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ABSTRACT

Literally defined, topoi are places in the mind where items of information (ideas, arguments, etc.) may be stored. The purpose of this paper is to conduct a critical analysis of a number of studies which have appeared in communication literature on the concept of topoi and to discuss the function of topoi in communication. Utilizing the Aristotelian concept of topoi, a number of writers, including Bacon, Wilson, and Arnold, have developed topical systems of their own. All systems are based on the fundamental principle that topoi can provide one with a procedure for searching one's memory in order to discover material appropriate to any particular subject. The studies discussed in this paper affirm that topoi do seem to facilitate the generation of discourse for a variety of communicative contexts and a number of communicative tasks. It is concluded that topoi provide an area for additional investigation, one with great practical and theoretical implications. What is needed is to build on the possibility that topoi can improve the generation of discourse by looking more closely at what topoi do, how well, and in which forms in various communicative contexts. (TS)

TOPOI AND THE GENERATION OF DISCOURSE: A CRITICAL ANALYSIS

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In the past few years a number of studies have appeared in communication literature on the ancient Aristotelian concept of topoi (e.g., Nelson, 1970; Infante, 1971; Nelson, Petelle, and Monroe, 1974; Petelle and Maybee, 1974). The objective of these studies has generally been to assess the effectiveness of topoi in the generation of discourse, as measured by their ability to provoke recall of arguments or ideas in response to hypothetical speeches or speech issues. In the process, they have claimed to provide insight to both the traditional rhetorical concept of speech invention and the broader, more fundamental concept of human information processing.

The purpose of this paper is to conduct a critical analysis of these studies, along with a discussion of the function of topoi in communication per se. More specifically, beginning with a review of the theoretical underpinnings of topoi it considers the way they have been operationalized in recent communication research, and then takes up some of the implications of this research for communication theory and practice. In so doing, it also attempts to raise some questions for future research on topoi, questions which are, or ought to be, of critical concern to both rhetorical and communication scholars.

Topoi: The Classical View

Literally defined, topoi are "places" in the mind where items of information (ideas, arguments, etc.) may be stored. As originally viewed by

Aristotle (Nelson, 1969), they exist because the mind is structured to correspond with the structure of events and situations in nature, and because the processes of human cognition are organized. Retention and recall, claimed Aristotle, function according to associations made in the mind between items of information which are structured in certain "patterns" or under certain conditions. Under what are sometimes called his "laws of association" (Bright, 1961), for example, he noted that: (1) Simultaneously formed ideas reproduce one another. The thought of a friend may remind one of the place where he last met him. (2) Successively formed ideas reproduce one another. The thought of one event in a series of events may remind one of the events which preceded or followed it. (3) Similar ideas reproduce one another. The thought of a courageous man may lead to thoughts of other courageous men. (4) Contrasting ideas reproduce one another. The thought of courage may also lead to thoughts of cowardice.

Based on these "laws", Aristotle understood the process of remembering to involve a "chaining together" of ideas (or items) allowing them to be drawn progressively from memory into consciousness. An important extension of this notion was that associative links between individual ideas combine to form categories of ideas bound together by some mutually-shared characteristic. Ideas within each category, he felt, are further associated on a hierarchical basis so that a single, superordinate idea can account for all of the other ideas within the category. In a sense, then, the process of association proceeds geometrically as well as arithmetically, so that it is logically possible, Aristotle concluded, to recall a large number of ideas by working through a relatively small number of

categorical "headings", or topoi. Thus, Aristotle maintained that a topos could be thought of as a superordinate term identifying the common critical dimension through which all of the ideas in a given category are related. As such, it could act as a "starting point" for the progressive association of ideas, from superordinate to subordinate. By extension, he reasoned, a topical system -- if capable of identifying all of the dimensions through which items in memory might be related -- could provide one with a means of retrieving any idea from any category in memory storage.

In his Topica (1963), Aristotle developed a model of such a system, divided into a set of universal topoi and several sub-sets of specific topoi for various subjects of contemplation. The universal topoi included fourteen terms ("essence", "quantity", "quality", etc.) which he believed could account for all of the ways in which items of information could be related to each other, and thus provided a comprehensive "index" to the contents of memory storage. Later classical writers such as Francis Bacon (Wallace, 1943), and numerous contemporary writers such as Wilson and Arnold (1964), have produced topical systems of their own, and indeed the number of systems available is quite large. All systems, however, are based on the fundamental principle that topoi can provide one with a procedure for searching his memory in order to discover material appropriate to any particular subject. More precisely, as Nelson (1969) has written, a topical system presumably serves a communicator as a tool for discovering the "message options" available in a given communicative situation, and so can act as a powerful aid to the process of speech invention and, perhaps, speech disposition.

Topoi: The Modern View

Though rarely by name, the concept of topoi has received a considerable amount of investigation in recent psychological research on verbal learning and verbal behavior. In studying the problem of how one gains access to previously learned information, much of this research has centered on three points which are vital to topical theory: (1) the degree to which man categorizes information; (2) the degree to which information in categories is hierarchically ordered; and (3) the degree to which a single, superordinate "cue" can trigger the recall of all of the items in a category.

Axiomatic to most theories of verbal behavior is a notion of man's propensity towards categorizing information, essentially because it facilitates his ability to acquire and retain it (Bruner, Goodnow, and Austin, 1956). Empirical support for this notion has come from several sources, most notably from the work on free recall of information by W.A. Bousfield and his associates (e.g., Bousfield and Sedgewick, 1944; Bousfield, 1953; Bousfield, Cohen, and Whitmarsh, 1958). The thrust of this work has been to show that when people are asked to recall a list of previously learned items (words), they tend to do so by retrieving them in "clusters" of related words, and the better the clustering the better the recall. The occurrence of clustering in recall has been taken as evidence of a concept formation situation in memory where, as Adams (1967: 157-158) explains:

> The separate words of a concept category have their separate habit strengths, or "subordinate perceptions" as Bousfield calls it; and these separate words are organized under a "superordinate perception" which is a conceptual state that has strength of its own derived from the strength of individual words. The strength for the superordinate accrues with practice on the subordinate. As a result of such learning,

> the occurrence of a subordinate perception will activate the superordinate structure, which in turn activates the responses of other subordinates. The result is words of the same conceptual class being recalled together, which is clustering.

Thus, the recall of a subordinate word like "cow" presumably evokes the superordinate word "animal", which leads in turn to the recall of words like "dog" and "cat". To the extent that a word like "animal" may be thought of as a topos, therefore, the findings of Bousfield and his associates lend credence to the conclusion that topoi are functional in human recall because in fact they represent conceptual "cues" to items in memory derived from an awareness of some abstract, higher-order relationship among ideas.

Implicit in this, of course, is support for the second presumption of topical theory, that information in categories is hierarchically ordered, and for the third presumption that a superordinate term can prompt retrieval of all of the items in a category. Further support comes from a variety of interrelated findings on human remembering, e.g., the fact that organizing items into categories may constitute a method of coding them (Cofer, 1966), that items may be recoded in ways which enhance their categorical properties (Schaub and Lindley, 1964), that recoding tends to form items into larger, more informationally-valuable "chunks" (Miller, 1956), and that coded "chunks" may be further coded into a hierarchy of "superchunks" which act as a set of nested categories in recall (Wortman and Greenberg, 1971). Underlying all of these findings is the premise that human remembering functions according to certain rules (Pollio and Gerow, 1968), or that it operates according to some broad and directive plan (Miller, Galanter, and Pribram, 1960). The purpose of this plan is to supply

an individual with a means of systematically "cataloging" the items in his memory and of systematically locating and retrieving them at a moment of need. Understood as vehicles for "gaining entry" to the categorical structure of memory storage, then, topoi promote recall because in effect the processes of human cognition themselves are guided by a topical plan.

Topoi and the Generation of Discourse: Applications

It is against this background of classical and modern theory that current investigations of topoi in communication have been framed. As Nelson (1970: 121) writes:

> The position advanced is that topoi represent an exhaustive and more-or-less discrete set of labels identifying the points in semantic space where knowledge tends to factor. Topoi are the highest order of abstractness language can allow while retaining integrity for representing the various dimensions of human conceptualization, i.e., they are labels for superordinate structures of human cognition. Topoi are neutral cues for conceptual processes and cut across all humanly concocted divisions of knowledge. Topoi are viable classifiers regardless of subject matter and they are generalizable in all cases.

As such, Nelson speculates, topoi provide a way of tapping the conceptual categories of the mind, and a set of externally imposed topoi which provide an explicit framework for this process should result in a greater recall of information related to a given subject than would unaided (or free) recall.

Generally, this hypothesis has proven correct. In Nelson's own study, groups of subjects were presented with either of two potential speech issues, one judged to be of high meaningfulness to them and another judged to be of low meaningfulness to them. Half of the subjects assigned to each issue were given a list of the sixteen terms (or "lines of thought") in the topical system advanced by Wilson and Arnold (1964: 103) along with instructions to follow

the list in attempting to generate possible ideas related to the issue. The other half of the subjects on each issue received no special materials or instructions aside from the suggestion to "look for new ways of viewing the issue when you seem to run out of ideas". All subjects were then given a maximum of one hour to list as many ideas as they could think of/recall for their issue, and the results revealed that subjects using the topical system produced significantly more ideas, for both high and low meaningfulness issues, than subjects using only free recall. In a subsequent study, Infante (1971) was able to extend Nelson's findings by showing that topoi are effective in discovering/recalling lines of argument that refute a counterattitudinal message as well as ideas, when the stimuli are actual speeches rather than speech issues, and when topical systems other than Wilson and Arnold's are employed. More particularly, using the four terms (questions) in Hultzen's (1966) status system for deliberative analysis, and training subjects in the use of the system, he was able to show that subjects using topical cues recorded more arguments against a speech on "legalized wiretapping", whether the message was "strong" or "weak" in terms of reasoning and evidence, than did subjects not using topical cues.

In yet a third investigation, Nelson, Petelle, and Monroe (1974) endeavored to apply the use of a topical system (Wilson and Arnold's) to the process of idea generation in small group problem-solving. In an effort to improve the familiar technique of "brainstorming" in groups, they hypothesized that following the terms of a topical system during brainstorming would produce qualitative as well as quantitative differences in idea generation on a complex problem. Dividing subjects into matched sets of

"cued recall" and "free recall" groups, they allowed each group a maximum of 75 minutes to generate possible solutions to a given problem ("What Program should the Federal Government follow for dealing with Air Pollution?"), to assign priorities to their solutions and combine them into an outline, and to write a specific policy statement reflecting their best solution. When these policy statements were ranked in order of their thoroughness and workability by subjects from both sets of groups three weeks later, the policy statements generated by the cued recall groups were judged better overall than those produced by the free recall groups, suggesting that the use of a topical system did in fact improve the quality of group idea generation.

Topoi and the Generation of Discourse: Implications

These studies affirm the fact that topoi "work", that for a variety of communicative contexts and a number of communicative tasks they do seem to facilitate the generation of discourse. This, of course, has wide implications for communication theory and practice, first because it sheds some light on the traditional process of speech invention and second because it offers advice on how that process might be improved. One could reason, for instance, as indeed many authors of introductory speech texts have, that deliberately instructing persons in the use of a topical system would improve their ability to prepare public speeches, or to formulate cases for debate, or to function more effectively in small group discussion.

At the same time, however, it appears that these studies actually raise more questions than they answer about topoi in communication. And in

analysing their results, along with the assumptions on which they are based, it seems possible to make at least three critical comments about them, comments which not incidentally point the way for further research.

The first has to do with the issue of how well topoi work in the sense of being able to provoke information of value or merit. Conspicuously missing (and admittedly so) from the findings of both Nelson and Infante is whether subjects using a topical system will generate better ideas or arguments than subjects not using a topical system, or, in Nelson's words, whether they will generate ideas of greater potential significance to an audience. This is a critical question, for ultimately the effectiveness of invention is dependent as much on the quality of ideas created as on the quantity. Closely allied to this, perhaps, is the question of how topoi-induced changes in message quality may influence other dimensions of communication, and thus Infante suggests the need to discover if topically-cued arguments and ideas make a difference in things such as audience attitude change or perceived ethos of a speaker in later persuasive situations. To be sure, in the context of small groups the findings of Nelson, Petelle, and Monroe do try to address the issue of message quality, but the design of their experiment, in which subjects who ranked problem solutions were members of groups which generated solutions, leaves open the question of how their results may have changed if their raters had been independent. Furthermore, the fact that the raters judged group-generated ideas rather than individually-generated ones casts doubt on whether their rating behavior can really be generalized to other communicative contexts, such as judging a single public speaker where he/she alone is responsible

for ideas. Significantly, in partial reply to these questions, Infante points out that the design of Nelson's study could be modified to investigate judgments of a speaker if, in addition to a session where subjects use topoi to generate speech ideas, a session is included where speeches are presented to a group of listeners for evaluation.

The second comment deals with the issue of what kind, or form, of topical system, out of the myriad of systems and subsystems available, is most effective for generating discourse. As Wallace (1972) asks: How broad or narrow should a "good" topical system be? How many terms should it contain? As many as are in Roget's Thesaurus, or the Syntopicon of the Great Books? As few as are in the Toulmin model of argument, or Burke's pentad of motives? This too is a critical question, for obviously the responses one gets from a topical system are heavily reliant on the specific kinds of stimuli one uses. Thus far the bulk of research on topoi has been based on the presumed efficacy of the Wilson and Arnold system (which is based on the original topical system of Aristotle), but as Wallace maintains there may be a problem with such classically-derived systems, namely that their terms are drawn from the arts of logic and dialectic rather than rhetoric. As the requirements for generating logical discourse are not quite the same as the ones for generating rhetorical discourse, there then is a question concerning how "practical" the terms in such systems are for tasks like generating speech materials. This may explain an interesting outcome of Nelson's study, that although the number of ideas produced by subjects using topoi was significantly greater statistically than that produced by subjects using free recall the actual increase was rather

small -- 17% more items on the issue of high meaningfulness, 10% more on the issue of low meaningfulness. Indirectly, the utility of Wilson and Arnold's system has also been challenged by a study reported by Petelle and Maybee (1974) which found no significant difference between its results and those of a "system" composed of sixteen random nouns.

All of this underscores the need to examine different topical systems in an effort to determine whether some are more effective than others. Wallace, for example, suggests that a more rhetorically oriented system, such as Chaim Perelman's (Perelman and Olbrechts-Tyteca, 1969), may prove more effective, and Petelle and Maybee raise the possibility that self-generated systems, i.e., where a person makes up a list of topical cues of his own, may prove more valuable than almost any "standardized" system. Of importance here too are the questions of whether different topical systems are needed for receivers as opposed to senders in communication, whether topical cues useful in generating ideas of one's own are equally useful in evaluating the ideas of others, and whether different topical systems are needed for different communicative forms, e.g., small group discussion versus public speaking, and especially formal public address versus informal, private conversation. At bottom, the selection of the most appropriate topical system for a given task would seem to be essential to both the system's and the task's success.

Finally, a third comment centers on the deceptively simple question of what topoi, as presently investigated, really do for a communicator. The patently self-evident answer is that they aid the process of inventing ideas, but do they? An implicit assumption of topical studies is that

recalling information is synonymous with creating it. In reality, however, they might be two quite separate cognitive operations, as both classical and modern theorists have suggested. Aristotle himself (Wallace, 1972) drew a distinction between them through the analogy of fitting a person with a pair of shoes by drawing upon a stock of ready-made shoes, as opposed to designing and making a pair from scratch. In the first case, one relies chiefly upon memory to match a person with materials already in store; in the second, one relies upon his skill in selecting and forming materials to manufacture something new and unique, explicitly tailored to a person. The analogy indicates that invention involves something more than just recalling information, that in fact it may be the ability to generate new information on the basis of what is recalled that is truly important.

Current writers (e.g., Guilford, 1967) have seen this as a different facet of human intelligence, one of production rather than memory, and so subject to different measurements of performance. If so, it implies that the effectiveness of topoi, as presently assessed, may not be wholly related to the effectiveness of invention, and that a criterion other than amount of information recalled is needed to judge invention. More critical, perhaps, would be a person's ability to adapt or modify recalled information in response to a specific set of circumstances, such as a given audience or occasion. This, of course, reemphasizes the need to investigate the qualitative dimension of topoi to learn whether it is indeed true that persons who generate more information will also generate more appropriate information, and thus make a better impression (in terms of credibility, persuasiveness, etc.) on a listener.

To conclude, as Petelle and Maybee maintain the study of topoi focuses on a problem of primary concern for communication research; the interactional relationship between various external stimuli available to a communicator and various internal activities (thinking, reasoning, remembering) performed by a communicator, and particularly the way in which modifications of the former may influence the latter. As such, it provides a fertile area for additional investigation, one with great practical as well as theoretical implications. The possibility alone that topoi can improve the generation of discourse is enough to justify their study, and support for this point seems well-established. What is needed now, it would appear, is to build on this finding by looking more closely at what topoi do, how well, and in which form(s) in various communicative contexts.

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