5

Understanding the Writing Context in Organizations

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Writing "Understanding the Writing Context in Organizations" was exciting for me because it brought together in a single model salient issues in two quite different projects I was working on: a study of communication processes in a fairly large mutual fund company and an analysis of the interaction between the Morton Thiokol engineers and the NASA managers just before the Challenger shuttle disaster. The model offers the notion of "situation," which represents writers' and readers' understandings of converging contextual factors and affects their processes of composing and interpreting.

At the time editor Myra Kogen began working on the *Writing in the Business Professions* collection, I felt considerable frustration with both of my projects because applying organizational communication models, cognitive models of composing, and models of industry competition explained only some of the differences I had observed. Three of my favorite mentors from quite different fields, Robert Cox (linguistics), Doug Tuggle (business strategy and psychology), and Lewis Roht (epidemiology), had repeatedly emphasized testing theory and assessing differences in models. "What's wrong with this model? What isn't it telling us?" Roht would repeat daily. It was good advice.

In the mutual fund company, groups of employees who shared the same beliefs and values nonetheless achieved different results, and a persuasive, expert writer produced legally unacceptable copy. Why? In my second project, the transcripts of the Challenger disaster showed disjunctive sequences of argument on the part of the Thiokol engineers and of the NASA managers. They didn't appear to be working from the same script. Why? Other scholarly studies of the Challenger disaster were interesting, but they didn't explain the pattern I was seeing—and hearing: participants kept mentioning what kind of situation they were in and what that situation required, both in the government transcripts and in the company offices. A model of context that included "situation" made it easier to see where problems arose. It represented the convergence of several contextual factors and the trigger for communicators' responses. This model turned out to complement the analysis of experts' problem formulation in another mutual fund company that Linda Flower wrote for the same volume.

Today the development of electronic communication networks and the globalization of business require that the model I proposed be modified to reflect the influences of technologies and intercultural/international interactions. Nonetheless, looking back after almost twenty years, I

From *Writing in the Business Professions,* edited by Myra Kogen, 125–145. Urbana, IL: National Council of Teachers of English, 1989.

am pleased that the article's two case studies—the ethics of investment communication and risk communication in the space program—are still timely. At present the actual cause of the space shuttle Columbia's disintegration is undecided, and the role of communication in the disaster is unknown. However, the model of the context for organizational communication seems likely to benefit communication scholars who follow that case as it unfolds. It also seems quite obviously relevant in the scandals involving financial analysts and CEO misconduct. The next challenge, besides accounting for the role of international/intercultural and technological influences, is to apply models to prevent problems instead of analyze them. Influencing larger spheres through research should now be our goal.

Linda Driskill

WORK CITED

Flower, Linda. "Rhetorical Problem Solving: Cognition and Professional Writing." *Writing in the Business Professions.* Ed. Myra Kogen. Urbana, IL.: NCTE, 1989. 3–27.

New attention has recently been given to writers' knowledge of situations and procedures in organizations. The success of many business documents seems to depend on factors outside the genre features taught in textbooks or beyond commonly investigated cognitive processes. Studying the writing decisions of analysts in a state agency, Odell found that knowledge of other departments' needs, an understanding of the agency's interests, and experience with readers' reactions to similar documents affected individuals' writing goals as well as many decisions on content, organization, and word choice.[1] The chief value of context is its usefulness in explaining the types of meanings writers attempt to express, and readers expect to interpret, in specific situations.

THE IMPORTANCE OF THE WRITING CONTEXT

The way the writing context can influence the creative and interpretive processes of writers and readers can be seen in the example of a new mutual fund's brochure headline. The new fund used a market timing approach to investing, which means that it followed technical indicators to attempt to invest in stocks only when stock prices were rising. The headline for the direct mail piece sounded full of punch to the advertising agency writer:

> When you want both safety and growth for your capital, timing is everything! And the time is right, right now.

The interplay of different meanings for *timing* and *time* were better than so much of that dry investment language, the writer thought, and he went on with another subheading: "The easy and strategic way of taking advantage of stock market trends." The headline looked attractive to the marketing people, who were eager to spread their enthusiasm for their new fund.

However, the lawyer for the industry's regulatory body, the National Association of Securities Dealers (NASD), judged the language unacceptable and did not approve the piece. The language implied that the reader stood only to benefit by investing in this fund. Further, it implied that the investor's money would be safe as the value of the investment grew. The risks of the investment were not mentioned. As a result, despite talent and creative effort, considerable expense and time were lost.

The error was both the fault of the agency writer, who lacked knowledge of the NASD's standards, and of the company, which had not hired writers with legal expertise or structured its review process to assure detection of the unacceptable language.[2] Many investment brokers use only literature that has been ap-

proved by the NASD because they fear lawsuits by investors. A plaintiff would surely have a greater chance of success if unapproved literature were involved.

An awareness of the effects of specific situations, company procedures, and factors inside and outside the company has come to be known as the "business savvy" that only the experienced can apply in a writing situation. Many writing instructors, for example, would not know of the NASD and its standards for the literature of investment companies. Such awareness can be the difference between an expert writer and a novice, yet not all experienced workers are expert writers. Employees and managers, as well as teachers, consultants, and researchers, need good analytic tools and guides for writing decisions. This article presents a conceptual tool to help writers systematically tap the contextual sources of corporate savvy that affect communication success. It first discusses current theoretical models' inattention to the context for writing and the meaning of documents. It then presents components of a model of the organizational context for communication and discusses how the model can systematize organizational savvy for the benefit of teachers, consultants, and writers in companies.

WHY CURRENT MODELS NEGLECT CONTEXT

Current models and theories of business communication tell little about the effects of context on writing processes. Most theoretical positions seem to have one of three orientations: One group attends to *particular aspects of communication events,* including genres (such as letters, reports, meetings, and presentations), the individual writer's processes, or communication technologies. The second emphasizes *communication systems and their abstract properties,* such as flexibility and direction of flow. The third, recently proposed by Faigley, urges interdisciplinary research into the social aspects of writing.[3]

APPROACHES ATTENDING TO PARTICULAR ASPECTS OF COMMUNICATION

Genres and traditional rhetorical modes (comparison, analysis, etc.) have been the bases of communication courses focusing on types of communication events or genres: the formal report, the interview, the sales letter, etc. Many textbooks are organized to serve such courses, which emphasize features of format and abstract patterns of organization, rather than (1) what is meant or understood, and (2) how these meanings matter in the context of the organizational situation.[4] These courses focus on the means for expressing meaning, not the meanings themselves.

Another narrowly focused approach has been the study of individuals' writing behavior, usually in a laboratory setting with fictional writing assignments. Courses based on this approach have emphasized individual writing strategies, especially for invention and arrangement. Studies of individuals' cognitive processes can help distinguish between experts' and novices' strategies and identify types of writing plans. Most of this research has involved fictional settings because of a desire to standardize the situation and facilitate comparison.

Recently, attention has been focused on the effects of different technologies, such as electronic mail, dictating systems, and word processing on communication. These studies tend to overlook context and to focus instead on the technology as the source of behavior. These studies sometimes are linked with investigation of individuals' processes or with surveys of workplace practices.[5] Each of these focused approaches may reveal valuable insights, but each is likely to be incomplete, to overlook some aspects of the writing context.

SYSTEMS APPROACHES TO ORGANIZATIONAL COMMUNICATION

Although the systems approach seems to involve writing contexts, its theorists are concerned neither with meaning nor with transactions among individuals. For example, the structural-functionalist communication scholars, whose assumptions are consistent with structural-functional management theory, think of the company as a large, abstract machine:

> Structural-functionalism requires that traits or concepts that are vital to the continuance and performance of the organization be specifically identified. Furthermore, the investigator is charged with the task of specifying the *mechanisms* within the organization that bring about the desired levels

> of those traits. Consequently, if degree of flexibility, directionality of message flow, message initiation, innovation/maintenance messages are the traits under scrutiny, structural-functionalism requires one to search for those key factors that lead to different levels of each trait. As more is learned about the factors, it becomes more feasible to bring the traits under control, and so effectively "manage" communication in the organization. (emphasis added)[6]

The structural-functionalists, like many other organizational communication theorists, were heavily influenced by the communication model published by Shannon and Weaver in 1949.[7] Based on telecommunication systems, their theory is concerned with the generation of information, its flow rate along its channel, and ways to mathematically encode information to reduce "noise" in the system (Figure 5.1).

Shannon and Weaver were not concerned with why people needed to communicate with one another or with the content of the messages. Although Osgood subsequently criticized the Shannon-Weaver model because it did not deal with meaning, the model was irresistibly easy to grasp for people familiar with transportation systems, and it was adopted by scholars from many fields, including biochemistry, genetics, chemistry, and business communication.[8] This model influenced the works of major communications scholars, such as Berlo, Lasswell, McCroskey, and Schramm, each of whom modified the model somewhat.[9]

Schramm revised the Shannon-Weaver model in three elaborations designed to indicate that communication takes place in an environment, involves people (not just information sources), and produces feedback. Schramm's modifications certainly offered a more complete representation of communication than the Shannon-Weaver model did, but the categories of "environment" and "feedback" are still too general to produce detailed analyses of the communication context, communications processes, or products.

In "Nonacademic Writing: The Social Perspective," Faigley reviews the development of genre and cognitive perspectives, but omits the systems approach, which has actually had great prominence in business communication. He suggests a "social perspective" in which writing is defined as an action "that takes place in a structure of authority, changes constantly as society changes, has consequences in the economic and political realms, and shapes the writer as much as it is shaped by the writer." According to Faigley, those taking the social perspective must move beyond the traditional rhetorical concern for audience to consider issues such as social roles, group purposes, communal organization, ideology, and finally, theories of culture.[10]

Faigley's intent is to create categories of research perspectives, each of which includes many specific approaches to the study of writing. He hopes to foster a new appreciation of the relevance of other disciplines' methods and premises for the study of writing by describing developments in several disciplines. Faigley uses *social* in a broad sense that does not rec-

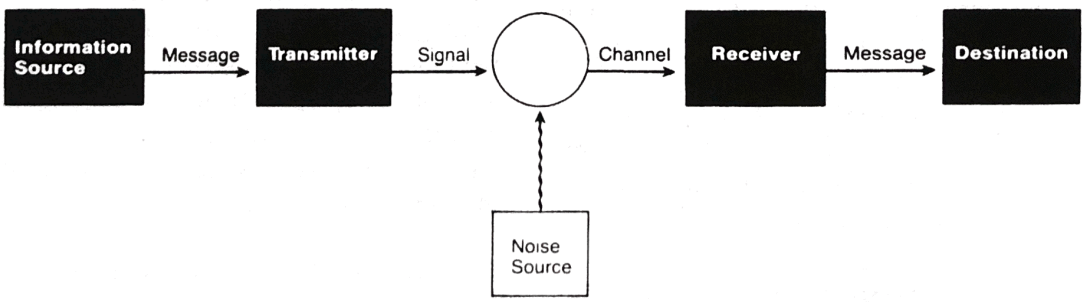

Figure 5.1. Shannon-Weaver model of communication. The model does not represent meaning or intentions of persons. *(Source: Shannon and Weaver 1949, 7. Copyright 1948 by the Board of Trustees of the University of Illinois. Reprinted by permission of the University of Illinois Press.)*

oncile the many specific meanings of the term used by sociology, psychology, anthropology, and other disciplines. The model of context proposed in this article is intended as an example of the approach Faigley would classify as "social." However, this discussion will avoid *social* as a theoretical term because of the multiple definitions it has in other disciplines. Context can help explain what a document means, what ideas it contains, why the writer would try to express his or her ideas in a particular way, and why readers who occupy particular roles in different parts of an organization would be likely to respond to a document in particular ways. Context has this power because it is a source of meaning for writers and readers. Experience in their particular roles in an organizational context has taught them to view specific topics in particular ways, to interpret particular information according to certain formal or informal rules, and to value certain styles as preferred or appropriate.

Meaning in business communication has its primary source in the writing context because communication involves actions and goals; it is instrumental. Writers in businesses seek to create meanings that produce sales, cooperation, approval, compliance, or agreement. Meaning in business writing is not limited to subject or topic knowledge. The professional may indeed have stored in memory academic knowledge learned outside of a business or professional setting, but access to such knowledge is gained via constraints and objectives that occur in a particular situation.

Any subject or issue is framed by the perceived external environment (society, government, competitors, resources, markets) as well as the perceived internal environment of the company (size, structure, technology, culture, individuals, roles, and forms of argument or reasoning). Perceptions of the external and internal environments converge to define the situations in which workers participate. Almost all these situations have rhetorical or communication requirements, because most business functions require communication. Advertising new positions available; soliciting bids from vendors and suppliers; applying for licenses; consulting with lawyers, lenders, and advertising media; promoting and selling products and services: all involve communication.

This emphasis on the external and internal environments as sources of meaning tends to deemphasize the personality of the individual writer or reader as a source of meaning. The persona of the organizational writer is defined by a somewhat different set of features than is that of the poet, political orator, or personal friend who writes in a nonorganizational or academic setting. In most business situations, the roles of writers and readers, their powers of action and expertise as members of the organization, are more important than other aspects of their personal identity. Nevertheless, the writer or speaker does have the creative power to transform the sources of meaning and to develop original solutions to organizational problems and novel writing strategies. The training of the individual in the reasoning methods of specific professional disciplines and the range of writing plans known by the writer may strongly affect the action of the individual writer. The national or regional culture (for example, "good ole boy" cultures) may also be important.

Thus, a rhetorical situation, with its range of reader/audience roles, purposes, sets of proprieties, genres, individuals, and temporal and technological constraints, must be seen as embedded within a complex context that affects both writers and readers. The "subject" or "topic" is not context-free, but situated, involved in what the members of the organization must know, feel, or believe in order to accomplish their goals. Colomb and Williams have proposed a descriptive technique for describing the multiple cues writers in professional situations can embed to elicit specific expectations and invoke particular domains of information.[11]

EXTERNAL SOURCES OF MEANING: MUTUAL FUNDS INDUSTRY EXAMPLE

Context as a source of meaning can be understood more easily if we separate those sources of meaning external to the firm from those within the firm. These two different types exert different kinds of influences in varying degrees and are involved at different times and in different circumstances. In most firms, external sources matter less frequently; internal sources affect virtually every document. A regulatory body

can be called a source of meaning because writers consult its definitions and criteria when representing their ideas.

External sources of meaning are interpreted, not absolute, influences on writers and readers. Some management scholars assume that language and reality are isomorphic, that reality is what language declares it to be. This belief is illustrated by the way management scholars speak about an organization's environment as an independent entity, not recognizing that organizations construct their own definitions of their environments, primarily through language usage. Recent debate over the usefulness of economic indicators illustrates how "facts" of the environment, such as the "money supply" and "credit availability," are interpretations, not absolutes, of the firm's environment.

Smircich argues that instead of treating the organization's environment and the organization itself as objects or givens, managers must become aware of the language processes essential to everyday corporate life:

> The possibility of organized action hinges on the emergence and continued existence of common modes of interpretation that allow day-to-day activities to be taken for granted. In the context of group interaction, it is this routinization that we refer to as being organized. When groups encounter novel situations, new interpretations must be constructed to sustain organized activity. The process of negotiating meanings for these events may alter current understandings and thereby change the formerly taken-for-granted way of life.[12]

In the case of the mutual fund industry, mentioned earlier, several organizations, groups, and factors affect how writers in mutual funds companies interpret information and compose documents. A mutual fund is an investment company that sells shares of its investment portfolio to investors and uses the money to purchase securities, such as bonds, stocks, gold certificates, U.S. government securities, or other investment instruments. Writers in such companies may use external sources of meaning (Figure 5.2) to assess opportunities, obtain information, analyze audiences for company documents, and create writing plans.

The recent history (1984–86) of mutual funds that specialize in U.S. government securities illustrates the dynamic effect of the external environment as a context for writing. Until late in 1984, only a few funds concentrated their assets in U.S. government securities, such as treasury bonds, treasury bills, and mortgage-backed certificates such as "Ginnie Maes." These investment instruments are often traded in units of $100,000 or more, amounts that formerly had kept smaller individual investors from owning them. The attractive features of these funds were (1) the high rates of interest that were being paid and passed along to the owners of the mutual fund shares, and (2) the fact that the securities owned by the funds were backed by the U.S. government, which had never defaulted on any payment of principal or interest when due. The ads emphasized the annualized rate of interest currently paid and they usually included words such as "safety," "security," or "guaranteed," along with such patriotic symbols as the domes of capitols, flags, and eagles[13] (Figure 5.3).

In 1985, investment companies created many more of these funds that specialized in U.S. government securities. Advertisements began to appear that attracted billions of dollars into these new funds.[14] The Securities and Exchange Commission (SEC), however, perceived two problems with these attractive new funds. First, since nearly all the funds were new, they had no performance record, over time, on which investors might base their estimates of future performance, and the SEC was worried that investors would rely on the current high annualized rates being advertised. Second, although the government would indeed guarantee that the rate of interest would be paid, the value of the mutual fund shares was *not* guaranteed; instead, it would fluctuate according to interest rates. If interest rates on other investments rose higher than those being paid on the securities owned by the fund, the value of fund shares would decline. This risk, called interest rate risk, was believed to be poorly understood by investors.

The NASD began to send back comments on ads submitted for review and requested qualification of the language in the ads. NASD lawyers, for example, recommended that *safety* be changed to *a high degree*

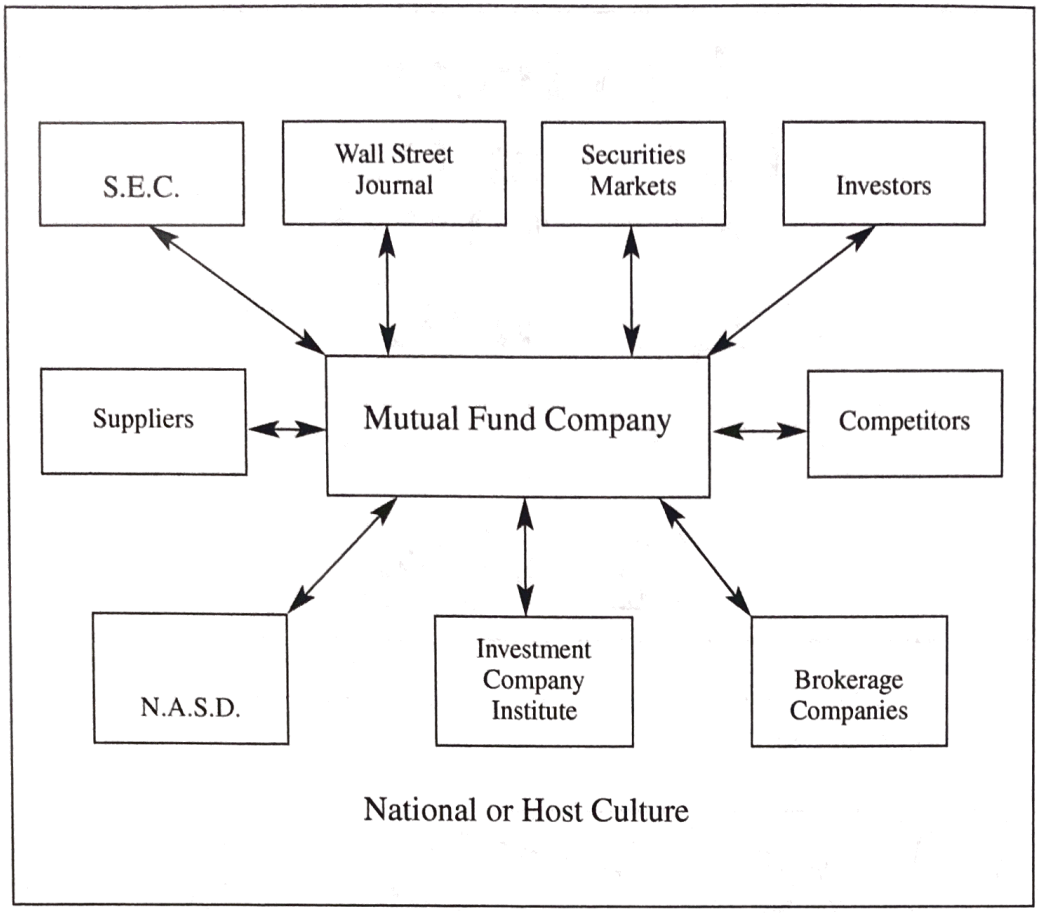

Figure 5.2. Model of the communication context showing external sources of meaning in the mutual funds industry.

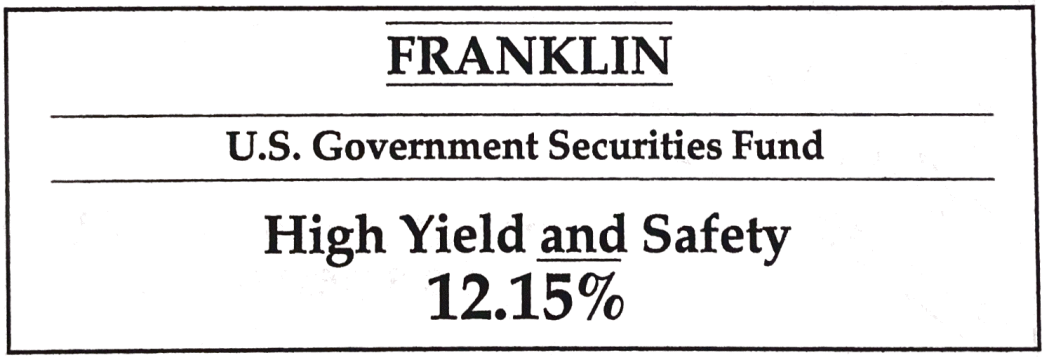

Figure 5.3. Partial text from early Franklin U.S. Government Securities Fund advertisement emphasizing yield and safety. *(Source:* The Wall Street Journal, *November 1983.)*

of safety (Figure 5.4). In the fall of 1985, the SEC asked the mutual fund trade association, the Investment Company Institute (ICI), to deal with the problems arising from misunderstood statements about safety, and to make uniform the widely varying practices in calculating and reporting the yield rates for these funds. Weeks went by as meetings of representatives from more than a thousand mutual fund companies met at the ICI. Concerned about the potential risk of lawsuits, companies began changing their advertising, even before the ICI could reach any agreement, removing the yield figures (and the explanations of how they were calculated), and changing more and more to metaphorical language to suggest indirectly the attractiveness of the product (Figure 5.5).

Interest rates on government securities declined in early 1986 because the yields dropped on the new certificates and bonds the funds could buy. At the same time, the marketplace was exerting an influence

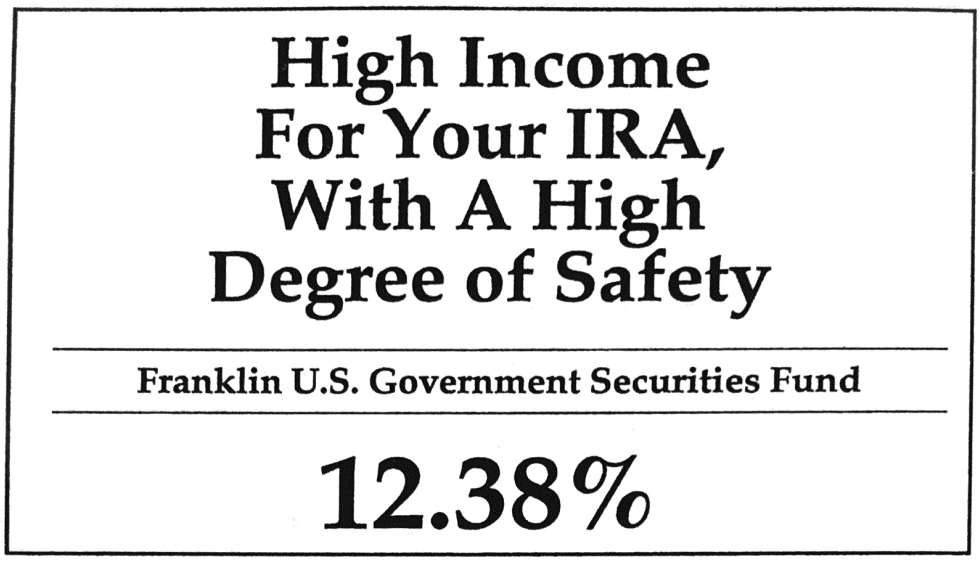

Figure 5.4. Partial text from Franklin U.S. Government Securities Fund advertisement modified to "high degree of safety." *(Source:* The Wall Street Journal, *March 1985.)*

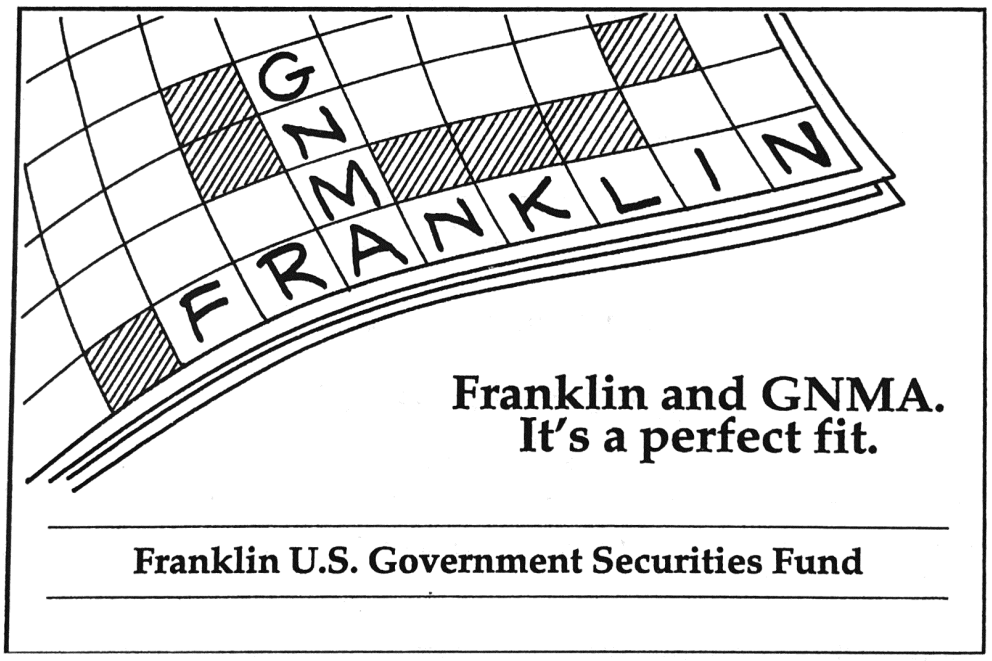

Figure 5.5. Partial text and illustration from Franklin U.S. Government Securities Fund advertisement using metaphor. *(Source:* The Wall Street Journal, *April 28, 1986.)*

on one marketing point: high yields. By mid-March of 1986, few government securities funds were advertising yields. Only after the ICI memorandum of agreement was completed in June 1986 did yields begin to reappear in the ads, now consistently defined and presented in uniform phrasing and letter heights.

The external environment, with its complex structure of audiences, information sources, and influences, had clearly affected what mutual fund companies managing government securities funds decided to say in their publications and how writers of these ads created meaning.

INTERNAL SOURCES OF MEANING: THE CHALLENGER ACCIDENT EXAMPLE

Internal as well as external sources of meaning affect writers in companies. The structure, size, and technology of the organization will affect the roles people play and the ways rhetorical situations are defined.[15] In the 1960s the contingency theorists at Harvard showed that the volatility and complexity in a firm's environment dictate the amount, type, and frequency of information the organization processes to accomplish its mission. Since a firm's structure is a vehicle for gaining access to and communicating information, organizations try to adapt their structures to secure and disseminate most efficiently the information they need from the environment.[16]

These theorists have been criticized for not paying more attention to other factors within the firm that affect communication, such as corporate culture and the individuals of the firm. Individuals are also sources of meaning and their preferences can affect writing practices. Powerful executives can also affect how writing is produced; their preferences tend to become maxims of the company culture. Space does not permit discussion of all aspects of the model proposed in Figure 5.6.

Corporate Culture: As management consultants and scholars interested in nonquantitative measures of corporate behavior focused attention on the distinctive practices of individual companies in the late 1970s and '80s, a picture of the power of shared values, norms, roles, rituals, and "the company way" began to emerge. Such features of a company compose what has been called its *corporate culture.* In a discussion of the variety of anthropological theories of culture whose concepts might be applied to the study of corporate culture, Allaire and Firsirotu define *corporate culture* as *a system of shared and meaningful symbols manifested in myths, ideologies, values, and multiple cultural artifacts.* They show that adopting a particular definition of culture com-

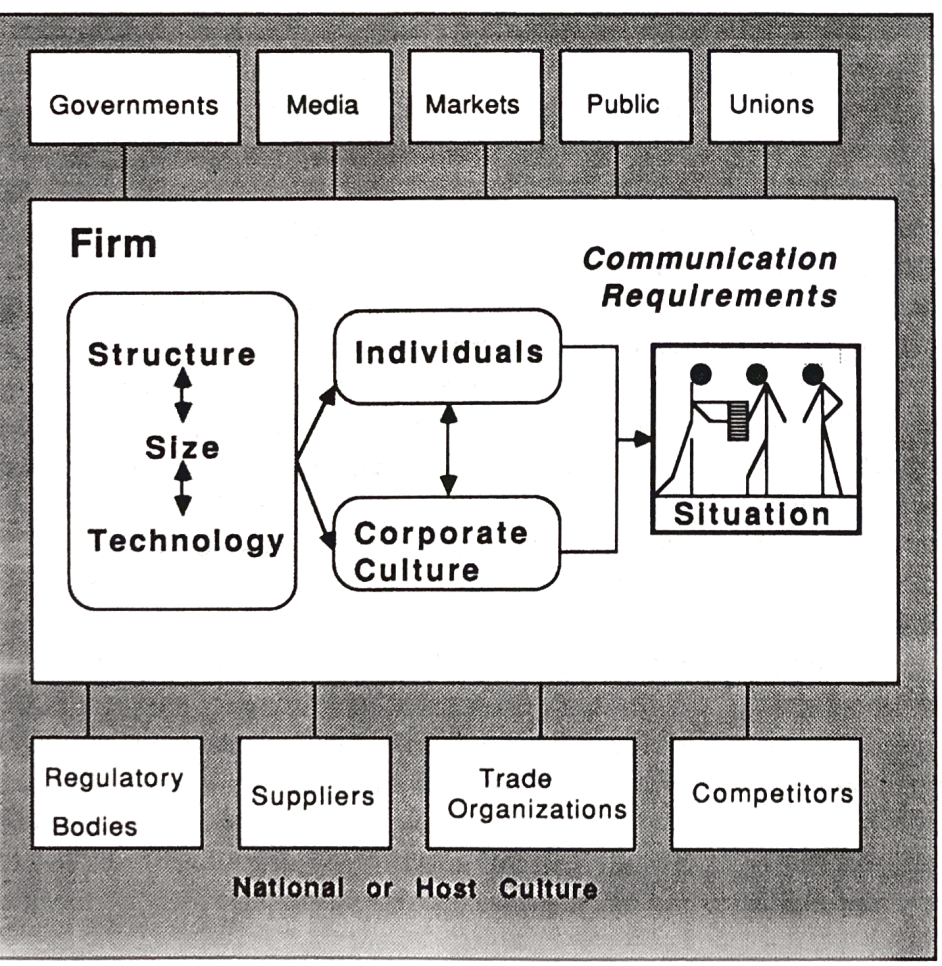

Figure 5.6. Model of how external environment and firm's characteristics define business situations and communication requirements.

mits one to specific conceptual assumptions and ways of studying culture.[17]

They argue in favor of a definition of corporate culture that separates the sociostructural system of the firm from its cultural system. For the purpose of understanding communication processes, we need to be able to separate culture and structure. If culture cannot be separated from structure, then the effects of these processes on communication cannot be separated. Yet, the structure and the shared values and beliefs of the organization may have quite different effects on writing practices. In a survey of one financial services company, two groups of employees expressed the same attitudes toward problem solving, but they differed significantly in their ability to solve problems. One group had no problem-solving unit or routine process; the other had a weekly meeting at which a special committee could discuss problems and make decisions. Not surprisingly, the second group was much more successful in dealing with problems. Structure, not culture, was the obstacle in that firm.

Like organizational structure, but different in its operation, culture is a powerful determinant of the definition of situation and of rituals and procedures: Who speaks to whom? Who listens to whom, when, and why? Corporate culture contributes many of the interpretive standards that affect writers' choices of content, persuasive approach, and word choice. In one company, I was told to delete *hope* from a draft. "We don't hope for anything around here," I was advised, "We decide what we want and then we make it happen."

Not all organizations have strong cultures—strong values, norms, and beliefs that guide action. Ouchi and others have classified cultures as ranging from those whose members are fully involved to those whose members are only slightly involved.[18] One would expect that in organizations where "anything goes so long as you get the work out," either communication processes would vary or external sources, such as the professional standards for accountants, engineers, and others, would influence communication practices.

It is important to note, however, that not all strong cultures facilitate communication; Bate reported difficulties experienced by companies whose cultures repressed communication about problems, prevented naming of individuals who were the source of trouble, and resisted cooperative problem solving and the expression of emotions. Communication and participation could be improved only by attacking the pervasive beliefs of the companies' cultures; and that is not an easy matter.[19] We need to include corporate culture in our models of communication, not because it plays a uniform role in all corporate communication, but because it accounts for a complex of interdependent factors whose configuration affects what people say, write, and read. Models of organizational communication that assume uniformity in many areas of organization life cannot account for the variety of documents and events in companies. Recognizing corporate culture as a source of meaning will reduce some of the confusion and enable us to identify other influences more easily.

With a variety of techniques, organizational communication scholars could investigate how culture influences the creation of written or spoken language. Rhetorical analysis of transcribed protocols might be able to show how norms and values are transmitted, enacted, negotiated, and affirmed. Scholars also might analyze objects, such as written reports, videotapes, and marketing materials, for cultural properties and for their function in rituals. Rymer has analyzed narratives and anecdotes used by managers to identify important issues, to show relationships among events and actions, and to motivate employees in a midsized manufacturing firm.[20]

Incorporating corporate or organizational culture into models and theories of corporate communication should, therefore, enable us to describe and account for different attitudes toward communication, variations in the meanings expressed by documents, variations in preferences for modes and genres, types of analogies and anecdotes, types of arguments, and roles of writers and readers. Such an array of considerations would substantially expand the degree of organizational savvy that an experienced writer might bring to bear on a single writing task.

Definitions of Situation/Prescriptive Paradigms: Throughout this article I have described the effects of the writing context, both within and without the firm,

s though writers consulted their understanding of ontext directly in making writing decisions. More ypically, I believe that these understandings are con-entrated in groups of ideas associated with particu-ar definitions of situation. Frequently, writers will espond to questions such as "What kind of situation vould you call this?" or "What does a writer do in uch a situation?" with lengthy rhetorical prescrip-ions for audience adaptation, genre choices, produc-ion schedules, stylistic preferences, and argument trategies.

Definitions of situation reflect the values of cor-porate culture, the requirements of organizational tructure, the influences of the firm's external envi-onment, and ways of thinking and arguing that de-ive from the individual's training, education, and rofessional role. Writers usually define situation in erms of the work of the company or a department's outines and operations. A situation involves non-hetorical elements: actions such as delivering goods o a particular location, manufacturing, operating nachinery, or making calculations. Often associated vith this definition, however, are one or more *rhetor-cal situations.* For each rhetorical situation there is n associated set of roles, terms, concepts, reasoning rocedures, and history that serves as a guide to hinking, believing, and acting.

The definition of the rhetorical situation controls to large extent which events or perceptions count as acts, which concepts apply to these facts, and which ssumptions are used to evaluate them. The definition f situation determines which words are chosen as ap-ropriate to the subject, which roles are available, vhich range of actions is appropriate; and with whom ne is to communicate and how. The reasoning rocesses preferred by individuals seem to be heavily nfluenced by their education and professional train-ng. Engineers frequently create narrative arguments, rguments that are stories explaining what happened vhen and under what circumstances. Managers more requently use social science reasoning in which nuch of the "reasoning" is actually justification of as-umptions underlying the model applied to the sub-ect. Understanding the differences between the rea-oning of different groups of professionals within a ompany or organization may be a primary key to an-ticipating the organization and use of evidence in documents produced by that group or person.

The Space Shuttle Challenger Accident Case: When a writer implements an inappropriate rhetorical situation, serious, even tragic, problems can occur, as suggested in the report of the Presidential Commission on the Space Shuttle Challenger Accident.[21] The Commission concluded that the mechanical cause of the Challenger accident was the failure of the pressure seal in the aft field joint of the right Solid Rocket Motor (Vol. 1, p. 72). The Commission also found as a contributing cause a flawed decision-making process:

> Testimony reveals failures in communication that resulted in a decision to launch . . . based on incomplete and sometimes misleading information, a conflict between engineering data and management judgments, and a NASA management structure that permitted internal flight safety problems to bypass key Shuttle managers. (Vol. 1, p. 82)

The report suggests that the critical failures occurred during two teleconferences and an intervening caucus or meeting of the Morton Thiokol engineers involved in the production of the Solid Rocket Motor. These electronically conducted meetings were part of the preflight readiness review process held in the 24-hour period before the space shuttle flight began. The NASA managers and the Thiokol engineers appear to have begun the meeting with a shared understanding of the rhetorical situation (purposes, roles, type of reasoning), but in this instance the NASA managers' model-based logic and the Thiokol engineers' analogical reasoning from a few specific instances produced a tragic conflict.

Participants from NASA, especially Lawrence B. Mulloy, the Solid Rocket Booster project manager at the Marshall Spacecraft Center who was in charge of the teleconferences, talked about the rhetorical situation as a collaborative probing of the data to determine whether the model of assumptions on which previous launch decisions had been based justified a change in that model. As a consequence of this approach, NASA officials were determined to treat a potential safety problem with the O-ring seals as a

deterrent to launch only if data could be presented that invalidated the decision model used in the past. Mulloy looked at the teleconference as an encounter in which NASA and Thiokol would review the "Launch Commit Criteria" and determine whether any of these conditions essential for launching would be violated by the predicted conditions on the morning of January 28, 1986.

The Thiokol engineers recommended that NASA should not launch at a temperature colder than the coldest previous launch (53°F). The implication of this recommendation was that the shuttle should not be launched on the following day, when temperatures were expected to be less than 30°F. Mulloy was very certain in his testimony about the rhetorical moves appropriate to his position in that circumstance:

> *Chairman Rogers:* Didn't you take that to be a negative recommendation?
>
> *Mr. Mulloy:* Yes sir. That was an engineering conclusion, which I found this conclusion without basis and I challenged its logic. Now, that has been interpreted by some people as applying pressure. I certainly don't consider it to be applying pressure. Any time that one of my contractors . . . come to me with a recommendation and a conclusion that is based on engineering data, I probe the basis for their conclusion to assure that it is sound and that it is logical. (Vol. 5, p. 839)
>
> We were simply looking at the engineering data and reviewing those engineering data. The concern, of course, that was being expressed was for the low ambient temperatures that were predicted for the night and the effect those low ambient temperatures would have on the propellant mean bulk temperature and on the joint particularly. (Vol. 5, p. 829)

In Mulloy's judgment, his communications tactics did not constitute pressure on the Thiokol engineers. Mulloy would not allow Thiokol to use any other reasoning process than the provision of data which showed that a launch commit criterion would be violated; but the Thiokol engineers did not have that kind of data at their disposal. Mulloy had a list of criteria that constituted a model for his decision making; the engineers had limited concrete data from a few flights and laboratory tests. The engineers who had handled the charred O-rings from the coldest previous flights were frustrated by NASA's unwillingness to consider the implications of charts showing the history of O-ring erosion on previous flights and pictures of damaged O-rings, as the testimony of Roger Boisjoly describes:

> And there was an exchange amongst the technical people on that data as to what it meant. . . . But the real exchange never really came until the conclusions and recommendations came in.
>
> At that point in time, our vice president, Mr. Bob Lund, presented those charts and he presented the charts on the conclusions and recommendations. And the bottom line was that the engineering people would not recommend a launch below 53 degrees Fahrenheit. (Vol. 1, p. 91)
>
> One of my colleagues that was in the meeting summed it up best. This was a meeting where the determination was to launch, and it was up to us to prove beyond a shadow of a doubt that it was not safe to do so. This is in total reverse to what the position usually is in a preflight conversation or a flight readiness review. It is usually exactly opposite that. . . . (Vol. 1, p. 93)

Although Mulloy maintained that customary argument structure had been followed for review of the evidence (he invited the Commission to call other witnesses who would confirm that he had handled the meeting as usual), the Thiokol people felt that the purpose of the rhetorical situation had been reversed. They were used to arguing inductively from example. Once they had had sufficient examples to provide statistically sound proof for NASA's model of launch criteria, the two reasoning processes, though different, had allowed agreement. When Thiokol had too little data, NASA managers were unwilling to look at the implications of specific examples.

After NASA Manager George Hardy, deputy director of the Marshall Space Flight Center, declared the Thiokol recommendation "appalling," and Mulloy asked whether Thiokol wanted him to wait until April to launch, Thiokol management began to feel the company's interests as sole supplier of the rocket

engines were threatened and asked for a meeting among Thiokol people with the teleconference lines switched off. During this exclusive meeting of Thiokol people, a senior manager explicitly revised the rhetorical situation by asking the vice president, Lund, to change roles, "to take off his engineering hat and put on his management hat" (Vol. 1, p. 94). Chairman Rogers followed up on this testimony by asking Lund, "How do you explain the fact that you seemed to change your mind when you changed your hat?" Mr. Lund was not able to answer this question directly. Apparently, management interests differed sufficiently from engineering interests to produce a different conclusion, and Thiokol subsequently agreed that no launch criteria would be violated and the launch could proceed. Mulloy did not convey these concerns to the top two levels of the review process and the shuttle Challenger exploded shortly after the launch on January 28, 1987.

ORGANIZATIONAL SITUATIONS AND RHETORICAL SITUATIONS

Because of rapid changes in business environments and within companies, many rhetorical situations must be redefined to achieve greater congruence between organizational situations and rhetorical situations.

In the example of the mutual fund's reliance on market timing, the agency writer saw the situation as "writing a brochure for a client . . . essentially, marketing a parity product by claiming extra attention for it, making it stand out on the shelf." The writer perceived investors as breakfast cereal buyers, the sole audience for the message on the box. He needed to understand that, although he was writing a brochure for a client, the rhetorical situation involved audiences other than consumers and marketing professionals. He needed to include in the rhetorical theater other powerful actors, including regulatory associations, competitors, lawyers, investment brokers, as well as investors. By using a broader model of the sources of meaning in the writing context, practitioners and teachers alike can construct more accurate definitions of organizational situations and rhetorical situations to guide their decision making.

IMPLICATIONS FOR TEACHING

Teachers can use the model described and the results of research to improve instruction. Recognizing the force of culture, technology, and situations can enrich our production and use of cases in the classroom. Brockmann identifies six features of a successful case, including "fullness of the rhetorical context," which he associates with purpose, audience, and role.[22] A full rhetorical context should go beyond these three factors to include the relation between the organizational situation and the rhetorical situation, and the culture, values, history, and ways of thinking that determine the criteria for judging communication practice in a real organization.

Further, by studying rhetorical situations, we may identify how these provide roles for individuals trained in particular disciplines, particular ways of thinking and arguing. We can help students anticipate how the skills learned in accounting, finance, real estate, strategic planning, and other business functions will be applied in communication, and we will be able to describe more precisely the relationship between business communication and other management disciplines.

We must teach students to analyze organizational and rhetorical situations and to develop strategies for achieving greater congruence between them, given the culture, size, and technology of the organization. Finally, we should emphasize the excitement and pleasure of dealing with the demands of rhetorical situations. Creativity and personal involvement are essential for meeting the complex challenges of real organizational contexts. Too often, technical and business communication has been taught as a dry, mechanical skill devoid of personal interest. When we recognize the importance of the context for writing in organizations, we see the significance of the issues resolved through communication processes. Writing well is not merely conforming to genre conventions, as some of the genre-based approaches have implied. Communicating in organizational contexts is essential to the vitality, and even to the survival, of organizations and society in a technical era.

NOTES

1. Lee Odell, "Relations between Writing and Social Context," in Lee Odell and Dixie Goswami, ed., *Writing in Nonacademic Settings* (New York: Guilford Press, 1985), 249–80.
2. Brief examples throughout the article, such as this one, are drawn from my consulting experience.
3. Lester Faigley, "Nonacademic Writing: The Social Perspective," in Lee Odell and Dixie Goswami, ed., *Writing in Nonacademic Settings,* 231–48.
4. Exceptions to these texts would be Marya Holcombe and Judith Stein's *Writing for Decision Makers* (Belmont, Calif.: Lifetime Learning, 1981); and Mathes and Stevenson's *Designing Technical Reports,* both of which emphasize the effect of the organization's structure and problem-solving activities on meaning.
5. Jeanne W. Halpern and Sarah Liggett, *Computers and Composing: How the New Technologies Are Changing Writing* (Carbondale: Southern Illinois University Press, 1984).
6. Richard V. Farace, Peter R. Monge, and Hamish M. Russell, *Communicating and Organizing* (Reading, Mass.: Addison-Wesley, 1977), 93. *Structural-functional* refers to the relation between a firm's structure and the business functions performed. Most firms attempt to group together workers with similar goals and expertise to foster cooperation and efficiency.
7. Claude Shannon and Warren Weaver, *The Mathematical Theory of Communication* (Urbana: University of Illinois Press, 1949). The image of reified language in this model has been thoroughly analyzed by Ragnar Rommetveit, "Prospective Social Psychological Contributions to a Truly Interdisciplinary Understanding of Ordinary Language," *Language and Social Psychology* 2; 2, 3, 4 (1983), 89–104.
8. C. E. Osgood, "Psycholinguistics: A Survey of Theory and Research Problems," *Journal of Abnormal and Social Psychology* 49 (October 1954).
9. David K. Berlo, *The Process of Communication: An Introduction to Theory and Practice* (New York: Holt, Rinehart, and Winston, 1960); Harold D. Lasswell, "The Structure and Function of Communication in Society," in John Byrson, ed., *The Communication of Ideas* (New York: Harper and Row, 1948), 37–51; J. C. McCroskey, *An Introduction to Rhetorical Communication* (Englewood Cliffs, N.J.: Prentice-Hall, 1972); Wilbur Schramm, *The Process and Effects of Mass Communication* (Urbana: University of Illinois Press, 1954).
10. Lester Faigley, "Nonacademic Writing."
11. Gregory G. Colomb and Joseph M. Williams, "Perceiving Structure in Professional Prose: A Multiply Determined Experience," in *Writing in Nonacademic Settings,* 87–128.
12. Linda Smircich, "Implications for Management Theory," Linda Putnam and Michael Pacanowsky, ed., *Communication and Organizations: An Interpretive Approach* (Beverly Hills, Calif.: Sage Publications, 1983), 221.
13. Figures 3, 4, and 5 show the ads of funds managed by only one company, Franklin Funds, because of lack of space for additional figures. However, by consulting the *Wall Street Journal* for this period, the reader can see that the statements are generally true about funds of this type.
14. *1986 Mutual Fund Fact Book* (Washington, D.C.: Investment Company Institute, 1986).
15. Effects of size, structure, and technology have been studied for over twenty-five years, especially by the Tavistock group in England and by the contingency theorists at Harvard. The sociotechnical models can be useful for analyzing patterns of communication, but other sources of meaning must be considered as well. T. Burns and G. M. Stalker, *The Management of Innovation* (London: Tavistock Publications, 1961); Joan Woodward, *Industrial Organizations: Theory and Practice* (London: Oxford University Press, 1965).
16. Paul R. Lawrence and Jay W. Lorsch, *Organization and Environment* (Boston: Harvard Business School, 1967). For a historical review, see Henry Mintzberg, *The Structuring of Organizations: A Synthesis of the Research* (Englewood Cliffs, N.J.: Prentice-Hall, 1979).
17. Yvan Allaire and Mihaela E. Firsirotu, "Theories of Organizational Culture," *Organization Studies* 5, 3 (1984): 193–226.
18. Alan L. Wilkins and William G. Ouchi, "Efficient Cultures: Exploring the Relation between Culture and Organizational Performance," *Administrative Science Quarterly* 28, 3 (1983): 468–81.
19. Paul Bate, "The Impact of Organizational Culture on Approaches to Organizational Problem Solving," *Organization Studies* 5, 1 (1984): 43–66.
20. Jone Rymer Goldstein, "Myths and Stories in Corporate Communication" (Paper presented at the Association for Business Communication Convention, Chicago, November 1985).
21. *Report of the Presidential Commission on the Space Shuttle Challenger Accident,* 5 vols. William P. Rogers,

chairman (Washington, D.C.: U.S. Government Printing Office, 1986).

2. R. John Brockmann, "What Is a Case?" in R. John Brockman, ed., *The Case Method in Technical Communication: Theory and Models* ([Lubbock, Tex.]: Association of Teachers of Technical Writing, 1984), 1–16.