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The Social Situation of Text

- *This chapter details a method considering the social context of communication, the analysis which provides the information needed to make good writing decisions.*
- *Several traditional models of writing contribute to the method expressed in this chapter:*
  - *Transmission model created by mathematician Claude Shannon at Bell Labs*
  - *Correctness model usually found in grammar books*
  - *Cognitive model of how people think based on behavioral psychology*
  - *Social/rhetorical model of communication as persuasion based on classical Greek and modern principles of social interaction*

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David Kmiec and Bernadette Longo.

- *To understand the social situation of text, we suggest you consider:*
  - *The **rhetorical situation** of your communication.*
    - *What is your **purpose** for writing?*
    - *Who is your **audience**?*
    - *What is your **identity** as a professional?*
    - *What is the **context** that surrounds this communicative transaction?*
  - *The **pragmatic situation** of your communication.*
    - *What do you know about the **community** that surrounds you and your audience?*
    - *What are your **identity** and your audience members' identities in that community?*
    - *Given this community, what **generic practices** exist that might resemble those you might use? What preexisting documents match your purpose, audience, and identity?*

The Social Contexts for Technical Writing

Humans are social creatures, and communication is the means by which humans identify themselves and each other, express their needs and desires, share knowledge, and interact to achieve goals. Communication is a ubiquitous feature of human communities. It is the behavior that creates society and enables groups of people to organize and accomplish complex tasks. When working together on a task, humans in close proximity who need timely reactions from others use speech and gesture to get their message across. When humans are distributed, however, or when they need action to occur at some later time, or when tasks are complex enough that the in-the-moment nature of speech is not sufficiently organized to make work plannable or comprehensible, they write.

Writing is a visual form of communication. It relies on the manipulation of symbols into patterns and of patterns into units of written communication—texts—that are recognizable and accessible to someone in a shared language community. Writing relies on the literacy and attention of readers, who make their own meaning out of text as they read. Contemporary texts rely on visual cues as well as textual ones—layout, formatting, and design. The way texts are presented implies cultural messages about what things are important, relevant, or trustworthy to a community.

Workplace writing is often evaluated by whether or not it is functional—whether or not it can be used in the furtherance of some purpose. When a text is used in a workplace to enable someone to accomplish a task, the members of that workplace community, who share a goal and share expectations about what will help their firm reach that goal, consider that text functional. (Though we don't say it as often, a text

that makes it difficult for members of a community to reach a goal could be described as dysfunctional by those community members.) If the functionality of a text relies on the goals of community members and their ability to recognize common forms, terms, and practices, then knowledge of these goals, forms, and practices is the most reliable way to produce a functional text. *Takeaway: Workplace writing is functional.*

Because writing relies on a reader, and because both the reader and the author of text exist in a cultural context that relies on certain values and ideas, writing decisions are best made with a structured understanding of the social environment and how writing functions in it. We will use the word *situation* in this chapter and throughout this book to describe the social position of text. The term implies a position or location relative to other things, a relational way of understanding something. We mean to imply that text can only be understood relative to the social environment in which it exists and that writing, therefore, relies on understanding the social environment and recognizing how that understanding can help you plan and compose text. *Takeaway: Writing decisions rely on social knowledge.*

As a professional and a person, your sense of the customs of your workplace, of the practices of your expert community, and of interpersonal relationships and language patterns are likely more subconscious than conscious. That subconscious awareness is what we rely on when we write by ear—composing and rereading our own writing to check if it "sounds" right or "sounds" good. Even though we might not be able to articulate what we know about our social environment, this awareness is a relatively powerful tool. It enables us (some of us more than others) to imitate complex communication patterns with a reasonable degree of reliability and to generally prepare texts that people recognize.

However, when we are working at the edge of our social understanding, as happens when we enter new professional groups or work places or work with a new client whose values or goals we don't yet understand or when we deal with a problem that is unorthodox or complex, this tacit way of sounding out social rules breaks down. This is also the time when our texts matter the most to shape the actions and thoughts of others.

To get beyond sounding out text, you must assess the social environment of text. This requires dividing the social environment into components, factors, or forces and considering how those elements inform the writing decisions you make. Then, you must be able to recognize the points in text where you have the opportunity to affect your reader. This chapter focuses on modeling the social situation. The next chapter focuses on some high-yield points of control in text.

Models of the Writing Environment

Because communication is a central factor in the organization of society and the accomplishment of shared goals, theories of communication exist in philosophical tradition of almost every culture. In the modern era, anthropologists, electrical

engineers, architects, artists, biologists, and others have each used their disciplinary techniques and tools to discuss how humans communicate, convey, express, or share meaning. We believe that writing—that is, composing a text—is a process of recognizing the social and linguistic environment of that text and then making decisions about which words, structures, and arguments to deploy. A systematic approach for doing this is found in the latter half of this chapter. First, however, we will discuss the models that underlie that approach as an understanding of them will make you better able to consider and customize the advice in this book.

Transmission Models

In our everyday workplace environment, we often talk about writing as a transaction and, whether we realize it or not, use terms from a mathematical and communication engineering tradition. A worker encodes a message in writing and transmits it, and a recipient receives and decodes it. The recipient's ability to understand that message is based on how accurately it was encoded or maybe on how well-tuned it was to match the wavelength the recipient is or on the keys the recipient has. Sometimes, the channel carrying the message is complex. If a message has to be relayed through a third party, like a project manager, then the fidelity of the signal may degrade as it is repeated.

Communication scholars and social scientists today tend to call this a *transmission model of communication* because it relies on the same terminology that is typically used to discuss electromagnetic signaling. When Claude Shannon, a researcher at Bell Laboratories, articulated this model in 1948, he called it a mathematical model and represented its basic structure with the box diagram shown in Figure 1.1 [1].

Shannon developed this simple communication model to suggest how humans and computers could communicate and to indicate how probability could be used to mathematically describe the points at which that communication could break down. At the time, the goal was to translate human language into the binary mathematical language that machines used, so that they could work on natural language problems and then send back mathematical results that were translated back into human language. *Takeaway: Shannon was modeling human–machine interaction.*

Shannon's model was just a starting point for a larger conversation about using probabilistic approaches to considering message entropy—the decay of the fidelity messages—and to considering how the constraints of natural language (that is, languages that were not designed but developed organically) could be leveraged to establish reliable human–machine interactions.

When taken as a model of human-to-human communication, the transmission model has some problems. Humans are not machines. And the model doesn't account for human inconsistency or sources of misunderstanding, social disruptions to the model that are not reducible to signal concepts like noise or other fidelity problems. It doesn't account for humans' subtle and complex assignment of meaning to language. It doesn't represent the larger relationship between the sender and receiver

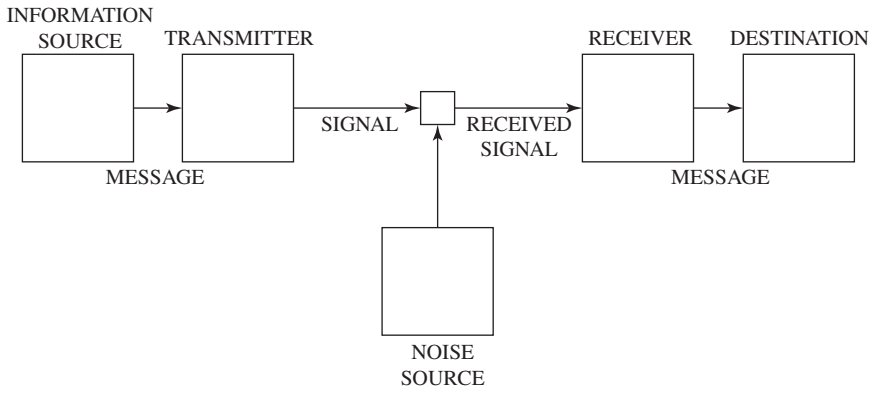

FIGURE 1.1. Claude Shannon's "Schematic diagram of a general communication system" [1]. This diagram represents a transmission model of communication where the mathematical value of a communicative message is affected by decoding, transmission, environmental noise, and encoding.

or give advice about how that relationship affects the channel or the messaging environment. It doesn't directly take into account the persuasiveness of messages or how the credibility of a message is established. *Takeaway: Humans are not machines.*

The model's failure to model human cognition and social behavior isn't surprising; it wasn't Shannon's goal when he wrote the 1948 article. (In fact, quite early in the article, Shannon dismisses the notion of a message's meaning as "irrelevant to the engineering problem".)

In everyday practice, people communicate in unintended ways and even learn about their own intentions *through* communicating with another person. But, in a way, the vocabulary of the transmission model is hard to escape (sender, receiver, message, channel, background, noise, etc.) and the basic pattern of the model is generally descriptive of the way we often think of communication. Concepts like "fine tuning" a message or providing background information so that the reader (receiver) will "correctly" understand (with fidelity) an argument are easily expressible using this vocabulary and logic. And, as a baseline, this model is a useful framework for considering that there is an audience for communication and that the audience has a role in the communication process. (Though, that role may be better articulated via a social logic than via probability.) *Takeaway: Transmission terms are foundational but limiting.*

Correctness Models

Correctness models of writing assume that there is one best way to use language and that good writing is writing that matches certain universal criteria. Strong writers, as judged by a correctness model, are masters of the preexisting patterns that texts

may take and of a number of idiosyncratic rules about which word should be used at which time. While writers are still responsible for making decisions, the choices they make are constrained by some external standard of what is correct. And their way of making decisions, especially when developing as writers, is to use reference guides or to solicit advice from authorities.

Many grammar and style books prepared with the correctness model in mind offer plenty of highly specific, prescriptive, and universal advice, based on an idea that certain patterns in English grammar are more pure, original, or attractive than others. Other guides, like those that index citation practices and make authoritative statements on punctuation and word usage, are less interested in purity and have been created out of a social decision that standardizing certain writing conventions within a field has some value. For example, the *Publication Manual of the American Psychological Association* (or APA) is a guide published by a professional society for those publishing in the behavioral and social sciences. *The Chicago Manual of Style*, on the other hand, is a guide originally published by a press itself. Both of these guides have evolved over time to become comprehensive authoritative guides to a generally correct form of writing. The Institute of Electrical and Electronics Engineers (IEEE) rules for formatting citations are included as an appendix to this handbook.

These resources have some value, as professional communities (and the members of the public and business communities they interact with) tend to rely heavily on patterns of grammar, style, and usage that appear in publications and in conversations across the language community. Correctness-based resources can be useful for choosing idiomatic or generally acceptable words and expressions, for choosing how and when to punctuate or paragraph, and even for choosing reliable starting places for formulaic documents. A correctness-based resource that is seen as authoritative in a specific environment is a baseline for writing effective documents. *Takeaway: Correctness-based resources are useful starting points.*

Corporate style guides and templates that help to enforce consistency of usage and format in documents across a distributed company are important to creating a brand image, which may be, on the whole, more valuable than the nuanced variation of a particular technical term or product name. A style guide written for use in your company may be an excellent resource for choosing which words to use or deciding how to organize a report. If others in your workplace follow the guide as well, it will make your documents look normal to those from that workplace.

Few corporate style guides, however, contain sufficient depth to address writing decisions that go beyond superficial concerns. A professional in a workplace situation armed with only the correctness model is often forced to extend that model to make rules about complex writing practices that correctness, as a concept, is ill-suited to handle. It's one thing to devise rules for which terminology to use at which time. It's quite another to develop elaborate and specific templates for sections of documents which need to be prepared to respond to dynamic situations or to develop standard patterns of sentences and paragraphs to use in writing to clients. In most situations, rules that are specific enough to be followed are too specific to be useful all the time,

whereas rules that seem to describe every situation are too general to be usable to make specific decisions. *Takeaway: Correctness has its limits.*

While a correctness-based resource may help you to know *how* to write in a structural sense, it might not help you understand *what* to write in a meaningful sense. You could make a perfectly correct statement at an inopportune time, with inappropriate information, to someone who disagrees with you, or in other ways that would render your grammatically correct and consistently worded statement inappropriate or even harmful. As Gregory Shafer noted, "Language correctness, like reality itself, is contingent on context, audience, and power" [2], [3].

Cognitive/Behavioral Models

Cognitive models of writing explore how behavioral and cognitive psychology can be used to understand the production and reception of written communication. Researchers who espouse a cognitive model observe writers and users of texts, often in controlled environments, noting how they produce or navigate texts, where they hesitate or get confused, how they overcome problems, and what kinds of behaviors help them cope with the complex problems of reading and writing. Sometimes these researchers use brain scans or eye tracking, or ask users of websites to talk through their decision-making processes as they work. The goal of this research is to explain how humans communicate and, sometimes, to articulate how human communication (like writing) can be designed to best suit humans physiological and psychological needs.

Technical professionals who deal with product development, especially with software and interface design, may use techniques based on cognitive models to evaluate the usability of their products or interfaces. Usability, or the degree to which something can be easily used or learned to be used, can be measured by observing sample users who are trying to perform actions or can be evaluated by reasoning through the logics and tasks a user may want to perform. *Takeaway: Some experts use measurements to assess humans' ability to use texts.*

Usability approaches and terms like effectiveness, efficiency, and ease of use can be applied to written products, like instructions or guidebooks, as well. Researchers who study instructional design and accessibility, for example, may time users completing each stage of a task or may use think-aloud protocols in which test subjects verbalized what was going on in their minds as they used instructions to complete a task. These approaches are designed to gather data for usability testing in product design and development. Web design and human–computer interaction expert Jakob Nielsen advocates this approach as "the single most valuable usability engineering method" because it "serves as a window on the soul, letting you discover what users really think about your design"[4].

Cognitive researchers and linguists who are interested in literacy have also studied what makes some texts or expressions seem easier to understand than others, a quality they call *readability*. The ability of readers to read and comprehend a text,

and the rate at which they can read it, can be affected by a number of things including visual elements (like the style, size, and spacing of type) and linguistic ones (like the complexity of vocabulary and the length of sentences). *Takeaway: Others measure readers' mental ability to access, retain, and understand text.*

The analysis of adult reading skills and of how reading relates to the complexity of texts was of interest to newspaper publishers and reading educators throughout the twentieth century. Depression-era social theorists like Douglas Waples, who were intensely concerned with who was reading and whether a poorly educated changing workforce had access to appropriate reading materials, began a decades-long debate about what made a text readable [5]. Using cognitive models, psychometricians and reading educators like William Gray, Rudolf Flesch, and Edgar Dale developed tests for assessing the readability of text so as to promote writing in "plain English" [6]–[8]. Writing handbooks, publishing software, corporate best practice guidelines, and reading and writing curricula are still sometimes prepared with the conclusions of readability research in mind.

The act of writing has been the subject of a cognitive research as well, and theorists who study composition often talk about the process that writers undertake or the way a writer's brain is able to formulate and manage ideas and translate them into written expression. Cognitive models that focus on the writer help explain a writer's thought process from a behavioral perspective by describing mental actions that a person takes when crafting a text. *Takeaway: Many models for the text composing process rely on cognitive theories.*

Linda Flower and John Hayes, for example, call composing a "distinctive thinking process" in which writers seek to achieve a hierarchy of goals [9]. Based on psychology and linguistics, their cognitive model represents the act of writing as a process with three major elements:

- The task environment, which includes "things outside the writer's skin, starting with the rhetorical problem … and eventually including the growing text itself."
- The writer's long-term memory, which is where "the writer has stored knowledge, not only of the topic, but of the audience and of various writing plans."
- The writing processes of planning, translating, and reviewing, "which are under the control of a Monitor." The monitor "functions as a writing strategist which determines when the writer moves from one process to the next."

In this process model, writers go through stages of planning, translating, and reviewing not in a linear path, but in an iterative manner by repeatedly circling back through the stages.

Social/Rhetorical Models

Social models of writing assume that writers make choices based on their understanding of what is appropriate in their situation and within their community. Writing then

becomes a strategic process; it requires a writer to parameterize the situation, to consider the values of the community, and to observe and reflect on existing examples of communication or on evidence of relationships and of community members' personalities. The ability to articulate features of an audience or the social situation of text is necessary to consciously adopting a social approach to writing, and so researchers who articulate social models for communication are often interested in describing the communities in which (and the occasions when) communication take place.

Articulations of social models for communication can be found as far back as the dawn of writing and many scholars of social models today use these traditions as ways of considering current social practices and communication topics [10]. In particular, scholars who study rhetoric, or the effective or persuasive use of language, often relate contemporary observations about communication back to classical texts, Greek and Roman philosophical writings from the era when popular participation governance made educational discussions and theories of speech giving, persuasion, and linguistic arts practical. Rhetoric in these texts is often described an art or a skill of recognizing the features of the social environment and thereby arguments that can be made persuasively, and a knowledge of the forms language and argument may take. *Takeaway: Social models of communication originate in many cultures and eras.*

Classical rhetoricians like Aristotle and Cicero emphasized the importance of selecting arguments based on the specific audience being persuaded. They gave advice about what kinds of evidence might be useful to support different kinds of arguments. They discussed how to establish credibility. And they suggested procedures for preparing and organizing communication. At the same time, they were articulating a systematic way in which communication and persuasion worked in society.

Contemporary scholars in this tradition consider how texts are similar in superficial ways, how they are prepared and deployed within a community, or how they relate to community values or embody actions that enable communities to get things done. At the same time, they describe how texts can be produced by new community members, how one member of a group goes about convincing another member of an argument, and how professionals use communication to accomplish complex tasks.

Contemporary scholars like Karlyn Kohrs Campbell and Kathleen Hall Jamieson have suggested that social groups rely on the repetition of recognizable communicative acts in order to function and to establish group identity [11]. These regular acts, called *genre*, appear as texts that have customary uses, similar argumentative constructions, or common superficial linguistic features. Carolyn Miller has gone on to argue that people develop genres as a response to practical needs. In other words, genres of documents suggest situations and goals that people regularly seek to address through their communications. A person who recognizes one of these reoccurring goals knows what form is expected in response—what genre is appropriate in that situation. Miller described genre as "the conventions of discourse that a society establishes as ways of 'acting together."' These genres "change, evolve, and decay"

depending on the "complexity and diversity of the society" [12]. *Takeaway: In persisting communities, communication is more regular.*

The concept of genre, like the advice of the classical rhetoricians, relies on a model of the actors in a social situation and their relationships. A social situation, of course, can be described in different ways in order to emphasize the roles and importance of different elements. Any analysis of the elements in a situation will include the audience for a communication and the author of the communication (which are not coincidentally the two actors in Shannon's mathematical model).

A social model can be built around the community in which communication occurs. John Swales, for example, has suggested that genres are the product of particular kinds of communities in which members who have a common purpose and regular relationships need to perform the same kinds of actions again and again. The repetition in such an environment encourages the regularity of features in texts until the regular features themselves begin to take on meaning [13]. They can also be built around the communicative transaction. Lloyd Bitzer has suggested that communication is the timely act of a communicator to an audience to alleviate some pressure (an exigence). In Bitzer's model of the rhetorical situation, it is the audience who is being persuaded, the exigence which causes the actor to communicate and the constraints under which that actor can act which make up the communicative environment [14]. *Takeaway: There are different ways to model the social.*

Some analyses of the situation consider how the document or text itself has a degree of agency in the situation. A report, just by its existence, stores some meaning, has some authority, and exists independent from its author. Some analyses consider social or cultural forces in which an author is set. A corporate environment or professional culture can certainly influence the way an author creates text as well as the way an audience receives or understands text. Some analyses identify the sources of motivation for a communication that are external to the author—orders, client requests, public demand—or the pressures felt by an audience as they access a text—urgency, long-term goal, even the lighting in the room where they are reading.

This Guide's Approach

Models like those in the previous section are ways of describing, critiquing, and approaching everyday communication practices, and each contributes to the hybrid model for making writing decisions presented in this book. Writing in a workplace setting involves strategically deciding what arguments, forms, and words will best achieve your goal as a communicator. Writing decisions can be made using a rhetorical approach, considering how you might advance your argument persuasively given your sense of the social situation. They can also be made pragmatically, observing the communication around you and imitating the forms, arguments, and words that seem to match your communication conditions. When used in combination, these approaches inform one another and form a robust technique for making writing decisions.

When you write, consider the *rhetorical situation* of your text. Use the following questions to break down the social environment in which you are communicating:

- What is your *purpose* for writing? What pressures (or exigencies) are motivating you to write (like a workplace requirement to report quarterly or a problem that requires the action of another to address)? What needs to be done and how could your text help to get that done? What would achievement of your purpose look like?
- Who is your *audience*—the person(s) that you are addressing that may act on your behalf or may acknowledge your communication thereby enabling you to relieve that pressure? What do they know or believe, and what are their interests, preferences, needs, and motivations?
- What is your *identity* as a professional and with respect to the audience who you are trying to persuade?
- What is the *context* that surrounds this communicative transaction? What features of the environment or of the way in which your message is sent inform how your audience may receive or perceive it?

While these questions will enable you to prepare communication that are tailored to your purpose and the motivations of your audience, they rely on a personal social logic at the expense of attention to the habits and traditional practices that people commonly use to identify what is appropriate in a workplace. Using only these questions in a workplace might lead you to prepare a status report or a proposal that deeply considers the needs of your audience but does so in a way that is unrecognizable to your audience. For example, the regular use of a form, even a poorly designed form, can increase efficient identification of information for readers who are familiar with that form. The repetition of specific workplace patterns for texts, even at the expense of some purpose or audience considerations, is often more valuable to community members who need to be able to quickly identify the kind of action you are taking in your text.

When you write, you should also consider the *pragmatic situation* of your text. Use these questions to identify practices of the larger community in which your writing is situated:

- What do you know about the *community* that surrounds you and your audience? What are your identity and your audience members' identities in that community? How do these relative roles relate to cultural or social conventions maintained by the community that might govern how your text should be created, transmitted, or received?
- Given this community, what *generic practices* exist that might resemble those you might use? What preexisting documents match your purpose, audience, and identity? How were they constructed, what form do they take, and how were they received? What authoritative resources, like style guides, are available?

An analysis of the pragmatic situation alone may tell you quite a bit about your community and the practices of its members, but may not enable you to make writing decisions specific to your immediate purpose. Using only the pragmatic situation to write a status report, for example, may lead you to find and analyze existing status reports from previous projects but may not help you choose which features from which reports you might want to imitate. On the other hand, the pragmatic situation may help very little when you are trying to prepare a text that has a unique purpose or that is unusual in some particular way which will require significant deviation from existing texts.

Used together, the pragmatic situation can give you boundaries for normal documents (when the action you are trying to take is normal) and the rhetorical situation can help you make choices within those boundaries. The remainder of this chapter discusses further the parameters of these situations. The next chapter discusses the points in text where these parameters can be used to make decisions.

The Rhetorical Situation: Purpose

The *purpose* of your document is the reason you are writing it. What do you want your audience to do in response to your document? What do you intend to accomplish? A well-defined purpose can be a potent tool to evaluate specific writing decisions. It can be used to evaluate whether information is necessary in a document or used to justify one organization over another. For example, if the purpose of a procedural document is to "enable users to assemble a device reliably a single time," then that purpose may justify using a stepwise procedural setup without any background information about the device's design or history. A guide written for a technology sales professional, on the other hand, may include this kind of information if its purpose is to "provide procedural and background information to sales professionals who need to seem knowledgeable in the field."

It's not unusual, of course, for workplace documents to have multiple purposes, often related to the multiple audiences who will read a text. In the case where some purposes call for a certain decision while others call for another, you will have to prioritize purposes or create structures that satisfy both. An executive summary at the beginning of a technical report, for example, satisfies a need to "provide a quick and action-oriented summary of work to executives." Were this purpose to be the primary consideration throughout the report, it would likely conflict with a need to "produce specific and reproducible data that is contextualized by error information". *Takeaway: Documents often have multiple purposes.*

Some workplace documents are overtly persuasive; not only is the writer intending to persuade, but the readers expect the document they are reading will try to persuade them. Whenever you propose an idea or make a recommendation, your goal is to get the reader to agree with you. To do this, you represent your problem or solution in terms and parameters that the audience appreciates and that concern them.

You will also need to include the information necessary for your audience to take action. Funding requests, for example, need specific details about what activities

will be accomplished, the costs associated with them, and income (if any) that can be expected as a result of the activities. While funding requests rely on quantitative arguments, you can also address non-monetary qualitative issues that are important to your readers, such as potential for improved water quality or wildlife habitat. If you know what your audience values, you can include information in your document that addresses these values.

In a way, the purpose of all functional writing is to seek agreement, approval, or participation. To get your reader to do something—understand a concept, take an action, whatever—you have to convince the reader that you are knowledgeable and that the intended goal is either reasonable or inevitable. Even a description of a process is an exercise in approval seeking. If important details are omitted or trivial details included, if measurements are inaccurate, or if graphical representations are misleading, the reader may lose faith in your expertise and good will. *Takeaway: All functional writing is, in some way, persuasive.*

Some writing though, is not overtly persuasive. In most cases, documents that report activities or results are perceived by readers as objective or factual. Authors of these documents use conventions that an audience will accept as standard and represent their assertions in terms of accuracy rather than reasonableness. One key to writing a successful reporting document, however, is to choose which information to include, which to exclude, and how to present information to meet your audience's needs. In making these choices, you are shaping your information and interpreting it; this is an inevitable outcome of writing.

People writing on technical subjects are not always aware of the impact of their choices about what to include and what to leave out, sometimes insisting that they are just "telling it like it is." But even the decision to "tell it like it is" involves decisions about what is relevant, sure, and true and what is not.

Technical professionals often use analysis—the process of breaking something into its parts and explaining what those parts say about each other—as a means of non-overt persuasion, to justify why a position is valid or to support claims about how a position fits into a context of knowledge already accepted by the audience. David Rosenwasser and Jill Stephen describe the process of analysis in this way: "To analyze something is to ask what that something *means*. It is to ask *how* something does what it does or *why* it is as it is" [15]. They suggest that most written analysis relies on five argumentative considerations. *Takeaway: Analysis is a hallmark of engineering writing.*

1. Suspend judgment. It is usually important to establish features of the subject or mechanisms by which it works before actually discussing its implications or evaluating its effectiveness.
2. Define significant parts and how they're related. Ask not just "what is it made of?" but also "how do these parts help me to understand the meaning of the subject as a whole?"
3. Make the implicit explicit. Articulate assumptions with rationales for how those assumptions can be justified. If a device or process is not already well

understood by the audience, you'll need to name components and explain how they interact.

4. Reveal patterns. Meaning is typically associated to patterns and to systematic or anomalous exceptions to patterns.
5. Keep reformulating questions and explanations. Analytical logic is often expressed in terms of seeking and finding or trial and error. Posing questions that are normal to your audience enables you to answer those questions in a way such that you can go on to ask questions that further your argument. [15]

For analysis to be persuasive, it is especially important that it follow pragmatic conventions. Professional communities have expectations about when and what kinds of analytical information are necessary to support which kinds of arguments or assertions.

Analytical text, in this sense, functions as support for higher order (and possibly more overtly persuasive) purposes. The main purpose of a site visit report, for example, may be to persuade a project team that they should write a bid of a certain size for construction of a warehouse for a client. To accomplish this purpose, you may write several sections with subordinate purposes—suggesting that the client's site needs soil treatment, suggesting that the client's site needs grading, suggesting that permitting may be a problem. To support these sub-purposes, sections might be composed of non-overtly persuasive analytical arguments—data about soil chemistry, observations about runoff, and excerpts from city planning policies.

In a technical workplace, document purposes also typically exist within the larger context of a project. A document you produce may be needed so that members of your team can plan around existing infrastructure or procure new equipment. Because of this, you should consider if claims or analysis in your report, made for one purpose, would be useful to support other project goals. Appending research done while working but that you didn't find necessary to make your argument might enable another project worker to accomplish their goals faster. Likewise, including comments about what is known and unknown, about what needs to be done and where further information might be found, or about the basis of professional opinion might be helpful to a reader who has a goal beyond one that your document anticipates. *Takeaway: Purposes exist within a larger workplace context.*

Here are some questions you might ask about your purpose to help you make decisions about what to include in your document, what to exclude, and how to present your ideas:

- What was the situation that led me to write this document?
- What do I want my primary reader to do or think after reading this document?
- What do I intend to accomplish with this document?

- Do I want my primary reader to change his or her mind about my topic after reading my document? If I do, how will I help the reader make that change in opinion or attitude?
- Do I need approval or recognition for my work to continue?
- How do I want to present my analysis of a project or situation in the document? Does my primary reader already have established ideas about my topic that affect my analysis?

The Rhetorical Situation: Audience

Audience is a complex term for a variety of reasons. Even when you are writing to one person, you have to make assumptions about what that person knows, believes, and prefers. If you know that person well, this might be easier to do than if you don't know the person at all or only know them by their position in a company. That's not necessarily the case, however.

You can never completely predict how a person will read a text: what associations that person will make with certain arguments, approaches, or phrasings, and even what the reader will skim rather than pore over. It is also difficult to be certain how a person understood an earlier document and how that relates to how that same person will read another document. Life experiences change people—and therefore change your audiences—from day to day and even from minute to minute. In fact, sometimes a person that you know well will have different expectations from your text than someone you don't know, which may actually make writing more difficult. *Takeaway: People are not predictable.*

For many workplace documents, you are addressing multiple people at once and those people have different interests and concerns. You are also less likely to know specific things about the person you are addressing when that person is outside of your organization or not someone you work with on a day-to-day basis. While the term "audience" is singular, referring to the complex of the people who will read or be influenced by your document, it is really plural in its indication of the background knowledge, needs, and expectations of these people. You may write to one primary audience (for example, your supervisor who you need to act on your behalf or approve your work). But many other secondary audiences may read your document as well: accounting staff, legal staff, government agency representatives, and co-workers. Still others may be influenced by your document: co-workers, stockholders, attorneys, clients, and even the general public.

One general strategy is to keep a primary audience in mind as you write, but to check over your text with secondary audiences in mind, considering where they might find your text problematic. For example, you might write a proposal to a client outside your organization, but revise your text to reconsider certain writing choices based on the fact that that proposal will need to be approved by your supervisor. *Takeaway: Prioritize and consider audiences systematically.*

To do this, you will need to know something about your audience. When possible, you will want to gather specific information about your audience and their needs and beliefs. This is a research task. Ideally, you will want to speak with audience members yourself, ask them what they value, what they know about your product or goal, and ask them what they find convincing or useful. It may help to observe them doing a task or take note of the words they use for things. For example, if you are writing a user guide for a piece of manufacturing equipment, you may be able to visit a shop floor to see how the workers will interact with the equipment and to talk with them about their needs and concerns. If you are writing a report to someone in a decision-making role in your organization, you can talk to others about what kinds of issues the decision-maker regards as important.

When an audience is not directly accessible, explore prior documents or media that relate to your topic and your intended readers. For example, if you wanted to write a proposal for research funding to the National Science Foundation (NSF) in the United States, you could visit the NSF website to learn such important information as its mission statement, what types of projects the NSF funds, specific projects funded in the past, and biographical information for the NSF staff who are likely to read your proposal. This information would help you better understand whether the NSF would be interested in your idea and may help you articulate your idea in a way that seems to fit in with its mission. *Takeaway: Consider existing texts when you don't know your audience.*

When a document's audience is large and you can't anticipate who individual audience members will be, you may need to create general audience categories. Knowledge of an audience is only useful when it can be related to the communication task at hand; so categories of users or readers should be created relevant to your communicative purpose. For example, if you were writing a set of instructions for a software program, you might think of your audience as made up primarily of people who have not used the software before ("new users"). You might also identify a secondary audience of "prior users" who are already knowledgeable about the software program. *Takeaway: For complex audiences, use categories.*

Having a secondary audience in mind may lead you to make different decisions about how to structure your instructions. If you think your "prior users" might have a high tolerance for reading information out of order or information that is abstract or comparative and that they might make up a small fraction of your readership, you might decide to make small boxes at the end of each procedure stating how that procedure has changed since the previous version of the software. On the other hand, if you think that "prior users" might be a significant portion of your readership and are likely to go through procedures quickly and miss the subtle ways in which they are different than in a previous release, you might put notes or flags in line with procedural steps where attention should be paid to differences. Placing these flags in a way that won't disturb "new users" use of the document would be key.

The details of an audience category that make it useful for writing decisions can be generated by discussing the typical users with experienced members of your

workgroup or, when possible, by observing or interviewing model users and extrapolating what the larger user population might look like. Neither approach is particularly reliable for dealing with the idiosyncratic needs of individual users, but when a document audience is sufficiently large, it's unlikely that you'd be able to accommodate all those individual needs in one document anyway.

Of course, audience categories like these should be created and described relative to the particular situation you are addressing with your text. But when an understanding of a particular technology or technical concept is integral to understanding the argument made in a document, a general distinction is often drawn between experts and non-experts. *Takeaway: Expertise is a common categorical observation.*

Non-expert readers are not familiar with the details of your topic, although they may be familiar with similar technical topics. When writing for non-experts, you want to consider which terms and concepts will be new to them so you can relate these new ideas to ideas they are likely to already be familiar with. Herbert Clark and Susan Haviland have called this approach the Given-New Contract [16]. They suggest that a writer should present new information in the context of existing (or "given") knowledge. If this context is well designed, they suggest the reader should be able to "compute from memory the unique antecedent that was intended" thereby connecting new information to existing knowledge to understand the new knowledge.

In practice, you can employ this strategy by first establishing known information with your reader, then relating new concepts to that known information. Once the new information is related and explained, it becomes given/known information and you can relate the next piece of new information to that given/known information. By continuing to relate new information to already known information, you can help a reader to understand new concepts incrementally, one new piece at a time.

You might also want to consider whether these people may already hold opinions about your topic, even though they may not be familiar with the details you will present. To meet these readers' needs, you can define terms and describe concepts with which they are unfamiliar. If you were writing instructions for a heart monitor to be worn by patients experiencing heartbeat irregularities, you would probably assume that not all patients are familiar with the medical terms for these irregularities. You might provide definitions in context (for example, "This monitor can detect irregularities in your heart rhythm, such as *tachycardia*, or 'rapid heartbeat"') or omit specialized terms altogether ("This monitor can detect irregularities in your heart rhythm, such as rapid heartbeat"). You can also include illustrations or other graphical information to help readers understand your concepts visually. When writing for non-expert audiences, it may be helpful to explain your reasoning and justifications in more detail than would be necessary for readers who are experts in your field.

Expert readers may be very familiar with the details of your topic and want you to convince them that your ideas are significant in relation to your shared professional field. These readers will want to know the details of your ideas in order to evaluate your reasoning and come to their own conclusions about your topic. Although you need to include technical information for these readers, you also need to consider

that they are very familiar with your topic and will consider you to be unprofessional or a novice if you include too much elementary information about your topic. For these readers, you need to include technical details without adding too much basic information that makes you sound like you have only an introductory knowledge of your field.

To sound professional for expert readers, you should use standard technical terms and exclude definitions of these terms that are commonly used in your profession. You should refer to standard equations and formulas that you would expect other experts to know. If information is usually expressed in graphical forms, such as charts, diagrams, graphs, etc., you should include these graphical elements in your documents as well. Expert readers are likely to want details about your methods, data, and analysis to understand your ideas and draw their own conclusions about them.

Another way of understanding the complexity of audience is to use the roles audience members play inside and outside your organization to create a schematic that relates audiences to each other. Organizational charts and project management hierarchies can tell you a lot about who is nominally in charge of what, and what responsibly and concerns workers in those roles should have. In describing a workplace for their 1976 book on technical reports, J. C. Mathes and Dwight Stevenson represented communication in technical organizations as layers of mangers and technical professionals who manage and communicate in regular ways. Placing the writer at the center of a circular diagram, Mathes and Stevenson suggested segmenting audiences based on organizational distance—the closest audience being the people you work with, the next ring being those you work for, the following ring being those in your organization, the following being those in the client's organization, and so on [17]. This egocentric approach, as they called it, enables the writer in an organizational context to consider how their communication passes through layers of audiences that might stop their text or might be affected by their text. *Takeaway: Audiences can be categorized relative to organizations.*

While their approach is revealing, Mathes and Stevenson's diagram itself is unavoidably general. Engineers and technical professionals work in a variety of organizational conditions and service a variety of constituencies. The egocentric diagramming approach is most informative when used to diagram a specific writing situation. Even though diagrams of one workplace or project may fail to explain another, characteristic diagrams could be created to express (or normatively represent) typical work patterns in an organization. Figure 1.2, for example, is an application of the egocentric approach to create a characteristic diagram for a client-oriented engineering project.

This model contains three broad categories of audience (gateway, target, and regulatory) that are not only arranged by organizational distance but by their relationship to each other. This diagram depicts audiences inside an organization or project team—including a manager, an editor, and a corporate legal team—as having a restrictive role on you and your team's communication with a client. This audience may stop you from complaining to a client or promising them results that you cannot be sure to accomplish. On the other hand, if you are trusted to communicate with the client

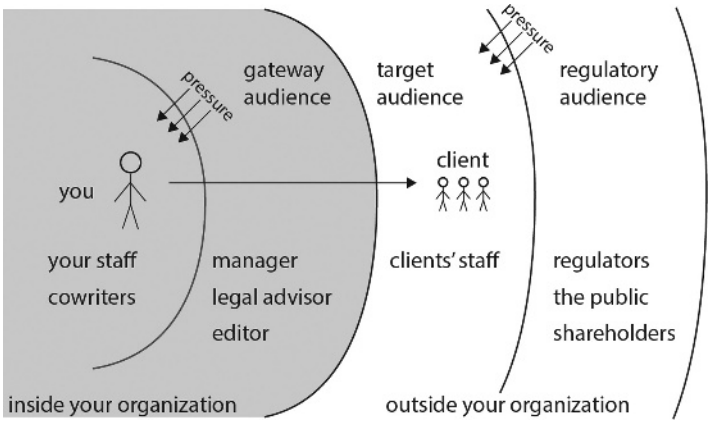

FIGURE 1.2. Diagram of a client-oriented engineering project made using Mathes and Stevenson's egocentric approach. This diagram models the different relationships various audiences have with a document produced for a client. Different kinds of pressure may affect the message different ways.

directly, this group of audience members will likely receive the backlash from actions that they would have stopped. The target audience, your client and their technical staff are the primary goal of your communication. But they have their own outside pressures coming from audiences beyond them—regulators, for example. While

FIGURE 1.3. Example of audience groups positioned in two dimensions. This chart represents categories of readers as they might be evaluated based on their technical knowledge and organizational distance.

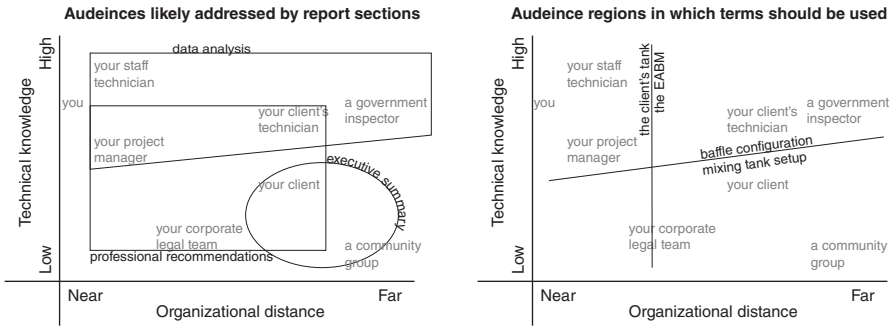

FIGURE 1.4. Example representation of how audience groups might be connected to document sections and word choice. Writing decisions can be tied directly to considerations of audience.

regulators of your client might not be your audience, *per se*, they inform how your audience is likely to consider your arguments or receiver or accept your work.

In that a diagram like this sets up the power dynamic of multiple audiences, it could be used to help consider how you might subsection or subtitle a document so different readers can find what they need. It might also help you revise arguments or statements with the idea that they must be acceptable to a certain audience, or that they might be seen by another. This audience breakdown, however, tells you something different than the categorical breakdown which might help you select which technical terms to use or how to divide up procedures.

Combining a schematic view of audience with a category understanding of audience, you can make observations that might help you to make granular writing decisions, like what kinds of arguments should be made in certain parts of a documents or what sections should contain technical terminology. Figure 1.3, for example, is a two-dimensional representation that shows hypothetical audience groups in terms of their expertise with regard to a particular project and their organizational distance relative to the team completing the project. This graph is then used as a template in Figure 1.4, which contains space-filling and segmenting layers that indicate how document sections might be keyed to the hypothetical audiences and which terminology may be appropriate for them. Taken together, these diagrams suggest how vocabulary might vary across a document.

The Rhetorical Situation: Identity

The *identity* of an author is the way an audience views the author of a text, their expertise, their motivations, and their feelings. Your identity as a trustworthy writer shapes how you produce your document and how it will be received and used. A

document written by an author that an audience views as a trusted expert may require less background, less justification, and less mitigation on claims. Just as you use what you know about your audience to frame your message, your audience will use their knowledge of you to understand your message.

One of the reasons sales documents are overtly persuasive—declaring up front that they are trying to sell the audience something—is because they are written by sales staff. An audience reading a sales pitch may see the author as honest or dishonest, as genuinely enthusiastic about a product or as conniving, but the audience knows that the salesperson is motivated to sell. Where the audience is savvy and self-sufficient, sales is an adversarial relationship that can only be overcome through relationship building, turning the identity of the salesperson looking to make a deal into the identity of the trusted vendor who has their client's best interest at heart. The successful pitch written by the former will likely look appreciably different than the successful pitch written by the latter. *Takeaway: Audiences' expectations are partly based on who you are.*

Your identity, of course, can be established independently of the audience of your document. Your professional associates, your work history, your education, your personality, your appearance, the language you use, and your standing within your profession all affect how credible your readers believe you to be and how likely they are to be persuaded by your ideas.

But probably the largest influence on an audience's perception of your identity is your immediate relationship with them. If you have a good relationship with an audience because you have worked with them successfully in the past, then they are simply more likely to give you the benefit of the doubt. Strained relations, on the other hand, likely make your audience less likely to want to agree with you or work together. Your audience's attitudes and beliefs regarding your topic may affect their perception of you, as in the case of an industrial manager who feels anxious about an inspection. Other times you may have a strained personal relationship with your reader, as in the case of addressing readers with whom you have recently engaged in a lawsuit.

Analyzing your past experiences with your intended audience can help you develop a strategy for finding a common ground from which to begin your communication. Without this common ground, your communication will be ineffective. Rhetoricians Richard Young, Alton Becker, and Kenneth Pike set out a useful maxim for understanding the importance of common ground to the act of communication:

> The motive for communication arises from an awareness of difference and a desire to eliminate it or at least to modify it. But there can be no interaction between writer and reader and no changes in their thinking, unless they hold certain things in common, such as shared experiences, shared knowledge, shared beliefs, values, and attitudes, shared language. Things that are completely separated from each other cannot interact; this is as true of human minds as it is of anything else. Change between units can occur only over a bridge of shared features. Shared features, then, are prerequisites for interaction and change. [18]

In an interaction with a client or a consumer, you represent not only yourself but your organization. When a customer has had trouble in the past assembling products your company has produced, they will read the instructions you write with that trouble in mind (even if you didn't write the previous instructions). Consumer documents and sometimes documents to clients or vendors that come from a company do not have personally identifying marks, so your writing in these documents is the voice of your company. *Takeaway: An audience may see you as an institution.*

When representing your organization, you may think about how your views and ideas fit into your organization's culture. Does your organization have a mission or goal statement that is in harmony with your ideas and the values of your audience? If so, you may foreground that organizational mission in your document. On the other hand, if your ideas are in conflict with your organization's mission or objectives, you might discuss this situation with people inside your organization before sending your document out, especially if there is no clear review process for your work.

You do not want to surprise people in your own company with statements in your document that contradict the organization's objectives or work practices. In fact, working internally, you may be able to incite change within your organization. You may be persuasive within your organization and help to move it into new areas, like new product lines or expansion into the international arena. But if you find yourself in a situation where you cannot agree with your organization's mission and cannot effect change internally, you may need to rethink your relationship to that organization.

The Rhetorical Situation: Context

In the rhetorical situation, *context* forms the various environmental and macro-social considerations that are not identifiably connected with the nexus of identity/exigence/purpose or with audience but which, nonetheless, affect the way the audience receives and perceives communication.

A larger corporate culture that contains both the author and audience of an internal corporate document, for example, could be considered context as it is shared by the author and the audience but is not possessed by or unique to either. (In this case, context seems to do the duty that the term community assumes in the pragmatic model.) The weather or lighting conditions under which an audience member may have used instructions could also be considered context (for example, a manual for fixing tractors might be used in the dark in a muddy field). Context, in many ways, corresponds to features of the channel and noise in Shannon's mathematical model.

Context also includes the requirements for publishing in a trade magazine that influence a position article you write, the features of your workplace word processor setup that won't allow you to share reports with linked rather than embedded graphics via your content management system, and the standard fonts, margins, and colors that documents leaving your corporation always use that disrupt your ability to format a particularly informative graph.

Governmental and legal regulations can affect how you need to explain your ideas, the review process for your document, or the type of ideas you can put forward

within a situation. If you are in an organization that has strict government oversight, such as the pharmaceutical industry, your documents might be the primary way of conveying that work is being done according to regulations, so expressing work in terms of these regulations is key. If you are working on government contracts, you also need to strictly comply with their proposal and reporting requirements. Since legal regulations impact virtually all aspects of technical writing, your organization may have requirements for legal review of documents.

The relationship between your organization and other institutions can also impact your writing decisions, especially if you are writing for audiences outside your organization. In considering your writing situation, think broadly about the professional and societal context of which your document will be a part. If your organization is in danger of being second-sourced on a large government contract, your managers are probably motivated to show that government agency that they can handle the entire contract. Those managers would not welcome a suggestion, for example, that you cannot meet a deadline. Or if your organization has recently been involved with an environmental accident that was widely reported in the news media, your documents may be under closer public scrutiny than usual. In one sense, all of your "on-the-job" writing might be subject to a court order, and thus available to others. An example of this legal scrutiny of internal documents took place when tobacco companies were involved in class action lawsuits and internal documents became part of the public record. You should always keep legal requirements in mind as you write on your job.

The Pragmatic Situation: Community and Genre

In the context of the pragmatic situation, community is the observable organization of people around a set of workplace practices, communication practices, beliefs, and/or goals. A community of people may form around a craft or skill, such as a community of professional welders; around a common mission or goal, such as a corporation or a labor union; or around a set of beliefs, practices, or approaches, such as a religious or political group. Members of communities have some way of recognizing each other, like through the use of shared terminology or the knowledge of a process or practice. They also have some way of deciding who is in the community and who is not, like through educational credentials, inclusion on a payroll, or participation in a ritual.

John Swales has called communities that form over a common goal and that establish regular roles and patterned ways of interacting "discourse communities." Because these communities have members with regular and repetitive behaviors and responsibilities, they tend to adopt a specific *lexis* (a set of specialized terms that enables them to communicate rapidly and meaningfully) and to develop habitual patterns for those individual communications that represent regular action [13]. These habitual communications, Swales called genre. Appropriate use of lexical markers and genre become a way of recognizing community members. *Takeaway: Over time, messages in communities tend to regularize.*

Because communities sustain themselves by maintaining a regular stream of new members, members' education includes education about lexis and genre in with the

rituals and skilled practices of the community. For example, when a technician takes a job at a new company, they learn the terminology that people at that company use (lexis), the forms they fill out, and the formats of reports that they write (genre), at the same time that they learn laboratory practices and safety procedures and the typical places where employees eat lunch and what they tend to talk about when not talking about work. As they learn these things, they become members of the community. Sometimes, a learning period is even declared officially and community membership (employment or a regular job title, for example) is not bestowed until the learning period has been successfully completed.

Lexis and genre are useful as markers of community membership because they are observable. And, because they are observable, they can be noticed and accounted for as you prepare documents within a community. Put another way, they form a boundary for typically acceptable action, an array of possible actions that can be taken. But they often do not enable you to select a specific action (for that, you need the rhetorical situation) and they are often not as concretely authoritative or tailored to your specific needs as you would like.

Because the idea of a genre is developed over time through the repeated performance of similar rhetorical actions, a genre tends to be an average of or a collection of practices rather than a concrete one. Final reports to clients over the last several years may appear superficially the same, but some may include certain kinds of data that others omit and some may have extended discussions of the problem while others mention it in only a cursory way. This is likely because of the variety of people writing the documents (identity) or because of the variety of clients' demands for what the documents include (audience). This "final report to client" genre, then, has some variability. Locating the best combination of practices within a genre is a strategic approach to using the pragmatic situation to limit your choices and the rhetorical situation to make those choices. *Takeaway: Regular communicative acts have some variability.*

The opposite orientation of these situations can be articulated as well. If genre is a composite of varied examples, its boundaries can be thought of in terms of tolerances that can be used to constrain rhetorical choices. Writing then becomes a process of making rhetorical choices in a controlled environment—choices should suit your rhetorical purpose without violating the tolerances of the genre.

These two articulations are useful in understanding how texts in organizational settings are regulated. When texts are produced in organizational settings by many people (especially people who are distributed), pre- and post-production norming are often required to get those texts to look and feel as though they are the same.

The most common method of post-production norming is editing; an editor checks work after it is written, pointing out where it deviates from the desired style or structure and returning it for correction or simply correcting it. The most common method of pre-production norming is the promotion of a template (a tool which aids in the construction of the document like a file with the correct fonts and margins pre-loaded) or style guide (a collection of rules about what to write, how to write it,

and what visual choices to make). A resource like a style guide, while a correctness model resource, is often written as a conscious attempt to codify generic action and expectations that are shared in genres that coexist in a certain community-supported environment.

Communities often maintain different communication *venues* where different classes of generic action occur. A professional society, for example, may publish reference books, research journals, trade magazines, and an e-mail newsletter. Navigating these different venues (Swales called them "mechanisms of intercommunication") and choosing the right one for the document you've written is an important part of participating in the professional community. While this might be less obvious in a workplace, professionals often have to decide when to send an e-mail and when to make a phone call, or when to write a proposal for a project change and when to simply submit new work to a contingency budget. *Takeaway: Communities maintain venues for generic messages.*

Venue is like Shannon's channel in this way, community mechanisms of intercommunication are designed to accommodate regular community behaviors. When an irregular behavior is warranted, however, sometimes there may be no obvious venue for it. Professional societies that divide their research journals by subject matter may have a hard time deciding where to publish research that involves more than one subject. Similarly, an online troubleshooting ticket system may offer four options to categorize a problem so as to route tickets. When none of those options match how a user of the system would classify the problem, the user might have to choose one path in order to proceed even if it doesn't reflect his or her problem.

The pragmatic situation requires an empirical approach. Looking around your workplace and looking at documents like the ones you are preparing, you can draw conclusions about writing decisions you might make. Some general questions you might ask include:

- What are the names of documents similar to mine and how do those names indicate their purpose or their relationship to each other and to members the community?
- What is the general arrangement of the argument in this document and how is that arrangement advertised?
- How/where does this document get published/delivered? And how does that affect the document's composition?
- What specific words or phrasing patterns do people in my community use and on what specific occasions?

These questions, however, express only general considerations. For a discussion of what you might notice when looking at text from your community (including lexis), you'll want to read the next chapter. For a discussion of what you'd want to notice when looking at documents and their argumentative contents, you will want to read Part 2 of this book.

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