances from their count of interruptions, a few have not (see p. 238); while some studies have excluded other types of simultaneous talk perceived as supportive rather than disruptive in function, others have not (see note 11); while some have excluded the type of mistiming error termed an "overlap" by Schegloff (1973), others have not (see pp. 240–241 and note 13); and while most studies have ignored the existence of "silent" interruptions, a few have included them in their interruptions count (see note 8). Clearly, differences of these kinds could affect results. As just one kind of example, "silent" interruptions, in which the interruptor begins speaking during a slight pause in the interruptee's talk—so that no simultaneous speech occurs (see p. 237)—are of course one form of "successful" interruption; to the extent that successful interruptions are more strongly associated with dominance than unsuccessful ones, to exclude "silent" interruptions might conceivably reduce the extent to which the counted interruptions constituted attempts to seize the floor.

Yet another problem is that the way in which instances of interruption are counted can sometimes be subject to errors in interpretation, and, moreover, susceptible to experimenter bias. One often-cited example of this is to be found in the research which has attempted to separate "overlaps" in the Schegloff (1973) sense from "interruptions." As was noted earlier (see pp. 240–241), the distinction between the two types is based on whether the simultaneous speech initiated is or is not near a "transition-relevant place" (that is, a possible completion point); this is defined simply as the end of any "unit-type," that is, any word, phrase, clause, or sentence (Sacks et al. 1974:702). But, of course, the crucial criterion with respect to whether or not an instance of simultaneous speech is simply a mistiming error is really whether the interruptor believes that the interruptee is about to reach a point which can reasonably be taken as the end of his/her turn; and this, in fact, requires taking into account not only syntactic criteria, but also the semantic content of the interruptee's speech, the larger communicative context, prosodic and non-

verbal turn-yielding signals (Duncan 1973), and even knowledge of the personality of the interruptee.[37] (These problems have been pointed out by a number of researchers, e.g., Bennett [1981], McLaughlin [1984], Wilson, Wiemann & Zimmerman [1984], Murray [1985, 1987], Murray & Covelli [1988], Tannen [1989].) These then are also the criteria the analyst must use in deciding whether a given instance of simultaneous talk is likely to have been a simple mistiming error. A further problem here too is that the common use of written transcripts of conversations, as opposed to videotapes, makes unavailable prosodic and nonverbal turn-yielding signals. Thus, in practice the decision of the analyst as to whether instances of simultaneous talk should be classified as "interruptions" or merely "overlaps" must involve a large subjective component, and as a result errors can be made, and biased expectations can influence judgment.

Further, the use of written transcripts in the usual format originated by Sacks et al. (1974) may also lead to other types of error in interpretation. Edelsky (1981, this volume), in a nice discussion of this, points out that the way in which participants' contributions are displayed on the page can give a misleading impression of who interrupted whom. Other researchers who have commented on the fact that the transcript display can affect interpretation include Aleguire (1978), Jefferson (1973), and Ochs (1979). Comparable problems can arise when a mechanized means such as a computer system that records simultaneous speech is used (as in, e.g., Natale et al. 1979).

Other aspects of the methodology used may also render of questionable reliability the results of some studies. The pioneering study of Zimmerman and West (1975), for example, which found men to interrupt women overwhelmingly more than the reverse, has been criticized not only on the grounds that bias may have been present in the counting of instances of interruption (Murray & Covelli 1988, Murray 1988), but also on the grounds that the relatively small number of interruptions identified render the results unrepresentative (Marche 1988), on the grounds that the number of subjects was small and over a quarter of the male interruptions in the mixed-sex conversations were attributable to a single subject (Beattie [1981], who also points out that if just one other male subject was relatively voluble, this would have caused the gender difference to be significant), and on the grounds that the effects of speech setting were not controlled for (Murray & Covelli 1988). Similar criticisms could also be made of other studies. A telling discussion of how research on interruptions has often employed faulty statistical methods is provided by Dindia (1987), who points out that studies have often tested only for the sex of the interruptor, ignoring the effect of the sex of the interruptee and the interaction of sex of interruptor and sex of interruptee; she notes that if the correlation between the two is ignored, results may be reported as significant which in fact are not, or vice versa. Statistical tests used in studies of simultaneous speech, then, she argues, have often ignored the fact that interruption behavior in one member of a group or dyad is not indepen-

dent of that of other members; typically, researchers in this area have incorrectly applied statistical tests that assume independent observations. In addition, not all studies have even employed statistical testing (e.g., Eakins & Eakins 1976, Woods 1989).

Clearly not only do methodological differences among studies create problems when it comes to comparing their results, but more seriously, because of faulty methodology, real gender differences in interruption use may be obscured, or gender differences may be reported which are not in fact present. It is vital that these problems be ironed out in future research, if reliable results are to be obtained.

Conclusions

Males have been hypothesized to be more likely than females to use interruption as a means of dominating and controlling interactions. It has been widely cited that, consistent with this hypothesis, most research has found males to interrupt females more than the reverse. This review has pointed out that such a conclusion is incorrect; the majority of studies have found no significant difference between the sexes in this respect. This may be a consequence of the fact that a large proportion of the simultaneous talk in an interaction may not represent attempts to dominate or control the interaction. Various efforts have been made by researchers to find simple, objective criteria by which those instances of interruption which constitute attempts to dominate can be reliably distinguished from those which do not. It is clear, however, that no such criteria exist.

There also exist approaches other than that of simply comparing the overall number of interruptions initiated which serve as potential means of testing whether males are more likely than females to use dominance-associated interruptions, and of testing whether such interruptions are more likely to be directed against females than against males. These include examination of the semantic content of females' and males' interruptions as directed toward each sex and comparison of the number of "successful" interruptions initiated by and toward each sex. Overall no clear-cut gender differences have emerged from the research by any of these criteria. Because none is an entirely reliable gauge of dominance in interruption behavior, however, it cannot be definitively concluded that males and females do not differ with respect to the use of dominance-associated interruptions.

A small amount of evidence exists that females may use interruptions of the cooperative and rapport-building type to a greater extent than do males, at least in some circumstances. However, definitive conclusions as to whether males and females differ in the ways in which they use interruptions, whether of the cooperative or dominance-related type, must probably be dependent on analyses of conversations which take into detailed account the larger context in which the interruptions occur—

although, as noted earlier (see p. 258), this approach is also in some ways problematic.

In addition, little evidence exists as to the effects of a number of different subject and situational variables on the interruption behavior of females and males; clearly this constitutes a further area for future research. And lastly, it is essential that future researchers be alert to ways in which the methodology employed can contribute to misleading and unreliable results in the area of gender and interruption use.

NOTES

1. We have omitted from Tables 9.1 and 9.2 unpublished papers of which we have been unable to obtain a copy (e.g., Hirschman 1973 and Ofshe 1981, cited in the bibliographies in Thorne & Henley 1975 and Thorne, Kramarae, & Henley 1983), and a few papers dealing with interruptions and gender in which the results reported were insufficiently clear or insufficiently specific with respect to our concerns in this review (e.g., McCarrick et al. 1981, van Alphen 1987, Pieper 1984, Greif 1980). All of the studies reported on involved adult interaction, with the exception of Esposito (1979) and Peterson (1986), which examined three- and four-year-olds; also, two studies (Welkowitz, Bond, & Feldstein 1984, Marche 1988) examined eight- or nine-year-olds in addition to adults.

2. Also of relevance here are two studies of parent-child dyads, Greif (1980) and Pieper (1984), both of which failed to find a significant difference between the number of interruptions initiated by mothers and by fathers but found a tendency for fathers to produce more. Greif also discerned a nonsignificant trend for boys to interrupt parents more than girls did.

3. In addition, Natale, Entin, and Jaffe (1979), in a study of same-sex and mixed-sex dyads, found that males initiated more interruptions overall than females. However, since the sex of the partner was not taken into account, it is not possible to tell whether males interrupted females more than the reverse in this study.

4. Smith-Lovin and Brody (1989), Willis and Williams (1976), and Woods (1989), while they found no difference between males and females in relative number of interruptions, report other findings with regard to the use of interruptions which they argue reflect male dominance. These will be discussed in a later section.

5. Craig and Pitts excluded from consideration cases in which the interruption did not result in the interruptor gaining single control of the floor. See pp. 244–246 for a further discussion of this distinction.

6. Murray and Covelli (1988) studied, along with three mixed-sex groups, two same-sex and two mixed-sex dyadic interviews; their results are collapsed across all these.

7. In addition, in Natale, Entin, and Jaffe (1979) (see note 3), it is possible that there may have been more interruptions in male than in female dyads; however, since the sex of the interruptee was not taken into account in this study, it is not possible to determine whether or not this was the case.

8. Those studies from Tables 9.1 and 9.2 which included "silent interrup-

tions" in their investigation are Beattie (1981), Craig and Pitts (1990), Marche (1988), Roger and Schumacher (1983), Roger and Nesshoever (1987), and Trimboli and Walker (1984).

9. See pp. 240–241 for one commonly used definition of "overlap." A second definition is that employed in research adopting Ferguson's (1977) method of classifying deviations from smooth speaker switches; it here refers to an instance in which both speakers continue talking simultaneously, neither yielding to the other.

10. Other names include "assent terms" (Schegloff 1972), "listener responses" (Dittman & Llewellyn 1967), "minimal responses" (Zimmerman & West 1975), "accompaniment signals" (Kendon 1967), and "reinforcers" (Wiemann & Knapp 1975).

11. A few of the studies listed in Tables 9.1 and 9.2 have recognized that some specific types of simultaneous talk other than back channel responses are likely to be primarily supportive and have excluded these from their count of interruptions (in an attempt to isolate those instances of simultaneous talk which are disruptive from those which are not). Woods (1989) and Leffler et al. (1982) excluded cases in which a word or phrase was repeated; West and Zimmerman (1983) excluded "saying the same thing at the same time;" and Duncan and Fiske (1977), Roger and Schumacher (1983), Roger and Nesshoever (1987), Marche (1988), and Smith-Lovin and Brody (1989) excluded phrases such as "I agree" or "that's right," requests for clarification, brief restatements of another speaker's utterance, and completions of another speaker's sentence. It is certainly, however, not safe to assume that once such types of simultaneous talk as these last are excluded, all remaining cases will then be genuinely disruptive. For example, instances of simultaneous talk in which participants are jointly developing an idea or sharing in a joke (as described in, e.g., Coates [1989] or Edelsky [1981, this volume]) might well not be excluded by these measures; nor would types of interruption such as those illustrated in on pp. 240–241, which are not supportive in nature but are nonetheless not disruptive.

In addition, in one last study, de Boer (1987) (see Table 9.2), instances of simultaneous talk were classed as "interruptions" (as opposed to "overlaps") apparently on a purely subjective basis, that of whether they manifested "competition."

12. This discussion of mistiming errors is primarily applicable to conversational styles which do not value fast pacing as a sign of involvement and rapport. In cultural groups in which such a style is the norm, pauses between turns are perceived as indicating lack of rapport; overlapping talk of the type described is normal, both because speakers wish to prevent pauses and because overlapping itself is seen as evidence of positive involvement in the conversation (see Tannen 1984).

13. Twelve studies from Tables 9.1 and 9.2 have excluded "overlaps," in this definition, from their count of interruptions: Dindia (1987), Kollock et al. (1985), Esposito (1979), Octigan and Niederman (1979), West (1979, 1982)/West and Zimmerman (1983), Zimmerman and West (1975), Sayers (1987), Smith-Lovin and Brody (1989), Woods (1989), Eakins and Eakins (1976), Kennedy and Camden (1983), and Murray and Covelli (1988).

14. Some further support for the notion that most interruptions are not dominance-related in unstructured conversation is provided by Natale, Entin, and Jaffe (1979), who found that the frequency with which individuals interrupted

others in this context correlated positively with their "desire for social approval" on a standard test, a result which would not be expected if most interruptions are manifestations of a disregard for others' right to speak.

15. This classification is based on the work of Watzlawick, Beavin, and Jackson (1967).

16. These six studies each used an established psychological dominance test involving subject self-rating; Ferguson (1977) additionally employed a dominance rating based on the interviewer's personal judgment. While the choice of test differed from study to study, testing was in general designed to measure the extent to which subjects tend to influence or control the behavior of others in their interpersonal interactions (cf. Ferguson 1977:299).

17. In addition, three studies which have compared competitive interactions with less competitive ones have found there to be significantly more interruptions in the former than in the latter (Jose et al. 1980, Trimboli & Walker 1984, Stephens & Beattie 1986).

18. Dominance was observed to be correlated only with "overlaps," defined as instances of interruption in which both speakers completed their utterances. This finding has not been duplicated in other studies.

19. Also relevant here are a few studies in which individuals differing in status on a basis other than that of gender were compared with respect to the number of interruptions they initiated. Wiens, Thompson, Matarazzo, Matarazzo, and Saslow (1965) found that higher-status nurses interrupted an interviewer more than lower-status nurses did; West and Zimmerman (1977), that parents interrupted children more than the reverse; West (1985), that doctors interrupted patients more than the reverse; and Leffler et al. (1982), that when dyad members were assigned the role of "teacher" or "student," "teachers" interrupted "students" more than the reverse. In addition, Craig and Pitts (1990) found that tutors interrupted students "successfully" (see pp. 244–245) more than the reverse in tutorials; however, Beattie (1981) found the opposite to be the case. It may well be pertinent here that except in the case of the study on parents and children, all these involved formally structured interaction, rather than casual friendly conversation. In addition, however, it is possible that factors independent of status considerations may have been relevant in some cases; for instance, the nature of children's conversation may tend to be more provocative of interruptions than that of adults, and the requirements of the pedagogical role may tend to lead to more interruptions by teachers or tutors than by students.

20. Some researchers include as part of the definition of "successful interruption" that the interruptee does not complete his or her utterance (e.g., Kollock et al. 1985, Roger & Schumacher 1983, Roger & Nesshoever 1987, Smith-Levin & Brody 1989, Welkowitz et al. 1984). Other researchers use a slightly broader definition, in which the crucial factor is simply that the interruptor ends by gaining single control of the floor—the interruptee may or may not complete his or her utterance (e.g., Natale et al. 1979, Rogers & Jones 1975, Beattie 1981, Craig & Pitts 1990). See also Ferguson (1977) for an often-cited four-way classification of interruptions which takes into account the response of the interruptee and Roger, Bull, and Smith (1988) for a still more detailed classification of interruptions along these lines.

21. Goldberg (1990) proposes a heuristic to determine whether an interruption is dominance-related, rapport-related, or neutral, based on the semantic con-

tent of the interruption (the focus here is primarily on whether the interruption shares a topic with the interrupted talk). This proposal constitutes a useful contribution to the problem but does not provide a full explanation; for example, it does not account for differences in the use and interpretation of simultaneous talk as a result of conversational style differences (Tannen 1983 and later works).

22. As noted earlier, some studies have omitted from their interruptions count some types of interruption (beyond simply "back channel" responses, which have been almost always omitted) which they believed likely to be not dominance-related. Of these too, however, only a minority found males to interrupt more than females. Of the eight studies mentioned in note 11 which excluded types of interruption thought to be supportive, two found males to interrupt more (West & Zimmerman 1983, de Boer 1987); the rest found no difference. Of the twelve studies listed in note 13 which excluded the type of mistiming error identified by the criteria of Schegloff (1972) (see pp. 240–241), four found no difference, five found males to interrupt more, and three found females to interrupt more. Of course, in these cases, many of the remaining interruptions which were counted still may not have been disruptive.

23. In addition, de Boer (1987), as noted in note 11, classified instances of simultaneous talk as "interruptions" only if they manifested "competition," apparently judged on a subjective basis. By this criterion, male pairs were found to produce more interruptions than female pairs. (However, de Boer also notes that one particular conversation between two men might have caused this difference to be significant.) Further, Lamothe (1989) classified interruptions as positive, negative, or "other" and found that when female, male, and mixed-sex pairs were compared, female pairs produced the largest number of positive interruptions and male pairs the largest number of negative interruptions. (However, Lamothe's definition of "interruption" is unclear; unfortunately, we have been unable to obtain the full text of this paper.)

24. It may also be relevant that in Ferguson (1977), in which all the subjects were female, comparatively little relationship was found between interruptions and high dominance predisposition. However, as was previously noted (see p. 244), the fact that this study involved informal conversation between friends may also be a factor.

25. In this study of parent-child dyads both parents tended to interrupt daughters more than sons, but this did not reach significance.

26. As was previously noted (see note 19), in this study subjects were assigned the roles of "teacher" and "student," and either the higher status or the pedagogical function associated with the "teacher" role may have outweighed the impact of gender on interruption behavior.

27. In addition, Woods (1989) found that subordinate females in three-person work groups were more often successfully interrupted than subordinate males. No statement is made, however, as to whether females were more often successfully interrupted than males overall, or as to the results with respect to attempted interruptions.

28. Going beyond the research cited by Smith-Lovin and Brody (1989), some studies have found women to show more competitive behavior with men than with other women (e.g., Hogg 1985, Carli 1989). However, the results of some other studies contradict this (e.g., Leet-Pellegrini 1980, Aries 1976).

29. The findings of Welkowitz et al. (1984), in which there were a greater number of unsuccessful interruptions in mixed-sex than in same-sex dyads, are also

consistent with this suggestion. No other studies have produced results obviously consistent with this particular proposal, however.

30. One further illustration of the fact that discrimination in interruption attempts on the basis of gender may not necessarily involve issues of status and dominance is provided by Brooks (1982), in which students in college classes interrupted female professors more than male professors. Brooks also reports that students participated twice as much in female professors' classes and suggests that female professors encouraged class participation more; thus, the reason why students interrupted female professors more than male professors may have been simply that they had more opportunities to interrupt female professors.

31. While Marche studied the number and type of interruptions used in all three age groups, the relationship between interruption use and dominance predisposition was examined only for the fourteen- and nineteen-year-olds. For this reason, references to this work earlier in the chapter have mentioned only these two age groups.

32. Several other studies echo the same theme. Thus Hirschman (1973) observed that female pairs interrupted each other more than male pairs, but that "the females when talking to each other tended to elaborate on each others' utterances, the males to argue" (cited in Thorne & Henley 1975:249). Also LaFrance (1981) found that significantly more of the interruptions in female pairs constituted questions than in male pairs and noted that these are "more responsive in character" than other types of interruptions. (However, Dindia [1987] did not find the sexes to differ in number of interruptive questions.) In addition, the finding of Ofshe (1981, cited in Thorne, Kramarae, & Henley 1983:276), that not only were there much higher rates of simultaneous speech in all-female than in all-male groups, but the difference was greater during social than during task activity, suggests that here too, females may have been using interruptions for rapport-building purposes to a greater extent than males.

33. Greenwood (1989, cited in Tannen 1989:270, 1990:192–195), however, found that a high rate of interruption was a sign of social comfort among pre-adolescent children; this suggests that by this age the use of interruptions as collaborative and rapport-building acts is already well developed.

34. It has sometimes been suggested that conversing with a very talkative partner is likely to increase the amount of interruptions an individual initiates, because of the need to "get a word in edgewise." Findings with respect to this have been mixed, however. Natale et al. (1979) observed that the more an individual talked, the more likely s/he was to be interrupted, and Drass (1986) found that for males, but not for females, the more time the subject spent listening, the more likely it was that he would initiate an interruption. However, Kennedy and Camden (1983) and Dindia (1987) both found lengthy speech by a partner to have no effect on interruption use.

35. These are Duncan and Fiske (1977), Roger and Nesshoever (1987), Roger and Schumacher (1983), Martin and Craig (1983), Leffler et al. (1982), LaFrance and Carmen (1980)/LaFrance (1981) (describing the same study), Smith-Lovin and Brody (1989), Frances (1979) (this study employed both measures), and Kollock et al. (1985) (this last study, however, measured interruption rate by dividing the number of interruptions individuals produced by the amount they spoke themselves, rather than by the amount their partner spoke). As an additional note Beattie (1981) and Craig and Pitts (1990) employed neither measure; both studies measured interruptions as a percentage of all speaker switches.

three studies—Kollock et al. (1985), Roger and Schumacher (1983), and Roger and Nesshoever (1987)—having a high dominance predisposition affected the interruption behavior of males and of females in the same way and to the same extent: both genders produced significantly more interruptions (or in the case of the latter two studies, successful interruptions) than low-dominance individuals. However, the four other studies which have investigated the relationship between interruptions and dominance predisposition and which employed subjects of both sexes (Rogers & Jones 1975, Aries et al. 1983, Courtright et al. 1979, and Marche 1988) have all found some gender differences with respect to this relationship: having a high dominance predisposition was found not to affect the interruption behavior of males and females in exactly the same way (these results will be discussed later). If the hypothesis that males initiate more interruptions of the dominance-associated type than do females were correct, we might expect that where a difference in the behavior of high-dominance males and females were found, it would take the following form: having a high dominance predisposition would be more likely to prompt males to interrupt a great deal than it would females. Such a result might follow from the different interactional goals which males and females acquire; for instance, females' focus on harmonious relationships with others may cause females to be more reluctant than males to use interruptions as dominance-related attempts to seize the floor even when they have high dominance predispositions themselves. The type of context, however, could also be relevant here; for example, particularly competitive and conflictual situations such as those investigated in Kollock et al. (1985), Roger and Schumacher (1983), and Roger and Nesshoever (1987) could conceivably cause males' and females' behavior to be more alike.

Turning then to the results of studies in which differences in the interruption behavior of high-dominance males and females were observed, let us begin with the findings with respect to same-sex interaction. Rogers and Jones (1975) discovered that high-dominance partners attempted significantly more interruptions than low-dominance ones only in male dyads; also, there was a nonsignificant tendency for high-dominance partners to initiate a greater number of successful interruptions in male dyads only. This study did indeed find, then, that high-dominance predisposition prompted males to interrupt more, but not females. Aries et al. (1983) similarly found a positive correlation between high-dominance predisposition and attempted interruptions in all-male groups, but not in all-female groups.[24] However, another finding of this study was in the opposite direction from that anticipated: with respect to successful interruptions, not only was there a positive correlation between these and high-dominance predisposition in both all-female and all-male groups, but the correlation was, in fact, stronger in all-female groups.

With respect to mixed-sex interaction, Aries et al. observed no correlation between high dominance predisposition and interruptions in mixed-sex groups, for either men or women. And, contrary to what might have been anticipated, Courtright et al. (1979), studying married couples,

found that the wife's "domineeringness" score (see p. 242) was more strongly associated with interruptions than was the husband's. One relevant factor in this last finding, however, might be the topics assigned for discussion, all of which—unlike those in the other studies examined—dealt with interpersonal relationships (e.g., "How does a couple develop and maintain a strong marital and family relationship?"). There is much evidence from studies that interpersonal relationships are perceived by both genders as a female area of expertise; thus, this may have given the wives in this study a status as "experts" which had the effect of making them feel more justified than their husbands in making dominance-associated interruptions. If this is part of the explanation, it points to the importance of the topic of conversation as a factor affecting the number of interruptions of the dominance-associated type which an individual may produce.

One last study, Marche (1988), dealt with both same-sex and mixed-sex dyadic interaction; here, all findings held independently of the sex of the addressee. High-dominance males and females did not differ with respect to overall number of interruptions in this study, in either of the two age groups studied (fourteen- and nineteen-year-olds); however, some gender differences were found which do not form a readily interpretable pattern. For example, the higher in dominance nineteen-year-old females were, the fewer—rather than the more, as might have been expected—"simple" interruptions (in Ferguson's [1977] terminology, i.e., successful interruptions involving simultaneous speech in which the interruptee fails to complete his/her turn) they produced, while for male nineteen-year-olds no relationship existed between these and dominance. Conversely for male, but not female, nineteen-year-olds, the higher in dominance they were, the fewer—again, rather than the more—"silent" interruptions (successful interruptions in which no simultaneous speech occurs) they produced. Results such as these suggest strongly that the relationships among various types of interruption, dominance, and gender may be more complex than has usually been assumed.

These studies, then, provide no evidence that high-dominance males produce more interruptions than high-dominance females in mixed-sex interaction. With respect to same-sex interaction, some evidence is supportive of this hypothesis, but other evidence fails to support it or even appears to contradict it. Explanations for some of the gender differences observed remain obscure. As in the three previous sections, we also find here no clear evidence that males do indeed initiate more interruptions of the dominance-associated variety than do females.

Discrimination on the Basis of Gender of Interruptee as a Gauge of Gender Differences with Respect to Dominance-Related Interruptions

As pointed out earlier (see p. 247), one issue of concern is that of whether interruptions are more likely to constitute dominance-related attempts to seize the floor when interruptees are female than when they

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