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Group Argument

A Structuration Perspective and Research Program

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This article reviews and assesses the structuration program of research on group argument that has evolved over more than two decades. The authors first position group argument research in relationship to argument studies across many disciplines and especially at the intersection of three research traditions in communication. Acknowledging structuration theory foundations, the authors explicate their conceptualization of argument and explain the theoretical foundations of their approach. They next describe the methods that have been used to analyze group argument, including participants, data collection procedures, coding scheme and process, and contexts that have been employed in past investigations. They also survey the findings of this research program and how they have enhanced understanding of argument processes in groups and group argument–outcome linkages. The authors then offer a critique of the program, including challenges and unanswered questions. They note projects currently under way and conclude by identifying opportunities for interdisciplinary research on group argument.

Keywords: argument; group communication; decision making; structuration theory

The study of group argument is relatively recent in the study of group communication, a subfield of the communication discipline (Frey, 1996) and of interest in many disciplines whose scholars study symbolic

Authors' Note: The authors acknowledge the contributions of many colleagues to the research program discussed in this review, including Dan Canary, Nancy Tanita-Ratledge, Dale Brashers, Daisy Lemus, Scott Poole, Bob McPhee, Sunwolf, Brent Brossmann, Lisa Bradford, Jennifer Considine, Erik Timmermann, Lindsay Timmerman, LaTonia Winston, Tara Wachtel, Mark Adkins, Dan Mittelman, Lisa Gebhardt, and Jennifer Hanner. The authors also thank Dennis Gouran for his supportive critiques and encouragement of this line of research over many years; any continuing limitations are the authors' responsibility.

interaction and interpretive processes in groups (Frey & Sunwolf, 2005a, 2005b; Poole, Hollingshead, McGrath, Moreland, & Rohrbaugh, 2005). Although pedagogical scholarship in communication on group deliberations dates to the 1930s, and quantitative empirical research on group communication and group effectiveness has origins in the 1950s, rigorous theoretical investigations bearing on members' argumentation in problemsolving discussions emerged in the 1960s (Gouran, 1999). For example, studies of argument-related processes during group discussions (Bradley, Hamon, & Harris, 1976; Gouran, 1969; Hill, 1976) revealed that arguments evidencing backing-relevant information, reasons, or warrants-are associated with greater agreement and with more frequent adoption of the proposals they endorse. Gouran, Brown, and Henry (1978) found that groups' communicative development of issues (amplification, documentation, and discussion relevance) accounted for more than 80% of the variance in members' reports of decision quality. Hirokawa and Pace (1983) reported that arguments were offered with more support, and opposing arguments more carefully assessed, in effective than in ineffective groups. The scope of investigations of argument in groups has broadened recently to include online political discussion groups (Price, Cappella, & Nir, 2002), juries (Burnett & Badzinski, 2000), intergroup conflicts (Ellis & Maoz, 2002), and computer-mediated groups (CMGs; Lemus, Seibold, Flanagin, & Metzger, 2004).

Closely tied to formulation of a structuration theory (Giddens, 1979) perspective on group decision making in general (Poole, Seibold, & McPhee, 1985), proponents of a structurational approach to group argument (beginning with, and in chronological order, Seibold, McPhee, & Poole, 1980; Seibold, McPhee, Poole, Tanita, & Canary, 1981; Canary, Ratledge, & Seibold, 1982; Seibold, Canary, & Tanita-Ratledge, 1983; Seibold & Meyers, 1986; Meyers & Seibold, 1987) have addressed assumptions, theoretical foundations, methods, contexts, processes, individual differences, and effects of argument-related communication in group members' deliberations. This research program has focused primarily on argumentation in decisionmaking groups (Brashers, Adkins, & Meyers, 1994; Canary, Brossmann, & Seibold, 1987) because interpersonal interaction and influence processes are key aspects of decision-making deliberations (Meyers & Brashers, 1999; Seibold & Meyers, 1986; Seibold, Meyers, & Sunwolf, 1996) and because argument is important to communicative influence in dyadic and group contexts (Canary & Sillars, 1992; Hample, 2005; Meyers, 1997; Meyers & Brashers, 2002, 2003; Seibold, Cantrill, & Meyers, 1994; Seibold & Myers, 2005).1

In this article, we undertake a review and critique of the structuration program of research on group argument in which we have been centrally involved but which has evolved through the efforts of more than a dozen other colleagues during more than two decades and is integrally tied to both the larger structurational program on decision making (Poole et al., 1985; Poole, Seibold, & McPhee, 1986, 1996) and structuration theory (Giddens, 1984). We begin the review portion by positioning group argument research in relationship to argument studies across many disciplines-and especially at the intersection of three research traditions in communication. We explicate our conceptualization of argument and explain the theoretical foundations of our approach. We next describe the methods that have been used to analyze group argument, including participants, data collection procedures, coding scheme and process, and contexts that have been employed in past investigations. We also survey the findings of this research program and how they have enhanced understanding of argument processes in groups and group argument-outcome linkages. We then offer a critique of the program, including challenges and unanswered questions. We note projects currently under way and conclude by identifying opportunities for intraand interdisciplinary research on group argument.

Argument and Group Communication

Although argument—especially argument quality—has been of interest in many academic disciplines, including philosophy, psychology, cognitive studies, advertising and marketing, management, and political science (see review in Seibold & Lemus, 2005), it is especially focal in the field of communication. The study of argument has a long tradition in rhetoric (Aristotle, 1984) but-as noted at the outset-originated in the 1960s in the interpersonal, group, or organizational areas of communication research (Meyers & Brashers, 1998). Group argument research in communication reflects the intersection of three areas of study in the field: (a) scholarship on argumentation (e.g., reasoning effectiveness, formal proof, quality of evidence, logical structure), (b) group influence investigations (e.g., support for message valence, offering or defending reasons, decision premises and processes, collaboration and consensus), and (c) conversational argument perspectives (e.g., argument as discursive and interactive, disagreement based, and repair or resolution oriented). The conception of group argument arising from this confluence is that of a process of discourse, arising out of advocacy and/or disagreement, that involves the giving and defending of reasons for verbal

claims in the pursuit of resolution and/or decision. Group communication scholars have found strong and consistent empirical evidence for the importance of argument in group decision making (Gouran, 1985), especially the links between group members' processes of verbal reason giving and defending and decision-making outcomes.

Structuration Perspective

Parallel with these studies of argument in groups is our structurational view of group argument as a structured and structuring social practice (Meyers & Seibold, 1990b; Seibold & Meyers, 1986). Structuration theory originator Anthony Giddens (1984) treated larger social systems as grounded in the practices of individuals who continually create and change them through their structuring activities—drawing from rules and resources to produce the systems we observe and simultaneously reproducing the structures undergirding them. Meyers, Seibold, and Brashers (1991) similarly explicated group argument in two interdependent senses, "as both structure, the rules and resources individuals draw upon to produce argument, and system, the observable interactive practice in which structure is implicated" (p. 48).

Considering argument as (emergent) structure implies that group argument is an interactional practice "constructed and maintained in interaction, and guided perhaps by different rules and norms than those that govern the practice of ideal or rational argument" (Brashers et al., 1994, p. 267). Viewed as system, argument is communicative patterns of disagreement, reason giving and reason defending, and resolution seeking (Meyers, 1997). Following Giddens (1984), there is a duality of structure: "The structural properties of social systems are both the medium and outcome of practices they recursively organize" (p. 26). Argument structures and systems are therefore not independent but enable and constrain each other in group members' interactions. Conceptualizing argument as both structure and system also encourages answers to two questions central to this research program: (a) How do argument processes unfold and function within and between groups? and (b) How do argument processes influence groups' task performance and relational dynamics?

We view group argument as a site for structuration, or the process by which systems are produced and reproduced through members' appropriation of rules and resources. Unlike traditional rhetorical, logical, and cognitive perspectives, we and our colleagues treat group argument as constructed and maintained in interaction, guided by social norms as well as logical rules, with the intent of influencing others toward a potential decision (Brashers et al., 1994). More specifically, on this structurational view, group argument is a system of interaction produced by members engaged in advancing arguables, or utterances, that are contentious and potentially disagreeable to other members (Seibold et al., 1983). Meyers and Seibold (1987) additionally propose that argument is communicative behavior at the group level, not merely reasoning at the individual level. Unlike cognitive perspectives such as persuasive arguments theory (PAT; Burnstein, 1982), interaction—including group argument—is key to group decision processes. Meyers and Seibold (1987, 1989) and Meyers (1989a, 1989b), for instance, reported that prediscussion cognitive arguments were not identical with those produced in group interaction by the same members in terms of argument number, content, and effectiveness. Furthermore, we consider argument to be convergence-seeking discourse (Perelman & Olbrechts-Tyteca, 1969) in which proposals are tested and refined, alternative realities compared and evaluated, and ideas eliminated (Canary & Sillars, 1992).

The structuration perspective on group argument proposes three mechanisms through which argument structures interaction in groups (see Seibold & Myers, 2005, pp. 146-147, for a fuller discussion). First, members engage in microinteractional moves to draw from rules and resources for the production of argument: They appropriate canons of logic (Toulmin, 1958), invoke conversational conventions regarding disagreement expression and disagreement repair (Jacobs & Jackson, 1982), and rely on social norms for facilitating agreement (Perelman & Olbrechts-Tyteca, 1969). Second, members may engage in broader patterns of argument structuring and use by producing arguments with multiple layers or teaming up with others to produce arguments (Canary et al., 1987). Finally, argument structuring occurs simultaneously through three modalities (Poole et al., 1996; Seibold et al., 1996): as norms for acceptable reasoning and interaction, as facilities enabling the exercise of power (often associated with the role or status of the member arguing), and as schemes for interpretation and sense making.

Analyzing Group Argument in Structuration Research

Data Collection

Data collection within the structurational program of research includes both videotaping and transcribing of group discussions. Most of the data involve students discussing either hypothetical decision tasks (Meyers & Brashers, 1998; Meyers, Brashers, & Hanner, 2000; Meyers et al., 1991) or real choices they must make (Brashers, Adkins, Meyers, & Mittleman, 1995; Considine, Meyers, & Timmerman, 2006; Lemus et al., 2004; Meyers, Timmerman, & Considine, 2006). The hypothetical tasks emanate from the choice shift research paradigm or simulated legal cases requiring binary judgments. The realistic tasks are single or multiple classroom group assignments with evaluative consequences for all group members.

Data Analysis

Unitizing discussion content. Transcriptions of videotaped group discussions are unitized by two or more judges working independently. Unitizing is the process of identifying units to be categorized or rated (Folger, Hewes, & Poole, 1984). Because the study of argument structuration involves investigating both the structure (reproduced argument rules and resources) and system (interactive argumentative acts and their discursive patterns), the data are typically unitized as utterances: "each stretch of talk that can be interpreted as an independent clause, nonrestrictive dependent clause, term of address, acknowledgement, or element of a compound predicate" (Stiles, 1978, p. 32).

Coding scheme. Beginning with the conceptual work, category development, and preliminary analyses reported by Seibold et al. (1981), the coding scheme used in most group argument structuration investigations was initially developed by Canary, Seibold, and Tanita-Ratledge (Canary et al., 1982; Seibold et al., 1981, 1983). This scheme incorporates critical concepts from three prominent and representative argument theories: Toulmin (1958), Perelman and Olbrechts-Tyteca (1969), and Jackson and Jacobs (1980). Following Seibold et al. (1983), the scheme has been elaborated and modified (in chronological order, Canary et al., 1987; Meyers et al., 1991; Canary, 1992; Meyers & Brashers, 1995; Seibold & Lemus, 2005). Canary (1992) has maintained the scheme and formulated a detailed coding manual for use by researchers in this domain. He also has developed an alternative theoretical perspective focused on argument in nongroup contexts.² However, it is the scheme revised by Meyers and colleagues that has been used in all group argument structuration investigations since the late 1980s (see appendix). It contains 17 categories rather than 16, expands categories by 2 additional subcategories, elaborates many category definitions in ways that are consistent with the scheme's structurational impetus, analyzes data unitized by a different criterion, and requires the iterative coding process described next.

Coding process. Pairs of coders are trained in the use of the coding scheme prior to working with transcribed data. Early investigations used a single-stage coding system wherein coders made a single pass through the unitized data. In 1995, Meyers and Brashers reported on a revised multistage procedure for coding group argument whereby coders make several iterative passes: (a) argument versus nonargument determinations, (b) lines of argument based on decision alternatives supported, (c) coding between five macrolevel categories, and finally, (d) coding microlevel subcategories within each primary category. Although the multistage method is more time intensive, a comparison of data coded with the single-stage method and the multistage format was employed (Meyers & Brashers, 1995). In addition, coders using this method appeared able to capture more of the complexity inherent in group argument. The multistage procedure has become the standard for coding group argument data within this structurational perspective.

Research Contexts

Early work in the structuration program investigated argument in face-toface student decision-making groups. This research investigated argument patterns and structures (Seibold et al. 1981; Canary et al., 1982, 1987; Meyers & Seibold, 1990a, 1990b; Meyers et al., 1991), compared cognitive and interactional accounts of argument (Meyers, 1989a, 1989b; Meyers & Seibold, 1989), revealed group members' joint production of argument (Seibold et al., 1981) and strategies of tag-team argument (Brashers & Meyers, 1989), explored the role of sex differences (Meyers, Brashers, Winston, & Grob, 1997) and individual differences in message design logic (Morris, Seibold, & Meyers, 1991) in group argument, and posited a model of group argument to test a set of argument process–outcome relationships (Meyers & Brashers, 1998).

A second context that has received some attention in this program of research is CMGs. Brashers and colleagues (Brashers et al., 1994, 1995) investigated the interface of argumentation and computer-mediated decision making in group support systems (GSS) interactions. More recently, Lemus et al. (2004) and Lemus and Seibold (2004) used the argument scheme to code interaction in 11 CMGs whose members worked anonymously.

Finally, some work in this domain has investigated argument in the majority and minority subgroup context (Gebhardt & Meyers, 1995; Meyers et al., 2000, 2006), including differences in argument effectiveness on final group outcomes. Other qualitative work has explored forms of nonnormative group argument within such activist groups as PETA and ACT UP (Ketrow, Meyers, & Schultz, 1997; Meyers & Brashers, 2002, 2003).

Group Argument Findings

Descriptive Analyses of Group Argument

Early qualitative analyses. Seibold et al. (1981) drew on their structurational conceptualization of group argument to test the comparative utility of logical (Toulmin, 1958), dialectical (Perelman & Olbrechts-Tyteca, 1969), and conversational (Jackson & Jacobs, 1980) argument perspectives for understanding argumentation in a 4-person student group asked to make a judgment in a hypothetical civil litigation case. Each perspective illuminated important, and different, group argument dynamics. Drawing on Toulmin (1958), 17 discrete arguments were identified, the winning side produced arguments that refuted or subsumed those of the losing side, and nearly all of the arguments were fallacious. Analyses testing the dialectical view revealed a general progression of starting points initiating disputes, followed by argument techniques and data, and then increasing convergence and amplification (though there was not an orderly progression within any single argument). The conversation analysis approach revealed disagreement-relevant aspects of group argument as well as the expansion of conversation pair parts until agreement occurred. Seibold and colleagues applied the term tag team to describe members' tendency to offer one another preferred (argument) pair parts as sides became distinguished and as opinion subgroups formed. This joint production of arguments by adding (tagging) argument acts onto components supplied by others also was suggestive of Perelman's macrolevel convergence in interactive arguments.

Canary et al. (1982) expanded this research to groups making the same binary judgment. In addition to testing problems with each of the three perspectives, the researchers found a general pattern of argument practices in the decision-making interactions. Initial pair parts reflected disagreement. The argument then escalated: *Why* inquiries produced a chain of *because* claims until arguments centered on the reasoning itself. Relevant argument is limited when this occurs, and arguables became dead issues at that point or bases for convergence (as sites for future reasons and actions). Argument as convergence-producing discourse also served as a structure for the production of group outcomes, usually consensus.

Subsequent early work also used qualitative methods to investigate tag-team argument and focused on identifying the communicative strategies used by tag teams in discussion groups in which two distinctively divergent subteams existed (Brashers & Meyers, 1989). Findings indicated that tag-team arguments were created and maintained primarily by two communicative strategies: (a) consistent support by those who shared the same decision preference and argued for it (as reflected in the ratio of arguments that a subteam voiced for its preferred outcome versus arguments voiced for another subteam's choice) and (b) repetitive agreement between tag-team members. This early analysis laid the foundation for later, more systematic research on the role of agreement between subgroup members in forging consensus on a final decision outcome.

A fourth qualitative study supported and extended these findings concerning broader forms of group argument surrounding decision choices (Meyers & Seibold, 1990b). Drawing from prominent group communication research, conversational argument investigations, argument structuration studies, and their own observations of decision-making interactions, Meyers and Seibold (1990b) identified four argument strategies that characterized the system of group argument: (a) extended elaboration, (b) questioning and testing, (c) repetitive agreement between like others, and (d) tag-team arguing. Extended elaborations allowed listeners to construct linkages between themselves and the subsequent decision proposal. Questioning and testing forced the group's argument into more complex realms of reasoning, challenging members to reevaluate their present task interpretation in light of new evidence. Repetitive agreement and consistent support created influential interpersonal networks that functioned to link group members to final outcomes. Finally, tag-team arguing produced a perception of unity and support for the subgroup's preferred option that was influential and often formidable.

Canary et al. (1987) conducted a qualitative investigation of the hierarchical relationships between argument acts in four groups seeking consensus on a judgment task. Analysis of more than 1,200 speech acts revealed four types of argument structures: simple, compound, eroded, and convergent arguments. Simple arguments followed a straightforward argument pattern (assertion, elaboration, amplification, and so forth). Compound arguments included a combination of arguments to form extended arguments, embedded arguments, and parallel arguments. Eroded arguments dissembled or fell apart. Convergent arguments used others' points to create an argument through agreement or tag-team communication. The findings suggest alternative ways in which argument acts are structured in the process of members' task interactions.

In a qualitative investigation of CMG argument, Brashers et al. (1994) found that the interaction-structuring features of the GSS affected group argument by (a) encouraging a sequential process leading to clarification and development of ideas, (b) developing a group memory of issues throughout discussion, (c) keeping the group oriented to the task and prescribed procedures, and (d) encouraging critical discussion of issues

advanced in arguments. Findings from these nine group discussions suggested that anonymity within GSS groups decreased evaluation pressure and demands for conformity, resulting in more disagreements than found in previous research on face-to-face groups. The anonymity afforded by the GSS also appeared to decrease members' reliance on expert opinion and on higher status individuals as heuristics for decision making.

Subsequent quantitative analyses. The first quantitative work in this program involved a comparison between a social-psychological theory of group argument—PAT—and a more interactional, structuration-based account (Meyers, 1989a, 1989b). Significant differences were found in the number of cognitive- and discussion-generated arguments across 45 group discussions, indicating that group interaction was not merely a display mechanism for cognitive factors but was itself constitutive. Moreover, the content of cognitive- and discussion-generated argument differed significantly. Additionally, characteristics of cognitive arguments (novelty and persuasiveness) did not remain stable in discussion and were not good predictors of the argument's force in discussion. Finally, when an interaction-oriented model of group argument was tested against the cognitively oriented PAT model, it evidenced predictive ability beyond that of the PAT model at different levels of analysis, tasks, and postdiscussion shifts.

These comparative analyses were followed by quantitative analysis of argument systems in group discussions (Meyers et al., 1991). Following revisions to the Canary et al. (1987) coding scheme that produced 17 discrete categories, 8,408 discourse units were coded and analyzed. Results concerning argument act frequencies revealed that these 45 group decisionmaking discussions were characterized primarily—and almost exclusively by assertions, elaborations, and agreement. In terms of the formal structure of arguments, members seldom moved beyond stating a claim and offering data to support that claim. This model of group argument as relatively uncomplicated was consistent with the Canary et al. (1987) findings, which indicated that argument. A general satisficing form of argument appeared to characterize the interaction in both studies of face-to-face groups.

In related quantitative work, Meyers et al. (1997) also studied argument and sex differences in group interactions. Findings revealed that women were more likely than men to agree with others' statements and to ask questions aimed at convergence on a proposal. They were less likely than men to challenge others' statements and qualify or frame others' arguments. Overall, women and men were fairly equal in their production of arguables and objections. These results suggested that although men and women argued somewhat differently, both forms of discourse were important to group argument effectiveness.

In a study of differences and similarities in subgroup argument, Meyers et al. (2000) found that majority and minority subgroups, as well as winning and losing subgroups, argued differently. Majorities were more likely than minorities to use convergence statements (and tag-team argument) and were less likely to disagree. Minority subgroups used more disagreement messages to defend their positions against a unified majority. Winning majorities, as compared to losing majorities, more often used disagreements and frames for arguments but still used these argument forms less than losing minority-subgroup members. These differing subgroup strategies suggested that some patterns may be unique to the status of the group members.

Linking Argument and Group Outcomes

Building on the investigations of argument-as-system, especially the descriptive work on argument act patterns and argument structures, later work in the structurational program of group argument turned to examining argument–outcome links. These relationships are particularly important because they underscore the predictive potential of argument in the group decision-making process, and they offer needed theoretical explanations (Gouran, 1985).

In an initial quantitative investigation of the argument–outcome link, Canary et al. (1987) investigated whether argument affects consensus or dissensus outcomes. Groups reaching consensus had greater proportions of argument acts and structures (and fewer undeveloped arguables) than did dissensus groups. Convergent argument structures (reflecting actual synthesis of others' views) were significantly more frequent in the consensus groups.

Subsequently, and building on the qualitative findings of Seibold et al. (1981) and Canary et al. (1982) concerning a general pattern of group argument as reason testing and argument convergence with effects on decision consensus, Meyers and Brashers (1998) proposed and tested a process model of group argument. The model (a) identified disagreement as a generative mechanism, (b) posited three types of interactional activities—reasoning, convergence seeking, and disagreement-relevant intrusions— and (c) provided a basis for predicting argument—outcome linkages. Meyers and Brashers then compared two argument models (the group valence model and the distributive valence model) as predictors of group decision

outcomes. Results showed that both models were good predictors, although the latter was a better predictor among the four group argument categories examined (arguables, convergence-seeking activities, disagreement-relevant intrusions, and delimitors). In addition, all argument acts were good predictors of group decision outcomes except for disagreement-relevant intrusions (which were fewer in number).

The majority-minority investigation described earlier also explored argument-outcome links (Meyers et al., 2000). Consistency was an important predictor of subgroup success (see also Gebhardt & Meyers, 1995; Meyers, Brashers, Bradford, & Wachtel, 1999), and majorities and minorities had a differential impact on final individual and group outcomes. As expected, the majority faction was more often successful in influencing the final group outcome than the minority faction. Additionally, minority argument resulted more in private acceptance of the final decision (rather than public compliance). Majority influence, however, did not show any differences in persuasion to public compliance or private acceptance among group members.

Lemus et al. (2004) found that in 11 CMGs working on collaborative analyses—and whose members had worked together during the previous 6 weeks on four other projects—the number of members in support of a proposal relative to those in opposition, as well as the development of the arguments in support of a proposal, was a significant predictor of decision outcomes. In addition, the number of responses in support of or against a decision proposal as well as the difference in positive and negative reactions to decision proposals (when analyzed independently of the other variables) were also good predictors of decision outcomes. Lemus et al. concluded that group members pay attention to the nature of the argument advanced, as well as the proportion of members offering endorsements or objections to proposals, in making final group decisions.

Finally, Lemus and Seibold (2004) used the same electronic files of CMG interactions to test the predictive utility of argument structures rather than aggregated argument acts. From analyses of 477 distinct argument structures across the 11 CMGs, the researchers found that the development of argument structures was a significant predictor of the success or failure of decision proposals. When the development of argument structures in support was greater than the development of the argument structures against a decision proposal, CMG members were likely to endorse the decision proposal. Conversely, when the development of argument structures in support of the decision proposals, CMG members were not likely to endorse the decision proposal.

Summary. These process-outcome findings offer a rich picture of structurational dynamics associated with group argument. They reveal how argument structures are appropriated in the production of group decisions and how they are simultaneously reproduced as interpretive and legitimate bases for choice and action. In particular, they indicate how argument consistency within tag-team subgroups, argument development, supportive reactions, and various argument-related acts—arguables, reinforcers, and delimiters—can be drawn from (as structures) to forge agreement on a preferred proposal. And they suggest the interpenetration of these argument structures with other group structures (member characteristics, majority status, communication channels, and decision-making methods) in the production of group decision outcomes.

Combining the argument–outcome research results with the descriptive research findings reviewed earlier also yields a broader picture of group argument as interactive, social, emerging at points of disagreement, characterized by production and defense of reasons, and leading to convergence seeking on a final outcome (Meyers, 1997), and that is consistent with the structuration theory tenets and structurational view of argument reviewed at the outset of this article. Argument is a strong predictor of decision outcomes beyond the valence—or positivity–negativity—of members' claims concerning group choices. Argument attributes such as consistency, form (e.g., the four argument structures observed), development, and source (majority versus minority) are important characteristics of the argument influence process and group decision making.

Challenges, Unanswered Questions, and Future Directions

Tasks and Participants

Gouran (1990) commented that the task situation (choice-dilemma questionnaire items) used in early group argument investigations was deficient on three counts: relevancy, meaningfulness, and limited scope for persuasive influence. We agreed then, and still agree, that a greater variety of tasks would be beneficial to this program of research. Recent work in this program has started down that path by investigating argumentation surrounding more relevant and meaningful tasks (Considine et al., 2006; Lemus et al., 2004), and data have been collected to relate structuration investigations of jurors' predeliberation rules for decision making (Sunwolf & Seibold, 1998) to interactive argument in videotapes of actual trial juries. Second, this research has been limited by its reliance on student participants. Some qualitative studies on CMG discussions (Brashers et al., 1994) and activist groups such as ACT UP and PETA (Meyers & Brashers, 2002, 2003) provide glimpses into the ways that argument in these nonstudent groups is both similar to, and different from, argument in student groups. Still, this qualitative work requires systematic replication to ensure its generalizability. Studies of group argument in top management teams' strategic planning and among teams of scientists considering next steps in their research are being planned.

Hence, we find Gouran's (1990) critique still valid and an impetus for our current and future work on group argument. And although we concur with his earlier conclusion that "argument does play a significant role in contributing to the outcomes decision-making groups achieve and in influencing relationships that develop among members" (Gouran, 1985, p. 728), understanding how argument is constituted and functions in other types of groups, with other types of participants confronting other types of tasks and decision choices, is vital.

Affective and Emotive Argument

Nearly all of the work on group argument within the structurational program of research has focused on decision-making argumentative discourse. Recently, there have been calls for investigation of other aspects of argument, notably, affective and emotive characteristics (Ketrow et al., 1997; Meyers & Brashers, 2002).

Meyers and Brashers (2002) suggested that argument in activist groups such as ACT UP clearly illustrates affective and emotive strategies, including vilification of opponents, expressions of anger, slogans and chants, and use of visual elements. Knowing more about what emotions and affective states are most relevant, how to harness them for effective persuasion, when to use them in the life of an argument, and how they affect both the socioemotional and task aspects of group communication would greatly aid our understanding of both the normative and nonnormative aspects of group argument.

Sequential Argument Structures and Quality of Argument

Argument research within the structuration program has focused primarily on discrete argument acts or structures and their impact on group decisions. More work is needed on argument sequences, as has been done with the argument coding scheme in other contexts (Canary, Weger, & Stafford, 1991; Ellis & Maoz, 2002), for it is here that we will understand more about the argument process and, by extension, group processes. Initial investigations might begin with the interact or first-ordered lag. Once these simpler sequences are identified and linked to group outcomes, then more complex sequences can be investigated (e.g., second- and third-order lags). Work is under way to trace lines of argument throughout group discussion. Initially each argument unit is coded according to its content or topic. Then each content or topic line is highlighted with a different color throughout the transcript. A visual picture of argument content lines is thus available, and it is easier to discern how sequences of argument are placed within the discourse, how some sequences of argument weave in and out during the conversation, and how some lines of argument are sustained while others disintegrate. Using a similar procedure, Lemus and Seibold (2004) were able to identify both argument structures and (molar) sequences in supportive and opposing arguments to both successful and unsuccessful decision proposals. These types of analyses are needed as we move forward to determine how argument acts are connected, not only one to another but across discussions within groups over time.

Quality of group argument also is an important focus for future study. Seibold and Lemus (2005) recently conceptualized argument quality from a structuration theory stance and proposed that argument quality (a) is not simply a product of logical validity or soundness but (b) must include efforts at communicative influence through expansion of arguments and evidence and (c) should incorporate the features of argument-in-use that foster their development (promptors, reinforcers, and delimiters). They formulated an index of argument quality from the argument coding scheme reflecting argument development. Those arguments reflecting more discursive development through disagreement repair and convergence production were weighted of higher quality. Seibold and Lemus differentiated their construct and measure from argument force, or presumed psychological impact, and proposed an index with different weightings of categories in the scheme. Lemus and Seibold (2004) used only the argument development index to test predictions concerning the probability of CMGs' endorsing decision proposals based on the quality of arguments advanced both in support of and against the proposals. Development of argument structures was a significant predictor of decision outcomes in the expected directions. Future work in this realm might comparatively test the two indexes proposed by Seibold and Lemus to see if argument development or argument force is a superior measure of argument quality for its predictive power.

Addressing Interdisciplinary Connections

Most studies in this research program have been conducted by a small and relatively insular group of researchers. And although there are perhaps another dozen researchers who study group argument, there certainly is room for group argument researchers to forge interdisciplinary linkages (Poole et al., 2005). We think there is much to be gained by connecting investigations of group interactive processes (e.g., argument) with more traditional input-output group research found in complementary disciplines, such as social psychology, organizational behavior, and industrial and organizational psychology. A useful way for thinking about how these bodies of research might connect is offered by Prosser and Trigwell (1999) in their model of surface and deep understanding. Prosser and Trigwell are British scientists seeking to better understand how people learn science. But their model has strong interdisciplinary reach. As they explain, both surface and deep comprehension are necessary for learning about a phenomenon, but most important, when both forms of understanding are realized together, our insight into the complexity of the situation is greatly enhanced.

So for example, when we discover that an input predicts a group output (e.g., majority choice predicts group outcomes), we understand this phenomenon primarily on a surface level. We know that it exists and that most of the time, the prediction will be true. However, if we wish to understand more fully and completely how or why majority choices predict group outcomes, we must look more deeply below the surface to examine what occurs in the group discussions as the members make their final choices. What we might find there are several different interactive paths that majority and minority factions engage in as they make a decision. As we learn more about what those available paths are, and which are more or less effective, we have gained additional theoretical and practical knowledge to help explain the initial input–output relationship.

Theoretically, we can now better address why and how majority influence comes to predict final group outcomes. We can offer models of the decision-making process and explain how and when these models will be most effective. In short, we now have observable data that allow us to more fully explain the input–output prediction. Practically, by investigating group process, we have a basis for teaching group members how to interact and argue so that all views get heard, regardless of whether the majority is victorious in the end. Research tells us that better decisions result when more than one viewpoint is debated, so it is important to have a deep understanding of how that argument occurs in effective groups if we wish to guide ethical group practice.

The structuration program of research on argument seeks understanding at both the surface and deep levels. Communication scholars who adopt a structuration theory stance seek to understand how surface-level input factors are displayed, and often transformed, in the group's interaction but also, at a deeper level, how the interaction itself constructs patterns and structures that are not duplicative of input factors. Group communication researchers' initial investigations of structuration processes explicitly examined their empirical, predictive utility (McPhee, Poole, & Seibold, 1982) relative to input–output process models emphasizing non- or less interactive cognitive processes (e.g., tests of those inputs specified by social decision scheme theory by Poole, McPhee, & Seibold, 1982, and of persuasive arguments theory by Meyers, 1989a, 1989b, as reviewed in the body of the article) and found the interaction model counterparts to be superior.

Spurred by Gouran's (1990) encouragement to turn from process-only investigations to process-outcome studies, the more recent studies of the effects of members' arguments on group decision making (Lemus et al., 2004; Meyers & Brashers, 1998; Meyers et al., 2000) that we discuss in the article have supported the predictive potential of the argument structuration perspective. Hence, perhaps more important than debating whether communication can add significant improvement—over noninteractional factors—in explaining outputs is determining when that occurs and when it is necessary to do the additional labor-intensive research to study interaction processes in groups (Poole, 1999).

Finally, in addition to input–output research, interdisciplinary connections are readily apparent in the multilevel interaction approach to argumentation and emotional processes in decision-making groups proposed by organizational behavior researchers Beck and Fisch (2000). Moreover, there also is much to be gained by linking the study of group argument to research on group conflict, which spans many disciplines (Folger, Poole, & Stutman, 2005; Lovaglia, Mannix, Samuelson, Sell, & Wilson, 2005). Investigation of argument at the processual level could provide a deeper understanding of how conflict can be more effectively managed in group interactions. Gouran (2004) has suggested that groups that engage in argument about issues may well overcome tendencies to degenerate into affective conflict. That is, argument may help to steer conflicts more toward positive gains. Claims bolstered by sound reasoning and evidence that lead to shared conclusions may provide the basis for conflicts that focus on issues rather than personalities, building a foundation for constructive rather than

destructive conflict. Increased investigation of the process of argument in decision-making groups, and its ability to move the group beyond conflictual degeneration, enhances our theoretical and practical knowledge about the relationship between conflict, argument, and group outcomes.

Conclusion

More generally, identifying other interdisciplinary connections and actively pursuing research questions that address these issues will be increasingly important for future research in this domain. Bridging disciplinary divisions can only strengthen our understanding of the complexity of group argument processes and effects. The overview of our research program and allusions to the work of others, as well as the challenges discussed, underscore the important role that argument plays in group decisionmaking processes and outcomes. Still, we are far from understanding the complexity involved in group members' argumentative practices and group products. Continued research in this domain on argument features, patterns and structure, quality and impact, and linkages to decision outcomes is necessary for a fuller understanding of group argument. Much work has been completed; much work remains.

Appendix Conversational Argument Coding Scheme

I. Arguables

- A. Generative Mechanisms
 - 1. Assertions: Statements of fact or opinion
 - 2. Propositions: Statements that call for support, action, or conference on an argument-related statement
- B. Reasoning Activities
 - 3. Elaborations: Statements that support other statements by providing evidence, reasons, or other support
 - 4. Responses: Statements that defend arguables met with disagreement
 - 5. Amplifications: Statements that explain or expound upon other statements to establish the relevance of the argument through inference
 - 6. Justifications: Statements that offer validity of previous or upcoming statements by citing a rule of logic (provide a standard whereby arguments are weighed)

II. Convergence-Seeking Activities

- 7. Agreement: Statements that express agreement with another statement
- Acknowledgment: Statements that indicate recognition and/or comprehension of another statement but not necessarily agreement with another's point

III. Disagreement-Relevant Intrusions

- 9. Objections: Statements that deny the truth or accuracy of an arguable
- 10. Challenges: Statements that offer problems or questions that must be solved if agreement is to be secured on an arguable

IV. Delimitors

- 11. Frames: Statements that provide a context for and/or qualify arguables
- 12. Forestall/Secure: Statements that attempt to forestall refutation by securing common ground
- 13. Forestall/Remove: Statements that attempt to forestall refutation by removing possible objections

V. Nonarguables

- 14. Process: Non-argument-related statements that orient the group to its task or specify the process the group should follow
- 15. Unrelated: Statements unrelated to the group's argument or process (tangents, side issues, self-talk, etc.)
- 16. Incompletes: Statements that do not contain a complete, clear idea because of interruption or a person's discontinuing a statement

Notes

1. It is beyond the scope of our focus in this article on argument processes and effects in decision-making groups to address the larger issue of the role of interaction in groups and its predictive potential. Beyond a view of group communication as information sharing and a mere conduit for preference displays, the theoretical importance and predictive utility of *communicative influence processes* in groups—relative to input–output models—can be found in theoretical discussions and literature reviews by Gouran (1999), Jarboe (1999), Meyers and Brashers (1999), Pavitt (1993, 1999), and Poole (1999), among others. Although Hewes (1986, 1996) offers an alternative view, Tschan (1995) has provided evidence of conditions under which communication enhances group productivity in general. More germane for underscoring the potential importance of communication in group decision making, Hoffman and Kleinman (1994) found not only that the valence of group members' statements concerning decision choices exerted an influence on decision outcomes in particular but that those out-

comes could not be adequately predicted by the distribution of those members' choice preferences before they interacted.

2. In addition to formulating a manual for coding conversational argument (Canary, 1992) that grew from the structuration work on group argument described here, Canary, Brossmann, Brossmann, and Weger (1995) have developed a theory of minimally rational argument that is neither restricted to the group area—it emphasizes conversational processes in a variety of contexts (but especially face-to-face interactions in dyadic relationships)—nor dependent on structuration theory tenets. Canary and colleagues (Canary et al., 1991, 1995; Canary & Sillars, 1992; Semic & Canary, 1997) have examined act-to-act sequences, or interacts, as a basis for understanding interpersonal argument (Canary, 2004). Findings reveal different sets of sequences—developing, converging, rudimentary, and diverging—that predict various relationship outcomes. Canary et al. (1987, 1995) also find that argument structures that demonstrate convergence tendencies reflect more functional relationships.

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