THE (DIS)ORGANIZING PROPERTY OF COMMUNICATION: ERROR AND INEFFICIENCY IN COORDINATED ACTION

By

©2008
Ryan S. Bisel

B.A., William Jewell College 2002
M.A., University of Kansas 2005

Submitted to the graduate program in Communication Studies, and to the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

______________________
Chair, Joann Keyton

______________________
Co-Chair, Tracy Callaway Russo

Committee members
______________________
Debra J. Ford

______________________
Tom D. Beisecker

______________________
Joan Sereno

Date defended____________________
The Dissertation Committee for Ryan S. Bisel certifies that this is the approved version of the following dissertation:

THE (DIS)ORGANIZING PROPERTY OF COMMUNICATION: ERROR AND INEFFICIENCY IN COORDINATED ACTION

______________________
Chair, Joann Keyton

______________________
Co-Chair, Tracy Callaway Russo

Committee members

______________________
Debra J. Ford

______________________
Tom D. Beisecker

______________________
Joan Sereno

Date approved____________________
Abstract

This dissertation theoretically characterized and empirically tested the theory that organization arises from within communication. Each chapter is interconnected but written as an independent research report.

Organizational discourse research is mature in the sense that much research on talk in the workplace is increasingly similar in its view of the structure-agency debate. Duality arguments are now a common perspective taken by organizational discourse researchers to avoid the problematic dualism of necessarily prioritizing structure or agency. Despite this considerable philosophical maturity, not all duality approaches are created equal. In fact, duality research can be thought of as having developed into two schools--structured in action or acted in structure. Chapter one outlines the characteristics of each kind of research and then discusses methodological and theoretical recommendations as well as implications in light of a growing dualism in duality research.

The essence of the philosophical disagreement specified in chapter one is empirically challenged in chapter two. The investigation tested current organizational communication theory, which posits that organization emerges in talk. Three experiments employing a total of 510 participants giving and receiving instructions demonstrated that some features of talk interfered with dyads' and individuals’ ability to complete a conjunctive referential communication task accurately and efficiently. The resulting interference created by some features of talk in the accomplishment of a task provided an important revision to the premise that organization emerges in talk—
namely, organization may simultaneously dissipate in talk. Testing the emergence of error and inefficiency in organizational talk takes the organization-communication equivalency argument seriously enough to presume that when communication fails, so too does organizing. Furthermore, five recommendations are provided for improving the essential organizational discursive practice of giving and receiving instructions.

Chapter 3 concludes the volume by proposing new methodological applications for the collected data. Additionally, new theoretical horizons for organizational discourse theory are described.
Acknowledgments

No doctorate is achieved by a single individual, I am no exception. God has greatly blessed me with a supportive wife, family, friends, and mentors. Because of these great gifts, I must first thank God and my Lord, Jesus Christ. I dedicate this work to the God who made a new creation out of the heart of a troubled 16-year-old.

Addie, my wife and best friend, thank you for sacrificially loving me. This achievement was only possible by your consistent support and work, always without complaint. You are my role model. I look up to you. We did it, baby! We did it!

Mom and Dad Bisel, thank you for your love, patronage, and encouragement. You have greatly blessed me by always instilling in me the values of hard work and planning. By your model, I have worked hard and tried to "be the best at whatever" I do. Also, by your example, we saw the possibilities of a future and pursued it. Thank you. Thank you. Thank you.

Mom and Dad Fuhrmann, thank you for your love, prayers, and encouragement. You have greatly blessed us by being a constant source of spiritual guidance and emotional support. By your model, we sought God's will. By your example, we relied on one another. Thank you. Thank you. Thank you.

Kristi and Tom, Cara and Dillon, thank you for the laughter we share. Addie and I are so fortunate to have such great brothers and sisters.

In addition to our families, I would like to thank the numerous friends who have prayed, played bocce, drank beer, played cards, ate meals, and laughed with us. Frank, Amber and Jake (Go Philomathia!), Jordan and Gloria, Scott, Paul, Gabe and
Megan, Toby and Amy (Go WJC’s Philomathic Society!), Garon, Nick and Amber, Kyle and Jamaica, Barry and Megan, our LHCC small group, Katrina and Scott, Karen and Doug, Katie, Leilani, Ryan, Lynette and Mark, Natty and James, Jay, Amy, Lesley, Ray, Mike, Stephenson, Jason, Kiley, Makiko, Kris, and so many more.

To my mentors, it was by your investment I have become a scholar. I promise to pay it forward. Dr. Jordan Soliz, thank you for befriending a first-year master's student and always taking me seriously. Your friendship and mentoring means more than you could know. Dr. Paul Schrodt, thank you for modeling the life of a successful, Christian academic. Dr. Debbie Ford, thank you for encouraging me to pursue my ideas. You have been a huge source of encouragement and insight. My original thinking about the organizing property of communication began in your class and under your teaching. Thank you! Dr. Tracy Russo, thank you for teaching me about teaching. I cannot put into words the lessons I have learned by observing your soft touch and carefully worded responses. Thank you! Dr. Joann Keyton, thank you for taking a chance on me. I have learned so much about the life of an academic by watching you work and by working alongside you. My work in organizational communication will forever be influenced by your teaching and example. Thank you!
Table of Contents

Acceptance Page………………………………………………………………………ii

Abstract……………………………………………………………………………….iii

Acknowledgments……………………………………………………………………..v

List of Tables…………………………………………………………………….….viii

List of Appendices and Figures……………………………………………………ix

Chapter 1.................................................................1

Chapter 2.................................................................31

Chapter 3.................................................................79
List of Tables

Table 1a. Two Approaches to Fairhurst and Putnam's (2004) Grounded in Action Orientation .................................................................30

Table 1b. Unitization, Intercoder Reliability, and Coder Drift Scores for Coded Variables ..............................................................74

Table 2. Correlations between Time in Seconds, Number of Errors, Accuracy-Efficiency Index, and Giver Activity, Grammatical Complexity, Semantic Context, and Receiver Activity including Listening Ability .................................................................75

Table 3. Descriptive Statistics of Language Sample Analysis of the Referential Communication Task, Time in Seconds, Number of Form Errors, and Accuracy-Efficiency Index .................................................................76

Table 4. Parsimonious Regression Model of Independent Variables for Predicting the Accuracy-Efficiency Index Controlling for Listening Ability .................................................................77
List of Appendices and Figures

Appendix A. Referential Communication Task........................................72
Appendix B. Instruction-giver Instructions..............................................73
Figure A. Interaction Effect between Number of Instruction-giver Words and Instruction-giver Rate of Speech on Accuracy-Efficiency Index......78
Since the discursive turn in organizational communication research (Putnam & Fairhurst, 2001), talk in the workplace has continued to be a fruitful topic of investigation. Organizational discourse research has been useful for solving practical problems (e.g., Button, 1992) as well as for providing a rich context upon which deeply philosophical debates have emerged regarding the very essences of communication and organization themselves (e.g., Taylor & Van Every, 2000). Increasingly, the sub-discipline has matured in its philosophical assumptions about the agency and structure debates. Conrad and Haynes (2001) noted that nearly all organizational communication research assumes that either cognitive and societal structures (i.e., structure) or individual communicative and interpretive processes (i.e., agency) are the sources of coordinated action. Furthermore, they argued that this dichotomy was the central problematic of organizational communication research from 1985 to 1995. The problem, they posited, is that both structure and agency research contain considerable blind spots. Pure structural research does not account for the individual's influence upon the organization. Conversely, pure agency research does not account for the influence of the organization upon the individual. As Conrad and Haynes noted, however, duality perspectives, such as those offered by structuration theory (Giddens, 1979) and unobtrusive control theory (Tompkins &
Cheney, 1985), have the ability to account for the simultaneous and mutual influence of organization and individual upon one another.

Currently, duality arguments are increasingly commonplace in organizational communication research writ large (e.g., Kuhn & Nelson, 2002), and organizational discourse specifically (e.g., Tracy, 2000). Research within organizational discourse is ripe with sophisticated applications of duality concepts (for a review see Grant, Hardy, Oswick, & Putnam, 2004). These contributions demonstrate the sub-discipline's growing maturity; however, recent arguments made by some organizational discourse researchers have created a bifurcation in duality approaches. Their arguments, which I label, acted in structure approaches, contain assumptions that render them incommensurate with longer-standing duality approaches, which I label, structured in action approaches. This growing dualism within duality research is outlined in the following pages. Additionally, I set forth methodological and theoretical arguments in order to provide a roadmap for the sub-discipline to systematically select the most appropriate approach for duality discourse research.

Fairhurst and Putnam (2004) outlined three implicit orientations represented in the organizational discourse literature. According to their tripartite characterization of organizational discourse research, organizational discourse researchers take implicit paradigmatic positions on the relationships among discourse vis-à-vis organization. First, from an object orientation, researchers assume organization precedes discourse, and that organizational structures create discursive outcomes. Second, from a becoming orientation, researchers assume discourse precedes
organizing and that organization is contingently and constantly emerging from within
turns at talk. Third, from a grounded in action orientation, researchers assume
discourse and organization mutually influence one another across space and time.

According to Fairhurst and Putnam (2004), a single research report may
exhibit aspects of each orientation simultaneously and no particular orientation is
correct per se. While the paragons of each orientation advance our understanding of
organizational discourse, it is the grounded in action orientation that demonstrates the
philosophical maturity of our discipline. The usefulness of the grounded in action
orientation is found in its ability to overcome the problematic dualism of foci solely
on structure or agency, as identified by Conrad and Haynes (2001). Fairhurst and
Putnam argued that grounded in action scholarship seeks to understand how the
organization is anchored in "the dureé or the continuous flow of discursive conduct"
(p. 16). Of fundamental importance is the observation that structure and agency are
interrelated across time. Thus, rather than being a simple either/or dualism, structure
and agency are more fruitfully thought of as a both/and (Burke, 1969) duality
coalescing through time.

Many have noted the fruitfulness of duality research (e.g., Witmer, 1997), as
well as its ability to transcend the otherwise incommensurate paradigmatic
assumptions of interpretivism and post-positivism (Miller, 2000). Indeed, the
proliferation of duality research in organizational communication resembles Kuhn's
(1962) description of a scientific revolution. Kuhn argued that science does not
merely build brick by brick as is often portrayed in historical accounts of scientific
progress. To the contrary, scientific revolutions arise from a growing sense "that existing institutions have ceased adequately to meet the problem posed by an environment" (p. 76).

In large measure, Giddens's (1979, 1984) popularization of structuration theory may be seen as the trumpet sound of a revolution in structure/agency thinking. Whether under the official or unofficial auspices of structuration theory, the duality revolution has resulted in impressive progress. Duality theorizing has been found useful in studying organizational change (Howard & Geist, 1995), climate (Bastien & McPhee, 1995), culture (Witmer, 1997), decision-making processes (Poole, Seibold, & McPhee, 1985), emotional labor (Tracy, 2002), social issues (Harter, Berquist, Titsworth, Novak, & Brokaw, 2005), unobtrusive control (Bisel, Ford, & Keyton, 2007), and work-life policies (Kirby & Krone, 2002). This incredible progress may be thought of as similar to Kuhn's description of a discipline approaching mature science in that he explained mature scientific communities "work from a single paradigm" (1962, p. 133). The sub-discipline of organizational discourse is and will continue to be multi-perspective. However, rather than representing the fringes of intellectual pursuits, duality research is now approaching what may be thought of as "normal science" (Kuhn, p. 53).

This revolution in organizational communication thinking, despite the singular label, grounded in action, is not without fragmentation. While the sub-discipline of organizational discourse has achieved a moderate level of maturity, we will not move forward until we recognize and confront the growing dualism in duality research. I
argue that within the grounded in action orientation two distinct approaches have developed—structured in action and acted in structure approaches (see Table 1a). In order to better compare and contrast these two duality approaches, I first provide a broad description of each approach. Then, I explain the approaches' interpretation of speech act theory. While not all organizational discourse research explicitly claims the use of speech act theory, it provides a type of metric upon which to compare each approach. Additionally, speech act theory is a particularly apt point of comparison because of the acted in structure's reinterpretation of Austin (1962) and Searle's (1969) work on form, function, and meaning in discourse—a point that will become more apparent throughout the essay. Also, to aid the reader, I have included a table that compares the two approaches on the dimensions provided by Fairhurst and Putnam's (2004) tripartite characterization of organizational discourse research (Table 1a).

Structured in Action

Structured in action approaches presume duality emerges from within accounting practices (i.e., justifying or failing to justify actions) accomplished in everyday talk (Boden, 1994; Garfinkel, 1967; Schegloff, 1999). In other words, structured in action (SIA) researchers assume that structure is located in the patterned discursive behavior (e.g., meetings and water-cooler conversation) of organizational members who justify (or fail to justify) their actions to one another based upon their mobilization and modification of past practices to account for present ones (Atkinson & Heritage, 1984). When certain interpretations of past actions reach intersubjective
agreement among some portion of a collective, the organization emerges (Weick, 1995). This lamination process links and connects local communicative actions of organizational members to the global constancy and recalcitrance of organizational life (Boden, 1994).

Thus, SIA scholarship is keenly interested in the patterned ways in which organizational members interpret past practices, whether enacted or espoused, and employ interpretations in their present struggles for meaning (Mumby, 2001). Organizational communication from the SIA approach is a political process in which interpreters may deem the intentions (or illocutionary force) of past rules (i.e., texts or policies) unrecoverable but will rely on culture, sensemaking, and accounting practices as means of justifying their interpretations, often to satisfy their own strategic ends (Taylor, Cooren, Giroux, & Robichaud, 1996).

*Speech Acts from Structured in action Approaches*

Speech acts within *structured in action* approaches more faithfully represent the theoretical contributions of their originators (Austin, 1962; Searle, 1969). As Austin suggested with the title of his lecture series, "How to Do Things with Words," speech act theory articulates how words can call new social realities into being. In other words, when we speak, we do things. For example, the phrase, "I bet you five bucks the Royals lose" calls a social reality of *betting* into being, assuming the essential conditions of its utterance are observed (i.e., it was uttered before the game to someone who accepted the bet). Furthermore, part of the essential condition for doing things with words is getting the other to recognize your *intention* to accomplish
something. Of central concern to Austin and Searle was the rejection of a form-
function connection because it is function not form that is essential to communicating
(Penman, 1990). To return to our example, the gesture of five fingers and a smile to a
companion watching a ballgame may indeed be enough to call a social reality of
betting into being, depending upon relational context. Searle expressed this dynamic
in the formula, $F(p)$, where $F$ is the intended function (or illocutionary force) and $(p)$ is
the propositional form (Lanagin, 1976; Searle). The capitalized $F$ denotes the
primacy of getting another to uptake the intended function over any particular
propositional form.

How do structured in action approaches' use of speech act theory relate to
organizations? SIA approaches assume that intentionality is a central concern of
communicating persons communicating. Persons justify their own and others' actions
with words by trying to interpret the intended function of the discursive forms around
them. In the organizational realm, the intended function of past policies, practices,
and rules is often the center of struggles for meaning, and, thus power (Mumby,
2001). When organizational members cite the intended meaning (whether or not
intentions are truly recoverable) of policies, practices, and rules of the past to account
for present actions, the local scales up to meet the global organization (Cooren, 2004).

Boden (1994), drawing on ethnomethodology (Garfinkel, 1967), cogently argued for
a SIA approach to the study of organizational discourse. She explained that
organizational members implicitly understand the et cetera clause—that is, no set of
rules could ever be complete. Therefore, actors, who face new and unpredicted
situations, actively interpret the illocutionary force (i.e., intended function) behind sets of policies, practices, and rules (i.e., propositional form) in order to account for their present actions. Written differently, organizational members draw on a rich context of the spirit of the law, rather than its letter.

Acted in Structure

Contrary to these assumptions, acted in structure (AIS) approaches presume duality emerges from within the narrative structure of language use, which compels human and nonhuman agents via speech acts to fulfill manipulation and competence requirements (Castor & Cooren, 2006; Cooren, 1999, 2000, 2006; Greimas, 1987; Latour, 1987). Written differently, AIS scholarship assumes that actors (often called actants in AIS scholarship) act within the constraints of a deep structure created by a series of unfolding narratives made permanent in texts. Actants within acted in structure approaches may be human, "texts, machines, and artifacts, but also animals, vegetables, and even subatomic particles" (Cooren, 2000, p. 172). Because texts can act, the constancy and recalcitrance of organizational life is expected and unproblematic because texts "perform actions like machines" to create stability over time (Cooren, 2000, p. 6).

Intentions (or illocutionary force) behind the creation of texts (e.g., a contract of employment) are deemed undecidable and nonessential for speech acts to function through organizational members. Organizational texts, like contracts, "cancel out recourse to rhetoric," and so organizational members must enact the structure to which they previously committed (Cooren, 2000, p. 169). Within AIS approaches,
local activity is immanently prescribed by the global structure created by texts. Organizational communication from this approach is a mechanistic process in which language use is a meta-actor, is detachable from its source, and exerts control upon organizational members.

**Speech Acts from the Acted in structure Approach**

*Acted in structure* approaches revise Austin (1962) and Searle's (1969) original formulations of speech act theory (Fairhurst & Cooren, 2004; Quinn & Dutton, 2005). Rather than using speech act theory to analyze how to *do things* with words, AIS approaches tend to use speech act theory to analyze how to *give things* with words (Cooren, 1999). Lest the reader believe there is no difference between *doing* and *giving*, it is important to note that all giving is a doing, but not all doing is a giving. AIS approaches more narrowly define speech acts than SIA approaches. In fact, *acted in structure* approaches' foci on giving things with words have led some to claim it is the study of *interobjectivity* or the study of the circulation of objects (Cheney, 2001; Taylor, 2000). In contrast, *structured in action* approaches foci on doing things with words has resulted in a preoccupation with *intersubjectivity* (Boden, 1994; Weick, 2001).

Related to AIS approaches' narrow definition of speech acts, AIS scholarship also denies the primacy of intentionality (i.e., illocutionary force) in the exchange of speech acts. Instead, AIS scholarship tends to argue that intended function is an unnecessary condition for meaning because intentions are often undecidable (Derrida, 1999). For instance, Cooren (2000) argued that the Searlian formulation of speech
acts [i.e., F(p)] is erroneous because intended functions should never have been separated from their propositional forms. From AIS approaches, propositional forms become detachable from their source and go on to act upon agents. AIS approaches’ rejection of the primacy of intentionality in the exchange of speech acts has created logical space for the argument that objects without intention can communicate. For example, Cooren (2000) suggested that "two rooms" communicate with one another, a "key" and "lock" communicate with one another, and a "pothole communicates to the driver" that the road is in disrepair (p. 66-67).

How do acted in structure approaches' revision of speech act theory relate to organizations? Cooren (2000), drawing upon semio-narrative theory (Greimas, 1987), argued for an AIS approach to the study of organizational discourse (see also Quinn & Dutton, 2005). He explained that organizational actants implicitly act in a series of four embedded narrative phases. First, within the manipulation phase, one human or nonhuman actant is given a “having to do” to another human or nonhuman actant via a speech act, which might resemble a command. Second, within the competence phase, the manipulated actant seeks to be given a “being able to do” via another speech act in order to have the influence needed to perform the manipulation. The competence phase might resemble an actant's acquiring of training to be able to complete the aforementioned command. Third, within the performance phase, the actant performs the manipulation, which might resemble accomplishing what was commanded. Finally, within the sanction phase, the actant is punished or rewarded. Four phase narratives can be embedded within a single phase (Taylor & Cooren,
In order to complete the competence phase, a manipulated actant may have to seek additional training through another manipulation-competence-performance-sanction series in order to perform the original manipulation. For example, in order for an employee to accomplish his boss' directive (i.e., get competence) to create a database (i.e., manipulation), he might need to get more training (i.e., manipulation-competence-performance-sanction), to accomplish the directive (i.e., performance), to achieve the boss' approval (i.e., sanction). Thus, the organization is a collection of embedded narratives created by the exchange of “having to dos” and “being able to dos” via speech acts given by either human or nonhuman actants with or without illocutionary force.

Like SIA approaches, acted in structure approaches often originate with ethnomethodology (Garfinkel, 1967). However, unlike SIA, acted in structure approaches often rely on Actor-Network Theory (ANT; Latour, 1987) to frame their claims. For example, Cooren (2006), drawing on ANT, cogently argued for an acted in structure approach to the study of organizational discourse. He explained that organizational members are frequently acted upon by semiotic and material actants. Furthermore, this insight is regularly attested to by everyday talk such as in the phrases, "A camera took your picture," "The subway map indicated how," and "The PDA reminded you" (p. 85). Therefore, from AIS approaches, organizational members are actants--those entities that/who are actively engaged by/with a multiplicity of imbrications (i.e., technological and textual actants; Taylor & Van Every, 2000)--whose network of relationships with imbrications constitute the
organization itself. Written differently, organizational members produce policies and
technologies and are continually made to behave accordingly, not in the spirit of the
law, but rather, according to its letter.

As further evidence of a divergence of paradigmatic assumptions, Cooren
(2006) argued, "We are far from the phenomenological perspective implicit in Berger
and Luckmann's (1966), Garfinkel's (1967) . . . or even Weick's (1979, 1995) works,
to the extent that we do not reduce the organized world to the way people make sense
or interpret it" (p. 86). Cooren appropriately recognized what few have--that AIS
approaches are not the longer-standing SIA approaches employed by Weick and
others. Indeed, the divergence of paradigmatic assumptions has been and will
continue to be recognized by the most cutting-edge scholars of our discipline.

Where Do We Go From Here?

Kuhn’s (1962) description of scientific revolutions demonstrated that
scientific progress is not gradual and evolutionary as is portrayed by many historical
accounts of science. Rather, scientific progress occurs in dramatic and revolutionary
episodes in which paradigmatic assumptions are challenged and yesterday’s
anomalies become tomorrow’s normal science. The distinction between structured in
action and acted in structure outlined here may represent just such a shift. More
likely, however, we are experiencing what Kuhn called a “pre-paradigmatic period”
in organizational discourse research (p. 40). Duality approaches, indeed, mark the
sub-discipline’s growing maturity. However, deep divisions of assumptions between
SIA and AIS approaches indicate the study of organizational discourse is still
developing. Kuhn commented, “[The] pre-paradigmatic period, in particular, is regularly marked by frequent and deep debates over legitimate methods, problems, and standards of solution, though these serve rather to define schools than to produce agreement” (p. 40).

No particular scholars can be altogether identified as representing one approach or the other consistently. For example, Taylor, Cooren, Giroux, and Robichaud (1996) clearly employed a SIA approach to their theory of text and conversation (see also Varey, 2006); also however, Taylor and Cooren (2006) clearly employed an AIS approach in their investigation of a facilities meeting in a Manhattan office building. While no particular scholars can be altogether identified as representing one approach or the other, Brumanns (2006) claimed an emergence of “the Montréal school” among scholars who have “operat[ed] from relatively similar presuppositions” and who believe “human interactions are mediated by nonhuman agents . . . giv[ing organizations] a relatively lasting character in time and space” (p. 199-201). Thus, Brumanns’s identification of the Montréal School (i.e., AIS approaches) is eerily similar to Kuhn’s (1962) comment that debates in pre-paradigmatic periods tend to create schools rather than agreement.

Perhaps agreement is not a possible goal. In fact, Kuhn (1962) argued, “Each group uses its own paradigm to argue in that paradigm’s defense” (p. 78). In the following paragraphs, my purpose is not to defend a particular paradigm per se, but to describe the potential future movement of the debate—a pursuit that will hopefully give rise to productive struggle.
Methodological Considerations

Get on with it. Silverman (1989) exhorted researchers to stop seeking to resolve ontological questions of reality and get on with the practice of collecting and analyzing data. Indeed, organizational discourse researchers have a penchant for producing works that are interested in defining the ontology of organization and communication respectively (e.g., Fairhurst & Putnam, 1999; Taylor & Van Every, 2000). Such a focus is useful only to the extent that it helps researchers locate the phenomena of study in the field or laboratory. Ontological arguments are not an end in and of themselves. Kuhn (1962) echoed this point when he observed that researchers are “solvers of puzzles” and not “testers of paradigms” (p. 118).

New and old methods needed. Both the structured in action and acted in structure approaches suffer from a paucity of methods and data-theory interaction (Bostrom, 2003). Conversation and discourse analysis are the dominant methods of current duality discourse research (for a review see Putnam & Fairhurst, 2001). AIS researchers are to be applauded for their unique and creative methodological contributions such as speech act schematics (Fairhurst & Cooren, 2004). However, content and interaction analysis are two well-established and highly content-focused (see Fairhurst, 2007), though underemployed, methods of analyzing how we do and give things with words (Bakeman & Goteman, 1997; Krippendorff, 2004; Neuendorf, 2002). Thus, organizational discourse researchers should be employing them with greater frequency. Methods dictate what researchers are able to discover about the
world. The fewer the methods employed in organization discourse research, the more constrained the possibilities of discovery are.

_See the negative case._ In addition to the necessity for more methodological approaches for unpacking dualities, we must continue to investigate the negative or deviant cases (Silverman, 2000). In an effort to articulate a structurational view of organizational communication (Banks & Riley, 1993; Conrad, 1993), we have tended to neglect those episodes in organizational life when “frameworks and meanings destroy rather than construct one another” (Weick, 2001, p. 116). In other words, we must confront organizational episodes that are seemingly inexplicable from a duality perspective in order to confront the blindness inherent in all insights, even the duality insight (Burke, 1969).

_Theoretical Considerations_

_Intentionality._ A major distinction between SIA and AIS approaches is their relative assumptions about intentionality in communication. SIA approaches, as previously discussed, presume that intentionality is necessary for communication. Thus, SIA approaches deny the adage, “One cannot not communicate” (Watzlawick, Bavelas, & Jackson, 1967, p. 49). Such a position makes SIA approaches unable to account for certain nonverbal communication (e.g., blushing) unless such nonverbal communication are deemed biological responses and not communication. Furthermore, by placing intentionality at the center of the communication process, SIA researchers must be committed to identifying the _unintended_ consequences of intentional action (Giddens, 1979). Anecdotal experience suggests that conversational
partners get confused, hurt feelings, and react in unanticipated ways because the intended meanings of our words are not always the meanings that are interpreted.

Conversely, AIS approaches reject the need for intentionality in the communication process and tend to assume that any meaning generation constitutes communication from a least-common-denominator logic. From such a position, AIS approaches accept that potholes communicate to drivers if drivers interpret potholes to mean that the road is in disrepair (e.g., Cooren, 2000). Furthermore, by denying the centrality of intention in communication, AIS researchers must be committed to accounting for which actions actants are ethically and morally responsible for committing and why. If texts are detachable from their source and intention is undecidable, is it ethical and moral for managers to harass sexually via email? Are morality and responsibility moot if intention is undecidable? Organizational discourse researchers peer into the heart of communication theory when they grapple with these tensions. The intentionality debate represented by the divergence between SIA and AIS approaches may be the source of an extremely important philosophical contribution from organizational discourse researchers to all who are interested in the study of communication.

Representatives of both sides of the intentionality debate evidence their claims with philosophical and often hypothetical-linguistic proofs. However, an emerging answer to the intentionality debate may come from a highly empirical and decidedly unlikely source. Psycholinguistics employs neuroscience and aphasiology in order to understand how the mind processes and produces language (Zurif & Sinney, 1994).
Aphasiology is the investigation of patients who have suffered brain trauma (e.g., stroke) and show signs of language processing or production deficiencies (i.e., aphasia). Two major types of aphasia, Broca’s and Wernicke’s, are common language deficiencies studied by psycholinguists. While Broca’s and Wernicke’s aphasias are complex sets of syndromes, certain generalizations can be made (Bird, Ralph, Seidenberg, McClelland, & Patterson, 2003). For example, Broca’s aphasia is characterized by effortful, slow, agrammatical, and telegraphic speech. Conversely, Wernicke’s aphasia is characterized by effortless, rapid, grammatical, and fluent speech; however, Wernicke’s aphasia patients are virtually unable to hold meaningful dialog. Interestingly, Broca’s aphasia patients, not Wernicke’s patients, can be taught alternative communicative strategies, despite their inability to produce fluent propositional content precisely because they are fully able to intend to communicate meaning (Carroll, 2004). Thus, lessons from psycholinguistics and neuroscience may be telling us that, as the speech act theorists argued (Austin, 1962; Searle, 1969), intended meaning (i.e., illocutionary force) is primary over and distinct from propositional content.

An Organizing-Bias. The arranging and rearranging of the morphological-makeup of the phrase “organizational communication” is a mainstay of organizational discourse theorizing (Cheney, 2000). However, we cannot change organizational communication to the study of how communication is organizing without carefully considering its consequences because, as Burke (1969) warned us, all insights contain their own blindness. In 2001, Cheney identified a “larger project” of organizational
discourse research that is encapsulated by the phrase, “the organizing property of communication” (p. 453). While the academic project has provided numerous important insights, we are perhaps now suffering from an organizing bias similar to the positivity bias once apparent of the interpersonal communication literature (Cupach & Spitzberg, 1998).

Certainly, the insight that organization is better thought of as the verb, organizing (Putnam & Fairhurst, 2001), is profound and well represented by both SIA and AIS approaches to organizational discourse research. Perhaps the next step in choosing our path is to take the insight seriously enough to test it by attempting to demonstrate its opposite. We claim talk organizes, but can talk disorganize? We claim organization is constituted in talk (Boden, 1994; Cooren, 2000), but if talk can also disorganize, does that mean talk can simultaneously constitute an organization and a disorganization? By organizing bias, I mean the tendency of research to see communication as constituting order and coordinated action rather than disorder and an inability to coordinate action. Could it be that the way forward may be to review the basics? Talk is simultaneously task- and relationally-oriented (Infante, Rancer, & Womack, 2003). Our organizing bias may be the result of an emphasis on the relationally-oriented nature of communication.

In defense of organizational discourse research, I argue that we have needed to focus our efforts on explaining the vagaries of organizational relating (e.g., Robichaud, 2006) in order to remain well grounded in the larger body of communication research and theory (e.g., interpersonal communication).
Additionally, a relational-orientation may be the fruitful outgrowth of the interpretive turn in organizational communication scholarship, which emerged from a sense that pre-1980 organizational communication research was excessively variable analytic and fraught with managerial bias (Putnam & Pacanowsky, 1983). However, the need to accomplish tasks is the central exigency out of which individuals organize to coordinate their actions. Thus, task-oriented communication must continue to be a central concern of 21st century organizational communication scholarship.

Additionally, task-oriented communication may mark the grounds upon which we can test the organizing assumption by attempting to demonstrate its opposite. In other words, anecdotal work experiences suggest talk indeed allows us to organize via relating; however, talk often results in our inability to accomplish even the most basic tasks accurately or efficiently (e.g., giving and receiving instructions). These inabilities are perhaps the problems to which Weick (1990) referred when he commented that coordinated activity is a source of ambivalence and error and that when “communication is misunderstood, the existence of the organization itself becomes more tenuous” (p. 582). Elsewhere, Weick (2001) argued that “disorganization . . . is not all that rare in everyday life” (p. 109). Organizing bias is committed by both SIA and AIS approaches, but the approach that significantly addresses this obstinate blindness first will demonstrate its versatility.

**Conclusion**

Organizational discourse research has demonstrated its relevance to the broader discipline through its consistent progress and productivity. The emergence of
a dualism among duality approaches, however, threatens the development of schools with incommensurable perspectives on how to accomplish valuable organizational discourse research. I call for researchers publishing in both *structured in action* and *acted in structure* approaches to explicitly argue for their positions regarding intentionality, nonhuman agency, and the potential for a *disorganizing* property of communication. We must find innovative and more empirical means of evidencing our claims on these essential points of contention. The research agenda outlined here is not aimed at achieving the gradual and evolutionary scientific progress misrepresented by so many textbooks. Rather, the agenda outlined here is aimed at achieving a productive struggle toward a revolution that will make today’s anomalies tomorrow’s normal science.
References


(Original work published 1970)


<table>
<thead>
<tr>
<th></th>
<th>Structured in action</th>
<th>Acted in structure</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Organization grounded in human action and discursive forms</td>
<td>Organization grounded in human and nonhuman action and discursive forms</td>
</tr>
<tr>
<td><strong>Variations</strong></td>
<td>Organization emerges in laminated accounting processes</td>
<td>Organization emerges in associations among humans, nonhumans, and objects</td>
</tr>
<tr>
<td></td>
<td>Organization emerges as continually reproduced social systems</td>
<td>Organizations are infinitely embedded narratives within narratives</td>
</tr>
<tr>
<td><strong>Emerging Emphasis</strong></td>
<td>The dureé or constancy of organizational life; how the global is anchored in the local; persons' actions</td>
<td>The dureé or constancy of organizational life; how the local is structured by the global; texts' actions</td>
</tr>
<tr>
<td><strong>Individual-organization relationship</strong></td>
<td>From within practical reasoning and intersubjectivity; model of person as an active component of organization; structure is tissue-like</td>
<td>From within speech acts; model of human and nonhuman actants compelled to fulfill manipulation and competence requirements imposed by narrative structure of language use; structure is scaffold-like</td>
</tr>
<tr>
<td><strong>Agency-structure Model of actor</strong></td>
<td>Aims for balance; duality</td>
<td>Aims for balance; duality</td>
</tr>
<tr>
<td></td>
<td>Focuses on what actors know but allows for unintended consequences</td>
<td>Focuses on texts' ability to function like machines upon actants and discounts intention as necessary for communication</td>
</tr>
<tr>
<td><strong>Critique</strong></td>
<td>Bias toward agency that minimizes material constraint</td>
<td>Bias toward structure that minimizes individuals' ability to choose otherwise in the interpretation of texts</td>
</tr>
</tbody>
</table>
Chapter 2
Experimental Investigations of the
(Dis)organizing Property of Communication

Since the linguistic turn in organizational studies, some communication scholars have argued that an understanding of organizations requires a view of the organization as essentially an assembly of text and talk (Alvesson & Kärreman, 2000; Fairhurst & Putnam, 2004). The growing persuasiveness of these arguments has led to a larger project of research conducted by organizational communication scholars crystallized by the phrase the organizing property of communication (TOPC; Cheney, 2001). The premise of these theoretical and ontological arguments is that organization is equivalent to communication and that the organization persists through time, not because of its material manifestations, but rather because of the aggregation of organizational members’ discursive exchanges (Boden, 1994; Cooren, 2000; Taylor & Van Every, 2000). Communication scholars are especially fond of this theoretical argument because it emphasizes discourse (e.g., watercooler conversation, superior-subordinate interaction) over material entity (e.g., a building, financial solvency) in the constitution of organization (Kuhn & Ashcraft, 2003). The premise has, no doubt, become a mainstream assumption in organizational communication research (Cooren, Taylor, & Van Every, 2006, Putnam & Fairhurst, 2001). However, few have sought to explicitly and empirically test the premise; and furthermore, few researchers have
managed to employ the premise in the creation of research that could be translated into useful organizational practice.

In the following sections, two major arguments are pursued. First, the presence of an organizing bias in TOPC research is identified and explained. Second, the practicality of overcoming this bias is defended in terms of its contribution to communication studies as well as its potential contribution to improving organizational practice.

An Organizing Bias

An organizing bias has occurred in the organizational communication literature with the popularity of the argument that communication is equivalent to organizing (Fairhurst & Putnam, 1999). The organization-communication equivalency argument is now mainstream in organizational communication (Fairhurst & Putnam, 2004) and was, perhaps, initiated by the advent of interpretive investigations of organizations (Putnam & Pacanowsky, 1983). Recently, in fact, Cheney (2000) noted interpretive investigations of organizations have uniquely contributed a reversal of the scholarly interest regarding “communicating in organizations” to a preoccupation with the “organizing features of communication” (emphasis original, p. 25). From this philosophical orientation, organization is essentially defined by the communication that coordinates members’ actions as they accomplish tasks to achieve superordinate goals (Miller, 2005). Thus, within the organizational communication literature, organization now refers to a wide variety of social interaction such as “professional associations, street gangs, virtual groups,
social movements, and more,” not merely corporate, for-profit enterprises (Cheney, p. 25).

The movement away from parochial definitions of organization has indeed encouraged a wellspring of investigations into communication aimed at coordinated action; however, a question rarely addressed by TOPC theorists is, what if members’ communication creates an inability to coordinate their actions in the achievement of superordinate goals? Does the organization cease to exist? Perhaps TOPC researchers’ eagerness to demonstrate the importance of communication in the constitution of organization has led to an organizing bias. The same argument that promoted the idea that organization exists in communication, if taken quite seriously, might also suggest the organization ceases to exist in communication that lacks essential organizing properties. The latter line of reasoning has not yet been fully investigated because TOPC research, thus far, often assumes communication is the central mechanism by which organizational members’ coordinate their actions to accomplish tasks. However, documented cases as well as anecdotal experiences indicate that communication can also be the source of organizational members’ inability to coordinate their actions in the accomplishment of tasks. Indeed, such an inability may be another form of organizational emergence, but no research has specifically made this link.

For example, Weick's (2001) reporting of the Mann Gulch disaster exemplifies a dramatic event in which an organization was quite literally destroyed when a team of young smoke-jumpers' communication produced in them an inability
to heedfully coordinate their activities through talk. The Mann Gulch disaster is, of
course, an extreme example of talk not producing the persistence of the
organization—a notion that is supportive of TOPC arguments because it demonstrates
the organizing property of communication by illustrating an exception that proves the
rule. Certainly, some properties of communication organize; though, no doubt, some
properties of communication disorganize. Due to this organizing bias, TOPC theory,
as currently presented, largely espouses the ability of communication to cause the
emergence of organization (Taylor & Van Every, 2000) but rarely accounts for talk as
a source of error and inefficiency in causing the dissipation of the organization.

This study seeks to test the premise that talk results in the persistence of the
organization by seeking cases of its opposite, where talk leads to error and
inefficiency, and thus, decay and dissipation. I do not mean to suggest that talk either
causes persistence (i.e., organizing) or causes decay (i.e., disorganizing). Rather, I
argue talk may cause both organizing and disorganizing [i.e., (dis)organizing]
simultaneously. (Dis)organizing may well be understood as a continuum between the
most disastrous of organizational communication events (e.g., Mann Gulch; Weick,
2001) and the most effective of organizational interactions, both of which are the
products of each members' turns at talk and the (dis)organizing property of
communication. Furthermore, this research contributes to TOPC theory by beginning
the work of specifying which features of talk create organizing and disorganizing.

The presence of simultaneous processes of organizing and disorganizing may
not be all that new. The idea of entropy and negative entropy are concepts in
thermodynamics and organization science that refer to the simultaneous and competing processes of decay and renewal in planetary, biological, and social systems (Clausius, 1887). Entropy, or decay, occurs in closed systems that are not consuming new sources of energy. Negative entropy, or growth, occurs in open systems that are consuming new sources of energy (Bailey, 1990; Klein, 1910).

Perhaps it should not be surprising that organizations, being dynamic social systems, function similarly to living organisms and are constantly in processes of decomposition and regeneration when they consume (or fail to consume) new sources of energy created (or not) in its members’ communication (Quinn & Dutton, 2005).

Beyond the extreme case of Mann Gulch, error and inefficiency are common in the most mundane of organizational interactions (Weick, 1990, 1995). The theoretical position tested here is whether talk is simultaneously organizing and disorganizing. If error and inefficiency emerge from even the cognitive constraint of language production and processing at the dyadic level, it will provide empirical support for the argument that communication may be simultaneously (dis)organizing. Testing the emergence of error and inefficiency in organizational talk takes the organization-communication equivalency argument seriously enough to presume that when communication fails, so too does organizing.

Practical Applications of TOPC

No research report has translated the philosophical insights of TOPC into useful organizational practice. Indeed, there is a vast intellectual chasm between these important ontological hypotheses and the context-laden nature of everyday talk in
organizations. This research report, however, seeks to bridge that divide by investigating a primary form of organizational discourse, instruction-giving and receiving.

**Usefulness of Instructions for Practice and Theory**

Instructions are an appropriate form of organizational talk to investigate because of their practical and theoretical significance. Practically, instruction-giving and receiving is a central communicative activity through which organizational members and boundary spanners coordinate their actions to accomplish tasks necessary to achieve superordinate goals. Numerous consequential public and private organizational tasks are primarily the function of instruction-giving and receiving. For example, managers employ instructions to coordinate employees’ actions. Customer service representatives give instructions to and receive instructions from customers. Nonprofit and social service organizations disseminate important information via instruction-giving to a variety of disadvantaged populations. Within civic organizations, police officers and national guardspersons employ instruction-giving to disseminate information during crises to greater or lesser effect (e.g., Hurricane Katrina). Likewise, hospital personnel instruct patients on medical information as a way of involving them in their healthcare decisions and therapy.

While instruction-giving and receiving is of practical importance, the process is also of theoretical value. The speech act theorists (Austin, 1962; Searle, 1969) argued instructions and commands (i.e., imperatives) are the central speech act which distinguishes the organizational context. After all, the work of the workplace is task
accomplishment via action coordination. Interestingly, TOPC theorists have, in fact, used this or similar arguments (e.g., Cooren, 2000) to support the premise that organization emerges in talk. The larger project of TOPC should be lauded for redirecting organizational communication scholarship away from talk about work or talk at work to a keen interest in talk as work and, thus, pushing us to balance our scholarly interests at the intersection of organization and communication. An investigation of the consequentiality of instruction-giving and receiving on task accomplishment is theoretically valuable in that it has the potential to confirm and challenge current theory that communication has an organizing property.

Psycholinguistic Research Analogies

This investigation focused on specific characteristics of language-use and action coordination in order to test the TOPC premise. No specific characteristics of language-use have been empirically demonstrated in organizational communication research to cause a reduction in action coordination, although Courtright, Fairhurst, and Rogers (1998) notably and empirically demonstrated characteristics of language-use caused the emergence of hierarchy. Thus, the researcher had to identify and select particular variables of language-use, which may facilitate or interfere with the accomplishment of a conjunctive task (i.e., action coordination). To find relevant variables, the researcher searched language and social interaction literature and discovered an interesting analogy to the present research objectives. Research on elderspeak, a unique speech register directed at older adults sometimes referred to as secondary baby talk, has shown the speech adjustment actually improves older adults’
accurate accomplishment of a referential communication task, despite often being
deemed offensive by older adults (Kemper, Vandeputte, Rice, Cheung, & Gubarchuk,
1995). Unlike decision making tasks, referential tasks are conjunctive activities that
require two or more persons to coordinate their actions with an object. Elderspeak is
psycholinguistically characterized by speech that is slow in rate, comprised of
numerous turns at talk, high numbers of words, simplistic in grammatical structure,
low in type/token ratios, propositionally dense, and containing numerous repetitions
(Kemper, et al., 1995). Thus, it stands to reason Kemper et al.’s (1995) operational
categories of talk (i.e., fluency, grammatical complexity, and semantic content) are a
logical starting point from which to investigate the influence of language-use
variations on action coordination.

A massive body of psycholinguistic research has confirmed the psychological
reality of language processing and has evidenced the premise that varying degrees of
sentence complexity lead to varying degrees of processing difficulty (i.e.,
Derivational Theory of Complexity; Carroll, 2004; Lively, Pisoni, Goldinger, 1994;
Zurif & Swinney, 1994). Psycholinguistic investigations tend to research at the level
of the word or sentence (Kintsch, 1994). What is less clear, however, is whether or
not processing difficulties at the sentence level aggregated across an entire discourse
will result in inaccurate and inefficient outcomes in coordinated activity between
persons. This research employs the insights of psycholinguistic research while also
contributing a distinctively communication-oriented perspective by conducting
analyses at the discourse level.
A large body of research has indicated sentence content and structure influences reader and listener comprehension (for an overview, see Carpenter, Miyake, & Just, 1994). However, the literature to date does not explicitly investigate the effects of speaker activity, sentence structure, and content on listener execution of a referential communication task accurately and efficiently. Instruction-givers and receivers, especially in organizations, desire to achieve the highest level of accuracy in the least amount of time when completing referential communication tasks (Weick, 2001). Moreover, the need for competent organizational communication to be both accurate and efficient within organization may be analogous to Spitzberg and Cupach’s (1984) argument that competent relational communication needs to be both effective and appropriate. Thus, by investigating the effects of linguistic forms on both accuracy and efficiency, this study is able to offer practical and theoretical recommendations of interest for organizations.

Research Questions

Given the lack of empirical tests of the TOPC premise that there exists a property inherent in communication that enables action coordination and given the practicality of isolating characteristics of instruction-giving and receiving that could improve task accomplishment, the researcher asked:

RQ1: What is the relationship between organizational language-use (i.e., giving- and receiving-instructions) and organizing (i.e., task accomplishment)?
RQ2: What is the relationship between instruction-givers’ communicative activity, grammatical complexity, semantic content, instruction-receivers’ communicative activity, and instruction-receivers’ ability to accurately and efficiently accomplish a referential communication task, after controlling for instruction-receivers’ listening ability and unique conversational patterns arising from preexisting interpersonal relationships?

Study 1

Participants and Procedures

An experiment was chosen in order to systematically isolate the effects of language-use variations in instruction-giving and receiving on task accomplishment outcomes. Undergraduates enrolled in a variety of communication classes were invited via announcements by instructors to participate in an experiment for extra credit. Students came to a research laboratory in cohorts of ten to 18. In all, 150 participants were randomly assigned to one of two groups: instruction-givers and instruction-receivers. Instruction-givers and receivers were asked if they had spoken to any other present participant more than twice. When instruction-givers knew instruction-receivers the pair was noted and not assigned as conversational partners to control for unique conversational patterns arising from pre-existing interpersonal relationships. Throughout the cohorts, instruction-givers reported knowing instruction-receivers fewer than ten times. Participants read and signed consent forms.

Instruction-givers were then ushered into a separate room and given 15 minutes of training on the contents of a complex but typical administrative form (see
Appendix A). Instruction-givers were told repeatedly that their goal was to communicate instructions as quickly and accurately as possible to instruction-receivers and were repeatedly encouraged to modify the formal instruction sheet (see Appendix B) in order to improve the speed and accuracy of their delivery and the receiver’s comprehension. During training, many instruction-givers wrote notes to themselves on the formal instruction sheet. The referential communication task was a complex but typical organizational form, which contained 20 blanks and was to be completed by instruction-receivers guided by instruction-givers during the experiment (Appendix A). Forms were designed to ensure that information needed to accurately complete the blanks had to come from the instruction-giver.

While instruction-givers were trained on how to accurately complete the form, research assistants separately and simultaneously administered a subscale of the Watson-Barker listening test designed to capture listener’s ability to follow instructions and directions to instruction-receivers (WBLT; Watson & Barker, 1984). The administration of a WBLT subscale to capture particular aspect of listening ability has been found useful elsewhere (e.g., Rubin, Hafer, & Arata, 2000). Obtaining measures of participants’ listening abilities allowed the researcher to statistically control for variance in task accomplishment due to instruction-receiver capacity to follow instructions regardless of instruction-giver activity, grammatical complexity, semantic content, and instruction-receiver activity.

After randomly pairing instruction-givers and receivers, the dyads were ushered into a room and asked to introduce themselves. Dyads were prompted with
the scenario that the instruction-giver was acting as a representative of the university registrar and the instruction-receiver was acting the part of a student receiving instructions on how to fill out an important university document in order to be officially enrolled in classes. Pairs were asked to work together accurately and efficiently to complete the complex administrative form. Participants sat with their backs to one another in order to minimize nonverbal communication.

Dyadic interactions were recorded with digital voice recorders and table microphones and timed. Recordings were professionally transcribed and verified for accuracy by the author.

Analysis

Training and Coding

Two coders, a female and male, identified propositions, clauses, instructions, left and right branching clauses, and repetitions using published coded extracts from two interactions reported in Kemper, et al. (1995). Seven transcripts were randomly selected for training and practice purposes. Coder training was conducted six hours over two meetings. The transcripts used for training were recoded after all other coding was accomplished. Transcripts were unitized by verb phrase and clauses. Unitizing reliability was computed as percent agreement; measures of initial coding reliability and coder drift were computed as Krippendorff’s \( \alpha \) on a sample of seven and eight transcripts respectively (10%; see Table 1b; Hayes & Krippendorff, 2007; Krippendorff, 2004; Neuendorf, 2002). Also, in an effort to enhance validity coders
were not made aware of the overall purpose of the investigation until after coding was completed.

*Independent Variables*

Instruction-giver grammatical complexity was assessed by analyzing the syntactic structure of each utterance spoken by the instruction-giver. First, a global measure of grammatical complexity was calculated, mean number of clauses per utterance (MCU), which was computed by summing the number of main clauses and subordinate clauses and dividing by the total number of utterances. Additionally, two measures of subordinate clause occurrence were also computed, the incidence of left-branching clauses and incidence of right-branching clauses. Left-branching clauses were characterized as subordinate clauses that initiated main clauses and often occurred before the imperative verb of an instruction (e.g., “For blank 2, write a number 3”). Right-branching clauses were characterized as subordinate clauses that followed main clauses and often occurred after the imperative verb of an instruction (e.g., “Write a number 3 in blank 2, which is next to blank 4A”).

Giver semantic content was assessed by analyzing the amount of information embedded within each utterance spoken by the instruction-giver. Measures of semantic content included (a) type/token ratios, (b) propositions/100 words, (c) number of instructions, and (d) number of repeated instructions. First, type/token ratios—which represents the number of unique words divided by the total number of words spoken—were computed using SALT (Systematic Analysis of Language Transcripts; Language Analysis Lab, 2006). Second, number of propositions per 100
words was determined by counting the number of verb and noun phrase arguments and then dividing that number by 100 words to obtain a metric of propositional density. Third, number of instructions was determined by counting the number of imperative verb and noun phrase arguments that explicitly requested an action on the part of the instruction-receiver in filling out the administrative form (e.g., “Write a 2 in blank 4”). Fourth, number of repeated instructions was determined by counting the number of instructions that were spoken more than once and occurred within at least three turns at talk.

Giver and receiver activity were assessed by several measures (i.e., instruction-giver and receiver mean length of utterance, rates of speaking, utterance counts, and word counts). These measures were coded by the qualitative data analysis software, Systematic Analysis of Language Transcripts (SALT; Language Analysis Lab, 2006).

**Dependent Variable**

The dependent variable, task accomplishment, was created by computing an index representing both the number of wrong answers instruction-receivers recorded on their form and the time in seconds it took for them to complete the forms. Wrong answers on instruction-receivers’ forms were reliably coded (see Table 1b) because the formal instruction sheet and corresponding form were created in such a way as to ensure correct answers had to originate from instruction-givers and formal instruction sheets (see Appendix B). Time in seconds was determined by timing each dyad’s interaction with a stopwatch. Dyads were given as much time as they needed to
complete the task or voluntarily quit. Practically, both speed and accuracy are commodities needed simultaneously to achieve high task accomplishment in the workplace and elsewhere. A worker who accurately completes a task but does not finish in time to meet prescribed deadlines has failed to accomplish a task; likewise, a worker who accomplishes a task quickly but inaccurately has also failed to accomplish a task.

Contrary to popular assumption, speed and accuracy in task accomplishment are not necessarily inversely related, especially when recognition of and reaction to language-use is the essence of the task. For example, in psycholinguistic research, Vitevitch (2002) conducted a series of five experiments and demonstrated that multiple word forms are aroused in the mind simultaneously and affect both the speed and accuracy of speech production. Similarly, Meyer, Schvandeveldt, and Ruddy (1975) demonstrated associated word-contexts improve both speed and accuracy in word recognition. Thus, research findings suggest that it may be possible to locate message designs of instruction-giving that improve both the accuracy and efficiency of task accomplishment.

As further evidence that speed and accuracy are not necessarily inversely related, there was a lack of correlation between number of errors on instruction-receivers’ forms and the time in seconds it took for dyads to complete the task, \( r(73) = -.13, n.s. \) Thus, because of the practical and theoretical importance of understanding task accomplishment as a product of both accuracy and efficiency, an index was computed to combine both measures into a single dependent variable. The accuracy-
efficiency index (AEI) was derived by computing a raw \( z \)-score for both number of form errors and time in seconds it took for dyads to complete the referential communication task. Then, the two raw \( z \)-scores were summed. Because the resulting distribution contained some negative numbers, an additional calculation was made to create \( T \)-scores (Cohen, 2001). A \( T \)-score calculation centers the mean of a distribution at 50 and each standard deviation at multiples of 10.

**Control Variables**

Two variables were specifically controlled. Obtaining measures of instruction-receivers’ listening abilities before the experiment allowed the researcher to statistically control for variance in the dependent variables due to an instruction-receiver’s capacity to follow instructions regardless of instruction-giver activity, grammatical complexity, and semantic content. Also, as previously mentioned, unique conversational patterns arising from preexisting interpersonal relationships were experimentally controlled.

**Statistical Analysis**

The relationships among the fifteen independent variables and dependent variable, after controlling for listening ability, was determined using a statistical regression analysis method of entry (Cohen, 2001; Green & Salkind, 2005; Pedhazur, 1997). Unlike sequential regression in which the researcher controls the entry of variables into a prediction model, in statistical regression “statistics computed from sample data control the order of entry. Statistical regression is, therefore, a model-building rather than model-testing procedure” (Tabachnik & Fidell, 2000, p. 138). A
statistical regression analysis was appropriate in this circumstance for at least two reasons. First, no other organizational communication research has so specifically conducted experimental research on instruction-giving and receiving—the central speech act which distinguishes the organizational context (i.e., imperatives; Searle, 1969). Therefore, no specific models were available for testing. Second, the model-building procedure was then partially verified in the third experimental study reported here in order to enhance the credibility of the analysis.

**Collinearity Diagnostics**

Because two of the five significant predictors in the model were not significantly bivariately correlated with AEI, the researcher computed two measures of collinearity diagnostics in order to determine if the model contained an inflated $R^2$ measurement. First, the researcher reviewed variance inflation factors (VIF) for the five significant independent variables; VIF statistics for each predictor were within tolerance levels. Second, the researcher computed a condition number (CN), a measure of collinearity. CN estimates above 1.0 indicate the presence of collinearity; estimates above 30 indicate moderate to strong collinearity (Belsely, 1991; Belsely, Kuh, & Welsch, 1980). For the parsimonious model of five significant independent variables, collinearity in the model is approaching moderate levels, CN = 23.39.

Thus, because VIF scores were within tolerance, the CN estimate was not severe, and many relationships among independent variables could be explained both statistically and theoretically, as is discussed in the results section, no variables were removed from the model.
Results

Correlations between the fifteen independent variables, time in seconds, number of errors, and the accuracy-efficiency index are provided in Table 2. When modeled together, regression analysis indicated that five of the independent variables significantly and parsimoniously predicted task accomplishment better than chance levels, $R^2 = .48$, $F(6, 68) = 10.63, p < .001$. Table 3 provides an overview of descriptive statistics. Table 4 provides an overview of the regression analysis.

Instruction-giver Communicative Activity

A significant effect for number of instruction-giver words revealed that the fewer words spoken by instruction-givers, the better instruction-receivers performed in accomplishing the referential communication task (i.e., AEI), $\beta = .84, p < .001$, $pr^2 = .48$, after controlling for listening ability. Additionally, a significant effect for instruction-giver rate of speech revealed that the faster instruction-givers spoke, the better instruction-receivers scored on the accuracy-efficiency index, $\beta = -.51, p < .001$, $pr^2 = -.41$, after controlling for listening ability. Because rate of speech was not significantly bivariately correlated with AEI and yet was a significant predictor of AEI, the researcher sought to determine if a moderation effect was present between number of instruction-giver words and instruction-giver rate of speech. Interestingly, a significant interaction effect revealed that few instruction-giver words combined with a fast rate of speech interacted to produce significantly better task accomplishment (see Figure A), $R^2 = .43$, $F(3, 71) = 17.18, p < .001$. 
A significant effect for number of instruction-giver utterances, or turns at talk, revealed that the more turns at talk taken by the instruction-giver, the better instruction-receivers performed in accomplishing the referential communication task, $\beta = -.71$, $p = .001$, $pr^2 = -.30$, after controlling for listening ability. Interestingly, close inspection of the correlation matrix revealed an unusual occurrence. Number of instruction-giver utterances was significantly and positively bivariately correlated with AEI, $r = .30$, $p < .01$; however, when entered into the regression model, it showed a strongly negative predictive relationship, $\beta = -.71$. Additionally, the semi-partial correlation of number of instruction-giver utterances, $sr = -.39$ exceeded its zero-order correlation, $r = .30$.

Thus, number of instruction-giver utterances emerged as a suppressor variable for scores on the accuracy-efficiency index.Suppressor variables function to suppress irrelevant variance in other independent variables (Conger, 1979; Pedhazur, 1997; Tabachnik & Fidell, 2000). Some researchers prefer the term, enhancer variable, especially when the dynamic can be theoretically explained (Paulus, Robins, Trzesniewski, & Tracy, 2004). In essence, high numbers of instruction-giver turns at talk functioned opposite of mediation in that instead of reducing the association between other predictor variables and AEI, high numbers of instruction-giver utterances cleansed instruction-giver words, $r = .70$, $p < .001$, and instruction-receiver words, $r = .81$, $p < .001$, of some variance that did not improve task accomplishment. 

*Instruction-receiver Communicative Activity*
A significant effect for number of instruction-receiver words revealed that the fewer words spoken by instruction-receiver, the better instruction-receivers performed in accomplishing the referential communication task (i.e., AEI), $\beta = .70$, $p < .01$, $pr^2 = .27$, after controlling for listening ability. Additionally, a significant effect for mean length of instruction-receiver utterance revealed that the longer instruction-receivers held the floor during those times they did speak, the better instruction-receivers scored on the accuracy-efficiency index, $\beta = -.38$, $p < .01$, $pr^2 = -.23$, after controlling for listening ability. Interestingly, close inspection of the correlation matrix again revealed a suppressor situation. Mean length of instruction-receiver utterance was positively bivariately correlated with AEI, $r = .20$, $ns$; however, when entered into the regression model, it showed a significantly negative predictive relationship, $\beta = -.38$, $p < .01$. Additionally, the semi-partial correlation of mean length of instruction-receiver utterance, $sr = -.31$ exceeded its zero-order correlation, $r = .2$.

Thus, mean length of instruction-receiver utterance, similar to the number of instruction-giver utterances, emerged as a suppressor variable for AEI. In essence, a high mean length of utterance for instruction-receivers functioned opposite of mediation. Instead of reducing the association between other predictor variables and AEI, a high mean length of instruction-receiver utterance cleansed instruction-receiver words, $r = .65$, $p < .001$, of some variance that did not produce better task accomplishment.
Study 2

Manipulation Check

The second experiment proceeded as a manipulation check. Because many have posited an organizing property of communication (Cheney, 2001), it was decided that comparing dyads’ task accomplishment to individuals’ task accomplishment was relevant in order to answer the question whether more communication led to better task accomplishment. Three $t$-tests were calculated to determine whether or not the manipulation of communicating to create task accomplishment was valid. Eighteen undergraduates signed up for the same 45 minute period and came to a research laboratory. Similar to study 1, they were given fifteen minutes of training on how to complete the administrative form. Then, they were asked to complete the form as though they were their own instruction-receivers. Participants signed consent forms and were timed. Not surprisingly, individuals completed the forms significantly faster, $t(83.25) = 14.35, p < .001, \eta^2 = .69$, significantly more accurately, $t(54.56) = 5.877, p < .001, \eta^2 = .28$, and with significantly better overall task accomplishment (i.e., AEI), $t(62.32) = 14.39, p < .001, \eta^2 = .69$, than did the dyads. Collectively, these findings provide evidence that the manipulation within study 1--communicating for task accomplishment--was successful and provides a baseline by which to interpret findings.
Study 3

Participants and Procedures

A third experimental study was conducted in order to partially verify the statistical regression analysis conducted in study 1. The moderation effect rate of speech and number of instruction-giver words on AEI were the variables of interest for this study. Undergraduates enrolled in a variety of communication classes were solicited via announcements by instructors to participate in an experiment for extra credit. Students came to a research laboratory in cohorts of 40 to 50. In all, 342 participants were randomly assigned to one of three manipulations. Participants read and signed consent forms.

Manipulations

Three manipulations were created to mimic instructions produced by instruction-givers in study 1 that resulted in the lowest AEI, mean AEI, and highest AEI—hereafter labeled as low, moderate, and high instruction complexity, respectively. The regression equation computed in study 1 was used to calculate how many instruction-giver words at what rate of speech was needed to reproduce results. All three recordings were made by the researcher in order to control for variance due to instruction-giver prosody. Also, recorded manipulations were digitally masked by reducing vocal frequencies between 100 and 200 Hz to -12 dB in order to control for variance created by participants’ prior knowledge of the researcher.

After randomly assigning participants (i.e., instruction-receivers) to one of three manipulations, participants were prompted with the scenario that they were
about to hear a recording of a representative of the university registrar. Participants were told they were acting the part of a student receiving instructions on how to fill out an important university document in order to be officially enrolled in classes. Participants were asked to work as accurately and efficiently as possible to complete the complex administrative form (i.e., the same form used in study 1). Participants completed the form while listening to instructions provided by the recording. Also, a stopwatch was enlarged via projection and participants were asked to record their time as soon as they were finished following the registrar’s instructions.

Analysis

Because the coding of errors on instruction-receivers’ forms was so codified and statistically reliable in study 1 (see Table 1b), the researcher coded errors on instruction-receiver forms and had a research assistant recode 5% of the data; Krippendorff’s $\alpha = .99$. Then, a one-way analysis of variance (ANOVA) was computed in order to determine if significant differences existed between instruction-receivers’ task accomplishment across the three manipulations.

Results

Results of the ANOVA indicated that the three groups significantly differed in their task accomplishment (i.e., AEI), $F(2, 339) = 428.78, p < .001, \eta^2 = .72$. A post-hoc Fisher’s Least Significant Difference (LSD) procedure indicated that, as predicted by the regression equation derived in study 1, the low instruction complexity manipulation with the fewest words spoken at a fast rate produced significantly lower AEI scores ($M = 32.51, SE = .84$) than the moderate instruction
complexity \((M = 49.84, SE = .84)\) and high instruction complexity manipulations \((M = 66.89, SE = .82)\). Additionally, the moderate instruction complexity manipulation produced significantly lower AEI scores than did the high complexity manipulation.

**Discussion**

The objective of this research was two fold: To test the premise that there is an organizing property of communication and to leverage this insight in the creation of recommendations for organizational practice. Both objectives were achieved.

The researcher, through the use of a series of experiments, discovered features of talk that facilitated organizing as well as features of talk that reduced organizing. This research confirmed that there is an organizing property of *some* communication; however, it has also challenged the organizing premise by demonstrating some types of communication result in disorganizing. Written differently, this research demonstrates that talk is indeed a central mechanism by which persons coordinate their actions to accomplish goals. Simultaneously, however, most talk also contains features that interfere with persons’ ability to coordinate their actions. Thus, the evidence presented here suggests that communication is better thought of as having a *(dis)organizing* property in the sense that talk often contains features that simultaneously facilitate and interfere with action coordination.

Regarding the first research question, what is the relationship between organizational language-use (i.e., instruction-giving and receiving) and organizing (i.e., task accomplishment), two major findings are advanced. First, organizational language-use facilitates organizing. Second, organizational language-use interferes
with organizing. Seemingly paradoxical, speech acts employed in instruction-giving and receiving are necessary for persons to coordinate their actions. However, not all instructions are created equal. Some language-use is cumbersome, ambiguous, complex, and imprecise. When instructions contain these features, coordinated action is impeded. Rather than presenting a paradox, this research demonstrates what anecdotal work experience in organizations so often reveals: Talk is the organization’s ally and enemy.

In light of these arguments, the organizing property of communication (TOPC) theory needs to be revised. The argument that organization is essentially a product of communicating was indeed ground-breaking and has provided important ontological and theoretical grounding for organizational discourse research. The present research, however, confirms and challenges that premise by empirically demonstrating some features of talk facilitate task accomplishment, while other features of talk actually interfere with task accomplishment. Interestingly, the majority of cases collected and analyzed here contained features of talk that both facilitated and interfered with task accomplishment. Thus, it may be more accurate to describe communication as having a (dis)organizing property in that communication can be organizing, disorganizing, and, likely, both simultaneously. From this new theoretical perspective, it is more appropriate to refer to the ontology of organization as both emerging (Taylor & Van Every, 2000) and dissipating from within talk. Additionally, Kuhn and Ashcraft (2003) famously called for a unifying communicative theory of the firm. The present research begins to answer that call by
explicitly testing the causal associations between language features and action coordination.

The construct of organizing in these experiments was essentially reduced to action coordination. Organizing also involves processes of relational creation, maintenance, and termination. However, it stands to reasons that without action coordination, organizing is, at best, impotent, and at worst, nonexistent. Future studies should parse the internal dynamics of relational and task talk as they come to be processes of organizing.

Regarding the second research question, what is the relationship between instruction-givers’ communicative activity, grammatical complexity, semantic content, instruction-receivers’ communicative activity, and instruction-receivers’ ability to accurately and efficiently accomplish a referential communication task, after controlling for instruction-receivers’ listening ability and unique conversational patterns arising from preexisting interpersonal relationships, three major findings are advanced. First, these data revealed a moderation effect between number of instruction-giver words and instruction-giver rate of speech. When instruction-giver words remained low and were combined with a reasonably rapid rate of speech, they interacted to enhance task accomplishment. The findings that fewer instruction-giver words produce better task accomplish is interesting given the argument that there is an organizing property of communication (Cooren, 2000). An unsophisticated reading of this phrase might lead one to presume that more communication should lead to more organizing. Of course, that reading is likely not the intention of most TOPC
theorists; however, this finding again sensitizes organizational communication scholars to the truth that communication is powerful and fewer words, might, in fact, be better because words have as much power to create an inability to coordinate action as they do to improve coordinated action.

Second, these data revealed a suppression effect for number of instruction-giver utterances (i.e., turns at talk) and number of instruction-giver and receiver words. In other words, turn taking did not enhance task accomplishment per se. Instead, turn taking reduced the amount of irrelevant variance in instruction-giver and receiver words. Turn taking encouraged the emergence of clarification and correction functions of conversational repair (Button, 1992) and cleansed the working dyads’ communication of extraneous and erroneous information.

Third, these data revealed a main effect for number of instruction-giver words and another suppression effect for mean length of instruction-receiver utterance. When instruction-receiver words remained low, task accomplishment was enhanced. This may be due to an indication that instruction-receivers comprehended well and did not need clarification. Another suppression effect was discovered for mean length of instruction-receiver utterance. When the mean length of instruction-receiver utterances were high, task accomplishment was enhanced. While the combination of these findings might sound contradictory, they are not. A high mean length of instruction-receiver utterance indicated, in context of the other predictor variables, that when instruction-receivers frequently but briefly confirmed their comprehension to the instruction-giver, yet held the floor a few instances throughout the discourse
when they believed their comprehension was inadequate until clarification was achieved, task accomplishment was enhanced. The effect of holding the floor in a few instances of inadequate comprehension worked to cleanse instruction-receiver words of irrelevant variance that may have occurred when some instruction-receivers briefly confirmed comprehension to the instruction-giver without actually understanding. These findings are potent and nuanced explanations of conversational features which facilitate and interfere with action coordination and, thus, organizing.

In addition to the important theoretical contributions made by this research, practical applications of these findings are also apparent. The parsimonious regression equation derived by the first experiment and partially validated by the third experiment provides insights for instruction-givers, instruction-receivers, and the dyad on how to improve task accomplishment. Instruction-givers should concisely convey their instructions in as few words as possible and speak at a reasonably rapid rate (approximately 109 words per minute). Instruction-receivers should limit their words to short but frequent indications of confirmation when comprehension seems adequate (e.g., yes or okay), except in the instance when comprehension seems inadequate. In these instances, the instruction-receiver should take and hold the floor long enough to achieve adequate comprehension and then return to short but frequent indications of confirmation. Together, the dyad should take frequent turns at talk. All other factors being equal, these practical recommendations should improve task accomplishment in accuracy and efficiency.
Despite the 15 psycholinguistic variables coded and tested for prediction of task accomplishment in this research, it is noteworthy that number of instruction-giver utterances (i.e., turns at talk) and mean length of instruction-receiver utterances were among the best predictors of task accomplishment. Turn taking has long been touted as the central mechanism through which persons coordinate their actions in the constitution of a society (Atkinson & Heritage, 1984, 1999; Garfinkel, 1967; Sacks, Schegloff, & Jefferson, 1974; Schegloff, 1999); and more recently, with the advent of TOPC theory, turn taking has been cited as the communicative method by which the organization itself emerges (Boden, 1994; Taylor, Cooren, Giroux, Robichaud, 1996; Taylor & Van Every, 2000). Both schools tend to make these claims based on conversation analysis (Markee, 2000; Pomerantz & Fehr, 1997; Psathas, 1995).

The present research is methodologically unique in that it supports these arguments with experimental and quantitative analyses. Moreover, the present research contributes a nuanced insight that conversation analysis could not have: Turn taking functions as a suppressor variable. In other words, turn taking does not improve organizing in isolation but as a dynamic cleansing agent for information sharing which results in organizing. In fact, according to bivariate correlation analysis, turn taking interferes with task accomplishment if viewed in isolation (see Table 2). However, when investigated in concert with information sharing (i.e., number of instruction-giver and receiver words), turn taking functions to purify and improve the communication that is continually becoming (or failing to become) the organization.
SIA Versus AIS Approaches

In chapter 1, I characterized the development of two philosophical schools, structured in action (SIA) and acted in structure (AIS) in contemporary organizational discourse research. These schools are distinct in their approach to the structure-agency debates in organizational communication. Both employ duality arguments to suggest that structure and agency are mutually constitutive. However, the schools' application of duality arguments is distinct. The growing dualism in duality arguments threatens the development of incommensurate perspectives in organizational discourse research. The present research demonstrates an area of potential synthesis between these approaches by highlighting an obstinate myopia present in each: Error and inefficiency in coordinated action are difficult to explain from either perspective given their organizing bias.

This research challenges SIA approaches by demonstrating that intersubjective agreement may not be enough to accomplish a task accurately and efficiently. In other words, dyads may have thought they were in agreement of the meaning of instructions despite the fact that errors abounded at times. This research challenges AIS approaches by demonstrating that texts may not be enough to force the emergence of organizing. Error and inefficiency abounded in the completion of texts (i.e., the referential task) in these experiments as a direct result of variations in language-use. Therefore, error and inefficiency, at least in part, forced a dissipation of organizing. Results of these experiments are not easily interpreted by either approach.
It will require a synthesis of, or addition to, SIA and AIS approaches to explain intersubjective error and dissipation in the organizing process.

Methodological Considerations

To my knowledge no researcher has explicitly tested the *organizing property of communication* premise with experimental methods. Experimental designs are reductionistic by nature of testing causality (Keyton, 2006). Within experiments all relevant confounding variables must be controlled in order to observe the effects of a given variable on another. To that end, some relevant variables to the *organizing property of communication* premise have been controlled in these experiments. First, there is a minor amount of text. I certainly agree that texts and policy account for much of the recalcitrance of the organization. However, as Boden (1994) noted, all rules sets are inherently incomplete to guide action in light of new contingencies. In other words, text and its application to organizational life are created and implemented in and through talk. Thus, because some features of talk were found to be a source of error and inefficiency it is likely texts proceeding from such talk would also contain error and inefficiency. Written differently, these experiments demonstrate that communication is simultaneously the source of the *emergent* organization (Taylor & Van Every, 2000) as well as the source of the *dissipative* organization. Most organizational discourse, therefore, probably contains features of talk and text characterized by competing levels of emergence and dissipation.

Second, these data are collected at the level of dyadic interaction. Many organizations are represented by the interactions of many more than two persons.
Organizational language and social interaction scholars have done a great deal of theorizing about how local interactions scale up to meet the global organization (e.g., Boden, 1994; Fairhurst & Putnam, 2004). While numerous nuanced theories are advanced in the literature, a common feature across these theories is the importance of the terra firma of individuals' talk in the accomplishment of tasks (Cooren, 2004). Thus, if talk is found to be a source of error and inefficiency at the dyadic level it is likely error and inefficiency would aggregate across the entirety of the organizational members’ discursive exchanges. In fact, Weick (1990) has theorized and historically demonstrated how small errors can be amplified and linked across a social system. While the present investigation is reductionistic in its approach to the relationship between local interactions and the global organization, it might be that small errors can lead to larger problems for the organization rather than small errors leading only to small problems (Weick, 1995, 2001). Furthermore, this reductionistic approach is consistent with the TOPC premise that argues organization emerges in talk (Taylor & Van Every, 2000).

Despite the unique methodological contributions of this research, some limitations exist. Because of the reductionistic nature of experimentation in order to test matters of causality, this research held constant many important features of TOPC theory. Working relationships, policy matters, and hierarchy are just a few interrelated social processes that have not yet been experimentally investigated but are critical to a more complete test of TOPC theory. Future research should employ experimental design in order to confirm and challenge TOPC theory regarding these
matters. Additionally, because much of TOPC theory is supported by either conversation analysis (e.g., Cooren, 2006; Taylor & Cooren, 2006), or just more theory (e.g., Cooren, 2000; Taylor & Van Every, 2000), it is imperative that organizational discourse researchers seek out new and old methods of testing and building theory if we are to remain dedicated to the principles of empiricism (Cooren, 1999; Fairhurst, 2007; Fairhurst & Cooren, 2004). One possible approach would be to combine conversation analytic procedures with experimental designs so that qualitative assessments of turns at talk could be linked and compared with relevant laboratory outcomes in order to build tentative hypotheses for future laboratory and field studies.

Additionally, linear regression was the method of data analysis for the first experiment. Results, however, are probably linear within certain limits. For example, results indicated that a reasonably rapid rate of speech improved dyads' task accomplishment. Almost certainly however, there is an extraordinarily rapid rate of speech that will result in a reduction of effective language processing. Because the regression analysis in the first experiment was computed on actual dyads' interaction and not a priori manipulations, the absolute linearity of results should be interpreted with caution.
Conclusion

The skillfully argued premise that organization emerges within talk has provided a firm ontological foundation for organizational discourse research. TOPC theory has provided the warrant necessary for communication scholarship to continue to be a shaping force in organizational science. However, the time has come to take the premise seriously enough to reexamine our first principle. Communication is the organization whether it causes order or decay. New frontiers of organizational discourse research should grapple with the meaning of (dis)organizing and seek to answer theoretical and practical problems associated with the emergence of organizational dissipation.
References


Appendix A

Your goal is follow the instructions provided by your partner to fill in these blanks as **quickly** and **accurately** as possible.

1. _______  
2. _______

---

EXEMPTIONS

- A B C D E F G (DMM 708.1) 12/15/2006 (DMM245/345.6)
- AIC 130 (permit pending) 3.

---

CERTIFICATION

The student’s signature certifies acceptance of liability for and agreement to pay any revenue deficiencies assessed on the this form subject to approval. If an agent signs this form in lieu of institutional marking, the agent certifies that he or she is authorized to sign on behalf of the student, and the student is bound by the certification and agrees to be subject to ensuring its delivery and all other rights thereof.

5. _______

---

NET EXPENSES

6.  
7.  

AD2.323.  
ITR distributions, where relevant…………………………………………………………………………10. __$.05___

---

Credits, where relevant………………………………………………………………….…AA.________
Taxable interest…………………………………………………………………………….AB.________
Foreign Government Documentation?   Yes  No

---

ADJUSTED PAYMENT DUE

Education Tax?  
Yes  No  Acct. No. C-006  
If no, listed in AC  
If yes, complete AA and AB

Please pay this amount:  
X 9B.
Appendix B

Read the instructions below to yourself. Then instruct your partner how to fill out his/her blank form by cooperating as quickly and accurately as possible. You can refer back to the instructions as necessary.

1. For blank one, have your partner indicate whether he or she is classified as an undergraduate, graduate, or faculty: Write “3” for undergraduate, a “2” for graduate student, or a “1” for faculty member.
2. For blank two, have your partner indicate whether he or she is male or female: “1” for female, or “2” for male.
3. For blank three, have your partner indicate whether he or she is currently pursuing or have already completed a degree in Communication Studies or Linguistics: Write “10” for Communication Studies, “5” for Linguistics, “1” for both, and “0” for neither of these.
4. For blank four, have your partner write the time, “3:30pm,” Include pm.
5. For blank four letter A, have your partner write “2”.
6. For blank five, have your partner indicate the current calendar year.
7. For blank six, have your partner add his or her answers to blank one to his or her answer to blank two.
8. For blank six letter A, have your partner subtract his or her answer to blank one from his or her answer to blank three.
9. For blank seven, have your partner add 60 minutes to his or her answer to blank four.
10. For blank eight, have your partner rewrite his or her answer to blank five.
11. For blank eight letter B, have your partner add his or her answer to blank one to his or her answer to blank six.
12. For blanks AA and AB, have your partner write the word “No.”
13. Have your partner place a check-mark through “No” next to “Foreign Government Documentation.”
14. For blank nine, have your partner only rewrite the hour in his or her answer to blank four.
15. For blank nine letter A, have your partner subtract his or her answer to five from his or her answer to two.
16. For blank nine letter B, have your partner add three years to his or her answer to blank number five.
17. For blank ten letter B, have your partner add his or her answer to blank two to his or her answer to blank three.
18. Have your partner sign their initials next to the “X” in the “Certification” and “Amount” boxes.
Table 1b

*Unitization, Intercoder Reliability, and Coder Drift Scores for Coded Variables*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unitization</th>
<th>Intercoder Reliability</th>
<th>Coder Drift</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Accomplishment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Errors</td>
<td>100%</td>
<td>.99</td>
<td>.99</td>
</tr>
<tr>
<td><strong>Giver Activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td>Number of words</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td>Rate</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td><strong>Giver Grammatical Complexity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean clauses per utterance</td>
<td>96%</td>
<td>.98</td>
<td>.98</td>
</tr>
<tr>
<td>% Right-branching clauses</td>
<td>96%</td>
<td>.99</td>
<td>.85</td>
</tr>
<tr>
<td>% Left-branching clauses</td>
<td>96%</td>
<td>.97</td>
<td>.99</td>
</tr>
<tr>
<td><strong>Giver Semantic Content</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type/token ratio</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td>Propositions/100 words</td>
<td>93%</td>
<td>.97</td>
<td>.99</td>
</tr>
<tr>
<td>Instructions</td>
<td>93%</td>
<td>.73</td>
<td>.84</td>
</tr>
<tr>
<td>Repetitions</td>
<td>93%</td>
<td>.83</td>
<td>.84</td>
</tr>
<tr>
<td><strong>Receiver Activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td>Number of words</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>SALT</td>
<td>SALT</td>
<td>SALT</td>
</tr>
</tbody>
</table>

*Note:* Unitization scores are expressed as percent agreement. Intercoder reliability and coder drift scores are expressed as Krippendorff’s α. SALT refers to those variables coded by Systematic Analysis of Language Transcripts (SALT).
Table 2

Correlations between Time in Seconds, Number of Errors, Accuracy-Efficiency Index, and Giver Activity, Grammatical Complexity, Semantic Context, and Receiver Activity including Listening Ability

<table>
<thead>
<tr>
<th>Variable</th>
<th>Time in Seconds</th>
<th>Number of Errors</th>
<th>Accuracy-Efficiency Index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Giver Activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>-.16</td>
<td>.07</td>
<td>-.07</td>
</tr>
<tr>
<td>Number of words</td>
<td>.79**</td>
<td>-.18</td>
<td>.46**</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>.69**</td>
<td>-.29*</td>
<td>.30**</td>
</tr>
<tr>
<td>Rate</td>
<td>-.19</td>
<td>-.04</td>
<td>-.17</td>
</tr>
<tr>
<td><strong>Giver Grammatical Complexity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean clauses per utterance</td>
<td>-.25*</td>
<td>.04</td>
<td>-.16</td>
</tr>
<tr>
<td>% Right-branching clauses</td>
<td>.38**</td>
<td>.05</td>
<td>.33**</td>
</tr>
<tr>
<td>% Left-branching clauses</td>
<td>-.28</td>
<td>.10</td>
<td>-.14</td>
</tr>
<tr>
<td><strong>Giver Semantic Content</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type/token ratio</td>
<td>-.60**</td>
<td>.12</td>
<td>-.36**</td>
</tr>
<tr>
<td>Propositions/100 words</td>
<td>-.35**</td>
<td>.01</td>
<td>-.26*</td>
</tr>
<tr>
<td>Instructions/form</td>
<td>.55**</td>
<td>-.11</td>
<td>.33**</td>
</tr>
<tr>
<td>Repetitions/instruction</td>
<td>.40**</td>
<td>.05</td>
<td>.34**</td>
</tr>
<tr>
<td><strong>Receiver Activity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>.40**</td>
<td>-.14</td>
<td>.20</td>
</tr>
<tr>
<td>Number of words</td>
<td>.70**</td>
<td>-.15</td>
<td>.42**</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>.69**</td>
<td>-.28*</td>
<td>.31**</td>
</tr>
<tr>
<td><strong>Listening Ability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.17</td>
<td>-.06</td>
<td>-.18</td>
</tr>
</tbody>
</table>

*Note: * $p < .05$. ** $p < .01$
Table 3

*Descriptive Statistics of Language Sample Analysis of the Referential Communication Task, Time in Seconds, Number of Form Errors, and Accuracy-Efficiency Index*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Task Accomplishment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time in Seconds</td>
<td>292.21</td>
<td>100.42</td>
</tr>
<tr>
<td>Number of Errors</td>
<td>3.31</td>
<td>2.22</td>
</tr>
<tr>
<td>Accuracy-Efficiency Index</td>
<td>49.99</td>
<td>13.17</td>
</tr>
<tr>
<td><strong>Giver Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>14.17</td>
<td>13.85</td>
</tr>
<tr>
<td>Number of words</td>
<td>372.36</td>
<td>140.19</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>31.53</td>
<td>12.64</td>
</tr>
<tr>
<td>Rate</td>
<td>77.54</td>
<td>17.21</td>
</tr>
<tr>
<td><strong>Giver Grammatical Complexity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean clauses per utterance</td>
<td>2.82</td>
<td>2.94</td>
</tr>
<tr>
<td>% Right-branching clauses</td>
<td>9.92</td>
<td>5.82</td>
</tr>
<tr>
<td>% Left-branching clauses</td>
<td>42.24</td>
<td>6.55</td>
</tr>
<tr>
<td><strong>Giver Semantic Content</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type/token ratio</td>
<td>0.31</td>
<td>0.06</td>
</tr>
<tr>
<td>Propositions/100 words</td>
<td>10.00</td>
<td>2.08</td>
</tr>
<tr>
<td>Instructions</td>
<td>21.27</td>
<td>3.06</td>
</tr>
<tr>
<td>Repetitions</td>
<td>2.51</td>
<td>2.11</td>
</tr>
<tr>
<td><strong>Receiver Activity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>2.88</td>
<td>1.45</td>
</tr>
<tr>
<td>Number of words</td>
<td>93.53</td>
<td>71.98</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>30.93</td>
<td>12.64</td>
</tr>
</tbody>
</table>
Table 4

_Parsimonious Regression Model of Independent Variables for Predicting the Accuracy-Efficiency Index Controlling for Listening Ability_

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Giver Activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of words</td>
<td>.08</td>
<td>.01</td>
<td>.84</td>
<td>5.52</td>
<td>.001</td>
</tr>
<tr>
<td>Rate</td>
<td>-.39</td>
<td>.08</td>
<td>-.51</td>
<td>-4.66</td>
<td>.000</td>
</tr>
<tr>
<td>Number of utterances</td>
<td>-.74</td>
<td>.21</td>
<td>-.71</td>
<td>-3.49</td>
<td>.000</td>
</tr>
<tr>
<td><strong>Receiver Activity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of words</td>
<td>.13</td>
<td>.04</td>
<td>.70</td>
<td>3.04</td>
<td>.003</td>
</tr>
<tr>
<td>Mean length of utterance</td>
<td>-3.44</td>
<td>1.29</td>
<td>-.38</td>
<td>-2.68</td>
<td>.009</td>
</tr>
<tr>
<td><strong>Listening Ability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.34</td>
<td>.86</td>
<td>-.04</td>
<td>-0.40</td>
<td>.693</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .48$, $F(6, 68) = 10.63$, $p < .001$.***
Figure A

Interaction Effect between Number of Instruction-giver Words and Instruction-giver Rate of Speech on Accuracy-Efficiency Index

Note. $R^2 = .43$, $F(3, 71) = 17.18$, $p = .001$. 
Chapter 3

Answering the “Now What?” Question

In the previous two chapters, I undertook to philosophically and empirically demonstrate a growing problem in contemporary organizational discourse theory. Specifically, the advent of the notion that organization emerges from within communication (Taylor & Van Every, 2000) and the related argument that there exists an organizing property of communication (TOPC; Cooren, 2000) have led to a particular theoretical myopia. Namely, scholars have ignored that organization also dissipates from within talk and there exists a disorganizing property of some communication.

Organizational discourse researchers have benefited from the ontological argument that communication is the essence of organization because it provides firm philosophical support for the relevance of communicative investigations of organizations. The previous two chapters do not necessarily challenge the notion that organization is ontologically located in talk. Rather, the previous two chapters have provided a considerable revision of theory by taking the assumption seriously enough to seek cases of its opposite, where talk results in individuals’ inability to coordinate their actions.

The experimental investigations presented in chapter two, similar to all experimental investigations, were reductionistic. Thus, important aspects of TOPC theory were excluded from the investigation. My future research program will now turn to employing a variety of methods in order to test the many important aspects of
TOPC theory. In the following sections, I describe how I will analyze the data I have already collected in order to answer more questions about TOPC theory. I proceed in three stages. First, I discuss each methods of analysis in turn, which will help me explore these data more completely. Second, I provide potential research questions that could be answered by employing each method. Finally, I discuss theoretical contributions these methods have the potential of making to a revision of TOPC theory.

Future Directions

1. Emergence and Dissipation of Working Relationships

An important aspect of organizing has altogether been ignored and controlled by the experimental approach presented in chapter 2: relationships. Communication is both relationally- and task-oriented. Of course, the organizational context is more decidedly unique by fact of its emphasis on task accomplishment, and therefore, task-oriented communication. This, however, is not to suggest that working relationships are an unimportant aspect of organizing. Indeed, it may be that many of the messages exchanged within an organizational are designed to maintain or create relationships despite the need to coordinate action and achieve superordinate goals. From within this context, the construct of working relationship is defined as the expectation that another individual, group, or organization is a desirable partner for accomplishing a conjunctive task. Thus, a major direction of my future research will be to understand the internal dynamics among the features of talk that facilitate or interfere with both task accomplishment and working relationships within organizations.
As a starting point for isolating aspects of working relationships addition data were collected. Four hundred ninety two participants described in chapter 2 completed a questionnaire after the task was completed. The questionnaire consisted of three measures and five demographic questions.

**Measures.** The task and social attraction dimensions of McCroskey and McCain’s (1974) Interpersonal Attraction Scale (IAS) were completed by participants after they attempted to accomplish the referential task. The third dimension of the IAS, physical attraction, is outside of the interests of this research. Task and social attraction measures reflect perceptions of respect and liking, respectively. McCroskey and McCain’s research on the measures reported internal reliability for task attraction to be .81 and social attraction to be .84.

Task and social attraction measures have been used in organizational contexts. For example, Johnson (1992) employed the task attraction measure in his investigation of the relationships between employees’ perceptions of their supervisors’ compliance gaining strategies and task attractiveness. Reported reliability of the task attraction scale was .70. Similarly, Wheeless and Reichel (1990) employed both the task and social attractiveness measures in their investigation of the relationships among employees’ perceptions of their supervisors’ communication styles, task, and social attractiveness. Reported reliabilities of the task and social attraction scales were .83 and .83.

In addition to the ten items that makeup the IAS, I have created four items to more specifically capture the development of a working relationship (e.g., I would not
like to work with this person in the future to complete a task). Combining validated measures with these new items may provide an interesting avenue for future research into the creation of a scale specifically for organizing relationship development.

Demographic questions. In addition to answering these measures, participants reported their sex, year in school, major, and work experience. Each of these demographic characteristics will provide useful starting points from which to begin to analyze these data.

I am able to conduct statistical analyses (i.e., correlation, regression, and multiple analysis of variance) of these data because 492 participants completed the affective measures and demographic items. With these data, I will answer the following questions:

RQ1: What are the relationships among task accomplishment and task and social attraction?

RQ2: Which combination of the 15 psycholinguistic variables best predicts high task attraction?

RQ3: Which combination of the 15 psycholinguistic variables best predicts high social attraction?

RQ4: What differences, if any, exist between instruction-giver and receiver task and social attractions with their partners?

Structural Equation Modeling

In addition to investigating working relationships via survey method, these data can also be used by adding more data to them. I propose to replicate
experimental study 1 and gather 75 more dyadic interactions from a similar undergraduate population. A total of 150 dyadic interactions would provide me with enough statistical power to move the analysis into the structural equation modeling (SEM) framework. Within SEM, I could conduct ordinary least squares (OLS) regression to determine the interrelationships among the endogenous variables of instruction-giver communicative activity, instruction-giver grammatical complexity, instruction-giver semantic content, and instruction-receiver communicative activity; and the exogenous variables of task accomplishment and working relationships (Brown, 2006; Rigdon, 1998). Since all data will be experimentally collected, the OLS regression equations will provide me with the ability to test questions of causality. Thus, employing an SEM analysis, I will answer the following research question:

RQ1: What features of talk facilitate or interfere with dyads' ability to accomplish a referential communication task and develop a positive working relationship?

These methodological approaches hold the potential of providing some interesting theoretical insights. Specifically, by adding a relational dependent variable, this line of research holds the potential to specify a communication competence construct for the organizational setting. In other words, Spitzberg and Cupach (1984) defined communication competence as the ability to strategically balance both effective and appropriate talk in interpersonal relationships. The creation of the accuracy-efficiency index may be thought of as a measurement of effectiveness.
in the organizational setting because effective speech in the workplace is essentially defined by accurate and efficient outcomes. Furthermore, task and social attraction scores and the working relationships scale may be thought of as measurements of appropriateness in the organizational setting because appropriate speech in the workplace may be defined by the creation and maintenance of working relationship.

2. Experimental Conversation Analysis

A majority of TOPC theory is based on either conversation analytic work or just more theory. The research described in chapter 2 constitutes a unique methodological contribution to TOPC theory given the fact that it is an experimental design combined with content analysis. It may, however, be heuristically useful to employ conversation analysis (CA) to these collected data for at least two reasons. First, a CA approach will be more recognizable as a standard TOPC contribution, and thus, perhaps, more publishable. Second, and simultaneously however, a conversation analysis of experimentally collected data will represent a unique application of CA methodology. A strength of CA is the method's ability to capture microscopic recurrent patterns within conversation that may have major consequences for relationships and task accomplishment. Usually, conversation analyses are conducted on portions of naturally occurring talk (Pomerantz & Fehr, 1997; Sacks, Schegloff, & Jefferson, 1974). A primary reason for conducting CA on naturally occurring talk is to improve the ecological validity of findings, especially given that conversation analysis often lacks internal validity and control (Markee, 2000; Psathas, 1995).
Weak internal validity and control of conversation analysis will be partially remedied by conducting a CA on these experimentally collected data. The experimental design provides me with an opportunity to conduct a conversation analysis on talk that has been connected to a specific task accomplishment outcome (i.e., an AEI score). Krippendorff (2004) explained that excellent examples of content analysis connect findings to more empirical evidence in series of arguments that allow the analyst, operating as a meta-interpreter, to make inferences from particulars in context to particulars in context (i.e., abduction). It is likely the inferential logic of conversation analysis may work in a similar fashion and be methodologically improved by connecting analytical results (i.e., interpretation in context) to systematically collected laboratory interactions (i.e., interpretation in context).

I propose to conduct a CA on the three interactions that resulted in the best task accomplishment and the three interactions that resulted in the worst task accomplishment. Additionally, I propose to conduct a CA on the three interactions that resulted in the best working relationships as well as the three interactions that resulted in the worst working relationships. A CA of these statistically different transcripts provides a ready-made point of comparison. Furthermore, a CA of these data will likely be fruitful given that a regression analysis has determined that high number of turns at talk is a major predictor of task accomplishment. Thus, in deductive fashion, I will begin by knowing a difference exists in the outcome of the sets of interactions and employ conversation analysis to determine if there are microscopic recurrent patterns within those transcripts that may help to explain the
difference in task accomplishment. Conducting a conversation analysis on experimentally collected data will allow me to answer the following research question.

RQ1: What interaction patterns are unique to talk that resulted in high and low task accomplishment?

RQ2: What interaction patterns are unique to talk that resulted in strong and weak working relationships?

A conversation analysis of experimentally collected data holds the potential of providing some interesting theoretical insights. In the first experiment reported in chapter 2, turn taking was determined to function as a suppressor variable for other independent variables in the model. A conversation analysis may allow me to specifically show this function from within the transcripts themselves. Discerning points within transcripts where the suppressor function of turn taking is present will be a useful contribution to theory by way of its descriptive power. Additionally, the characterization of this interactional pattern will contribute to organizational theory by articulating how it is that organization emerges from within talk. However and perhaps more theoretically exciting, a conversation analysis of these data holds the potential of locating interactional patterns that reduce turn taking and its suppressor function. Such a characterization of interactional patterns will contribute to organizational theory by articulating how it is that organization dissipates from within talk.
3. Task Typology

Another important future direction for this research will require new data collection. Specifically, a typology of communication tasks within organizations needs to be created. All tasks are not created equal; however, the experimental approach taken by chapter 2 somewhat presupposes that they are. In order to remedy this reduction of organizational tasks, I need to determine what sort of language production and processing tasks are common in the workplace. In order to achieve a cataloguing of tasks, I will create a series of open-ended questions about referential tasks at work as well as the relative importance of accuracy and efficiency in the completion of these tasks. An online survey platform, like SurveyMonkey, will allow me to get a large snowball sample of geographically dispersed and occupationally diverse participants. Then, I will conduct a post-positivistic form of constant comparative analysis to determine if a typology of referential tasks can be constructed from the data. A typology of referential tasks common in the workplace will provide yet another avenue for creating more nuanced models of instruction-giving and receiving.

Having survey data regarding the type and frequency of language production and processing tasks in the workplace would allow me to answer the following questions.

RQ1: What types of referential communication tasks are common in the American workplace?
RQ2: How frequent are these types of referential communication tasks in the American workplace?

Answering these research questions has the potential of contributing to the work of McGrath (1984) in the creation and refinement of a communication task circumplex. The task circumplex locates all tasks on the theoretical dimensions of generation-negotiation, choosing-executing, and collaborating-conflict resolving. While Straus (1999) provided an interesting experimental test of the circumplex, the approach outlined above could empirically answer how frequently the different aspects of these dimensions occur in the American workplace.

Conclusion

The methodological approaches and theoretical horizons proposed here are meant to be merely a discussion starter for the refinement of my research program. After all, a community of thinkers, colleagues, and scholars undoubtedly improves accomplishing the task of research—a process of interaction much like the purifying function of turn taking, and indeed of the organizing property of communication.
References


