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## An Invention Heuristic for Business and Technical Communication

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In recent years rhetoricians have taken a renewed interest in rhetorical invention, the process by which writers generate the ideas for their communications.<sup>1</sup> Many of the most recent general composition textbooks are emphasizing the role of invention in the writing process and are presenting one or more "heuristics"—systematic procedures—that students can use to carry out the task of invention.<sup>2</sup> The current scholarly literature in the field of rhetoric and composition includes newly developed invention heuristics as well as much discussion of invention heuristics both new and old.

Among the most popular heuristics are those developed from the Classical tradition of Aristotle, Cicero, and Quintilian.<sup>3</sup> In the Classical period, invention was a part of a rhetorical program intended primarily for persuasive communication in legislative and legal contexts. But revised Classical heuristics are now often applied to informative as well as persuasive communication.

Perhaps the most intellectually impressive of the modern heuristics is the tagmemic heuristic of Young, Becker, and Pike.<sup>4</sup> Derived from contemporary linguistics and physics, the tagmemic

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**AS PROFESSOR FARKAS SAYS, THE HEURISTIC IS AN OLD, USEFUL IDEA THAT HAS STOOD THE TEST OF TIME. WHAT DO YOU THINK OF THE HEURISTIC HE HAS DESIGNED? CAN YOU SUGGEST ANY MODIFICATIONS OR ADDITIONS? SPACE ALLOWING, WE WILL PRINT YOUR SUGGESTIONS. (KEEP THEM SHORT!)**

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heuristic is a powerful tool for enabling individuals to think creatively and to find fresh perspectives on problems.

Finally, one heuristic that is very widely known is the journalist's 5 W's—Who, What, Where, When, and Why. This is a modest but practical heuristic designed to ensure that the journalist does not leave out any essential information from a news story.

Although the interest in invention has been directed mostly toward general composition, its value in professional communication is increasingly being recognized.<sup>5</sup> My purpose now is to present a heuris-

tic designed specifically for business and technical professionals. The tagmemic heuristic, the revised Classical heuristics, and others as well can certainly be valuable in business and technical communication. But they leave a special need unanswered. One of the most distinctive and important features of business and technical communication, both written and oral, is the complexity of many communication situations and the number of goals that a single communication may have to achieve. This heuristic meets this need because, unlike other heuristics, it is based on identifying communication goals. It enables the communicator to identify all the goals that pertain to a particular communication situation and to generate subject matter that will achieve those goals.

This heuristic, which I call the Heuristic of Professional Communication Goals, is a checklist made up of six broad categories:

1. The audience will be able to make a practical decision.
2. The audience will be able to perform a task.
3. The audience will become aware of practical information requiring no immediate decision.
4. The audience will respond with intellectual interest, human interest, aesthetic satisfaction, or amusement.
5. The audience will be motivated to do something.
6. The audience will approve of you, your ideas, or your organization.

Each category contains within it the goals of an infinite number of individual professional communications. Moreover, the six categories together encompass the full range of goals that a business or technical person might have to achieve in his (or her) professional communications. To use the heuristic, the communicator simply runs down the list and applies each of the six categories to the communication he is planning—asking in each case if the communication being planned ought to achieve a goal or goals belonging to that category. If the answer is yes, the communicator states the goal in terms specific to that communication situation. Once the communicator knows what goals must be achieved, he can usually retrieve from his

reservoir of information about the situation those facts and ideas that are relevant to the goals. Here is a demonstration of the heuristic at work.

An individual has been asked to write a memo asking the employees of the organization if they would like to have their paychecks deposited directly into their checking accounts. Looking at Category 1 of the heuristic, the communicator might say, "Yes, I want my audience, the organization's employees, to be able to decide whether or not to participate in the plan. My memo must therefore include all the pertinent provisions of the plan—which banks are participating, when the money is credited to the checking account, etc." Probably the heuristic has not so far reminded the communicator (whether an actual businessperson or a student doing a casebook assignment) of anything he would not have thought of anyway. At Category 2, the heuristic will remind the communicator to include instructions for enrolling in the plan, perhaps even a tear-off form on the bottom of the memo. Some students, certainly, would have otherwise neglected to provide a means for the audience to enroll in the plan. At Category 6, the heuristic might well make a very important contribution to the planning process. Most organizations offering such a plan would want the individual writing the memo to use the opportunity to generate good will toward the organization. The memo, in other words, should at least suggest that the direct deposit plan is one more instance of the organization's interest in the well being of its employees. This goal, I suspect, would have been missed by some students and by some businesspeople as well. Internal communications often fail to display any interest or concern for employees even when it is good news that is being communicated.

## SIX CATEGORIES OF PROFESSIONAL COMMUNICATION GOALS

I will now draw a few distinctions concerning each of the six categories of professional communication goals.

1. *The audience will be able to make a practical decision.* A very large percentage of professional communications, especially upward communications, are prepared to enable the audience to make a decision. This category, it should be noted, consists simply of providing the audience with the necessary information for decision-making but does not include motivating the audience to choose a particular course of action.

2. *The audience will be able to perform a task.* Included here is any kind of "how to" information, from a long training manual to a single sentence. As before, this category does not include motivating the audience, just giving its members the ability to perform the task.

3. *The audience will become aware of practical information requiring no immediate decision.* This category includes communications conveying such very routine information as "The meeting will be held in room 402 instead of room 604." This information is very practical but there is no decision-making involved. This category also includes routine business data which are not being used immediately but which will eventually become part of a decision-making process. Also included here are non-routine messages to which no immediate decision is directly tied—for instance, your request to research a particular problem has been denied or your request for a pay raise has been approved.

4. *The audience will respond with intellectual interest, human interest, aesthetic satisfaction, or amusement.* This category consists of four subcategories linked in that the goals encompassed by each have inherent appeal for audiences.

Intellectual interest can be defined as humankind's natural curiosity about the world and inclination toward thinking and learning. The articles in *Scientific American*, for instance, are usually read for intellectual interest, rather than for job-related reasons.

The talks that business and technical professionals give to non-specialist audiences are very often intended to generate intellectual interest. Professional journals are read sometimes for intellectual interest, and sometimes for job-related reasons (Categories 1, 2, and 3), but, most frequently, for a combination of the two.

Communications intended wholly or primarily to generate human interest, aesthetic satisfaction, or amusement are almost exclusively the province of feature journalists, literary artists, and professional humorists, respectively. I nevertheless prefer to include these three subcategories in the heuristic because business and technical professionals do have occasion to generate human interest, aesthetic satisfaction, and amusement—as well as intellectual interest—in short sections of longer communications. Functioning not as goals but as means of generating appeal, they help the communication achieve its goals. For instance, there may be something amusing included in a memo, aesthetic appeal in the prose (or graphics) of an advertisement, an element of intellectual interest in a report, or an element of

human interest—such as a personal profile on the life of a scientist—included in a talk before laypeople that is intended primarily to generate intellectual interest in an area of research.

5. *The audience will be motivated to do something.* This goal includes motivating the audience to perform an action of any kind. Notice that Category 5 always encompasses within it Category 1 (decision-making), even though Category 1 can take place without Category 5. When we think about motivating audiences, we usually think of motivating through positive means; however, there are negative means, such as threats.

6. *The audience will approve of you, your ideas, or your organization.* Gaining approval is much like motivating through positive means; the difference, of course, is that in gaining approval the communicator is not trying to elicit any immediate, and perhaps not any particular, action from the audience.

There is also an “unofficial” seventh category to the heuristic. This category is not actually part of the heuristic because it is not a category of *professional* communication goals. Rather it encompasses almost all school assignments except for casebook problems and other assignments that simulate “real world” situations. This goal can be phrased as follows: The audience, your instructor, will recognize that you have learned the assigned material or have mastered the appropriate skills. Students, I believe, should understand that school writing differs from the instrumental writing of the real world in that school writing has no real purpose other than to let students display what they have learned to an audience who already knows much more about the subject than they do. Students do better assignments when they clearly understand the special ground-rules they are working under.

### TEACHING THE HEURISTIC

The Heuristic of Professional Communication Goals is simple and therefore very easy for instructors to teach and for students to learn. You can introduce it to a class, explain the categories, and help the class through a few practice runs in a single class period.

In the teaching of this, or any other, heuristic the emphasis must be on the free play of the mind rather than on right and wrong answers. Students,

of course, must understand the categories, but two students working on the same communication problem might come up with somewhat different goals, and even with the same goal in mind might generate very different subject matter for achieving it. Sometimes a person will generate an idea about presentation—organization, style, etc.—rather than subject matter. This too is perfectly acceptable. Communicators, you will find, are especially likely to generate ideas about presentation when they try to give appeal to a communication through one of the sub-categories of Category 4. For instance, a communicator trying to generate amusement may get the idea of doing so not through the addition of subject matter but through the stylistic device of inflated diction.

Just as the heuristic is easy to learn, it is easy to use. Therefore, there is real hope that students will carry it into their professional lives and use it on the job. To ensure that my students use the heuristic throughout the course and thereby become thoroughly familiar with it, I have them fill out planning sheets for their assignments in which they list under each of the six categories the specific communication goal or goals they have drawn from that category. The planning sheet also asks them to specify and describe their audience.

A further aspect of teaching this heuristic is the possibility of teaching it in conjunction with other more complex and more specialized heuristics. This is feasible because the Heuristic of Professional Communication Goals takes so little time to use. I have begun teaching the tagmemic heuristic of Young, Becker and Pike.<sup>6</sup> As I noted before, this is a powerful tool for fostering creative thinking and fresh perspectives. It is, therefore, an excellent supplement to the Heuristic of Professional Communication Goals, especially in the case of communications that must generate intellectual interest. In addition, it is valuable not only for communicating but for problem solving in general. There are also heuristics designed specifically for argument and persuasion.<sup>7</sup> These can be used to supplement the Heuristic of Professional Communication Goals when the communicator is embarking on a complex or difficult argumentative or persuasive communication. I hope and expect that in the coming years business and technical writing will be enriched by the use of heuristics for rhetorical invention.

## NOTES AND REFERENCES

1. Valuable material concerning both rhetorical invention in general and particular heuristics is contained in W. Ross Winterowd, *Contemporary Rhetoric: A Conceptual Background with Readings* (New York: Harcourt, Brace, 1975).

2. For instance, Gregory Cowan and Elizabeth Cowan, *Writing* (New York: John Wiley, 1980); Frank J. D'Angelo, *Process and Thought in Composition*, 2nd ed. (Cambridge, Massachusetts: Winthrop, 1980); and George R. Bramer and Dorothy Sedley, *Writing for Readers* (Columbus, Ohio: Charles Merrill, 1981).

3. A pioneer in revising Classical heuristics is Edward P.J. Corbett, *Classical Rhetoric for the Modern Student*, 2nd ed. (New York: Oxford University Press, 1971; first edition published 1965).

4. Richard E. Young, Alton L. Becker, and Kenneth L. Pike, *Rhetoric: Discovery and Change* (New York: Harcourt, Brace, 1970).

5. Dennis R. Hall, "The Role of Invention in Technical Writing," *The Technical Writing Teacher*, 4 (Fall, 1976), 13-24; J.W. Allen, Jr., "Introducing Invention to Technical Writing Students," *The Technical Writing Teacher*, 5 (Winter, 1978), 45-49; and Ardner Cheshire, "Teaching Invention: Using Topical Categories in the Technical Writing Class," *The Technical Writing Teacher*, 8 (Fall, 1980), 17-21.

6. The tagmemic heuristic is often simplified for use in the classroom. See for instance the version used by Cowan and Cowan; and Charles W. Kneupper, "Revising the Tagmemic Heuristic: Theoretical and Pedagogical Considerations," *College Composition and Communication*, 31 (May, 1980), 160-68.

7. Particularly useful is Tommy J. Boley, "A Heuristic for Persuasion," *College Composition and Communication*, 30 (May, 1979), 187-91.

## Writing a Conclusion

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Problem-centred reports in business and industry generally have a section called "Summary of Results," "Findings, Conclusions and Recommendations," or simply "Conclusion." Whatever the label, it certainly marks off the most important part of the report—the part that everybody turns to and reads with a critical eye. It may also be the most difficult part to write, for a number of reasons. Sometimes the difficulty lies with the problem itself. If it has never been pinned down, then trying to provide an answer to the unanswerable is an impossibility; it amounts to chasing a will-o'-the-wisp. Sometimes the difficulty lies in the reasoning process. The writer gets so involved in the intricacies of the data that he is hesitant to conclude anything at all. And sometimes his difficulty is a psychological one. He may be so intimidated by the fact that his readers are also his superiors that he has trouble saying what he would like to say.

There are other difficulties. This article examines two of them: the semantic and the organizational. The first has to do with the writer not getting tangled up in the key words that denote the critical elements comprising concluding material. The second is that he arrange and locate the material such that it will best meet the needs of all who must act upon it. We begin with a review of the critical elements.

## CONCLUDING ELEMENTS

A conclusion results from the investigation of a problem, as shown below.

*Needs and Assumptions:* Department A needs more workspace to increase its productivity. That space requires (among other things) an eight-foot ceiling height, which is impossible to obtain in the present area.

*Problem:* Does the building across the street meet the specification?

*Procedure:* The height is to be measured with a yardstick and the readings averaged.

*Resultant Data:* 8' 0", 7' 11-7/8", 7' 11-15/16".

*Conclusion:* The data average out at 7' 11-15/16". Since the specification calls for 8' 0", the ceiling does not meet the specification—it is not high enough. Therefore Department A will have to stay where it is.

The investigational process seems straightforward enough, almost mechanical in its movement through the various steps. But let us look at one of them, the conclusion, more closely.

First consider that the accuracy of the 7' 11-15/16" depends on the accuracy of the yardstick, the accuracy of the individual readings, the number of readings, and the way the data were statistically