

## PROCESS VS. PRODUCT: PROBLEM OR STRAWMAN

ROBERT B. KAPLAN

University of Southern California

The recently drawn distinction between *process* and *product* in composition teaching may serve to establish a false dichotomy. Every process leads to a product, however tentative, and every product is the outcome of a process. The dichotomy masks important variables dictated by purpose and audience. Further, it fails to take account of the distinction between "knowledge telling" and "knowledge transforming", largely ignoring the latter. Finally, it obscures the fact that, while oral language is indeed part of the human genetic baggage, written language is a recent phenomenon, not universally distributed in the species. Writing is not merely the recording of speech; rather, it is shaped by various factors including cultural considerations. The teaching of writing must deal with these variables.

In recent years, a complex argument has evolved, particularly in North America, in the teaching of writing. Traditionally, writing instruction has focused on the *product*, the finished composition, and composition instruction has consisted to a large extent of the correction of syntactic, morphological, lexical, and semantic error in that product. About a decade ago, attention shifted to the *process* through which individuals compose, and the teaching of composition has turned its attention more and more to inculcating in the student an understanding of the mental procedures underlying the product, lying behind the text.

In part, such a shift is easily understandable. There was increasing evidence that correcting grammatical and spelling mistakes in text made little differences in the quality of student writing. There was growing evidence that the rhetorical taxonomy which speakers of European languages had inherited from Aristotle was largely based on ill-defined notions and reflected the world of real writing only to a negligible extent. There was accumulating evidence that the meaning of a text did not lie specifically or exclusively in the text but rather was negotiated between the reader and the text and successful negotiation depended not only upon linguistic knowledge but upon world knowledge, social knowledge, and a variety of other potential sources. There was expanding evidence that different academic disciplines organized text differently, that different languages organized text differently, and that the strategies determining the organization of text depended more on the intended audience, the objective underlying the writing act, and the illocutionary intent than they depended on linguistic and lexical constraints.

There is ample research evidence that grammatical accuracy does not to any significant degree overlap with communicative competence. On the contrary, it is fairly clear that communicative ability in written text can subsume some degree of grammati-

cal error without interfering with comprehensibility; or, to put it another way, the ordinary written discourse of native speakers is likely to contain some number of grammatical errors that do not interfere with the comprehensibility of the text. Non-native speakers reflect, in their grammatical accuracy, the conditions under which they learned the language rather than any relationship to communicative ability. In those countries in which the teaching of English, for example, is accomplished through grammar-translation methods, writers are likely to demonstrate great grammatical accuracy but may still lack cohesion, coherence, or, for that matter, anything to say.

ESL programs, at least in North America, tend to teach the writing of expository prose. But expository prose is very difficult to define; in a sense, it can only be defined negatively. Expository prose is *not* narrative, verse, or dramatic dialogue. That is not a particularly useful definition. In a rather general sense, expository prose covers all those genres which are more or less objective and the purpose of which is, more or less, to expose the facts—that is, all those genres which are primarily factual rather than imaginative. But such a classification is too broad to be of any practical value; certainly, it is too broad to be subject to definition in linguistic terms. Recent research by such scholars as Biber (1986) and Grabe (1984) shows that narrower types can be defined in linguistic terms. Grabe, for example, compared the linguistic structures of texts in introductory and professional science, social science, and academic humanities (i.e., undergraduate textbooks, professional journals, and popular magazine texts) with the linguistic structures of newspaper editorials, personal letters, and prose narratives and found significant differences between the two large sets. His work moves toward a linguistic definition of expository prose, but more importantly it suggests that there is not only one model for expository prose; there are many, and to some extent those models can be differentiated with respect to content, audience, and purpose.

Widdowson (1979, 1984) has demonstrated the notion that the meaning of text does not lie in the text itself but rather is negotiated between the reader (in terms of his/her knowledge and experience) and the text (as representative of the knowledge and experience of the writer). Certainly, the meaning of the text depends in part upon the semantic meanings of the lexical items chosen and upon the word order in which those lexico/semantic structures are arranged, but quite beyond that limited meaning are the meanings that accrue from the sociolinguistic environment in which the communicative act occurs and from the relative knowledge of the topic and of the world at large of the individuals who participate in that communicative act. Or, to put it in Halliday's terms, meaning must be *instantiated* out of the text (1976). Elsewhere (1983b), I have tried to develop a taxonomy of writing acts, defined with respect to audience and with respect to the relative degree of composing involved, in something like the following structure (Fig. 1).

The figure is in no sense complete. Other audiences are certainly possible, and only a few types are included in the cells to suggest the possibilities. In each instance, successful achievement of meaning depends on the ability of the assumed audience to instantiate meaning out of the particular genre and the particular message.

Even within the general classification of writing in science and technology, it is quite clear that different categories of science or technology writing are dominated by individualized organizational schemata. Grabe and Kaplan (in press) have discussed the argumentative nature of scientific proposal writing as differentiated from scientific

	Writing without composing	Writing through composing/to inform	Writing through composing/to move
To oneself	Laundry list	Diary entry	
To one known other	Note to teacher	Personal letter	Love letter
To one unknown other	Business letter		
To many known others	Memo		Sermon

Figure 1

reporting, and Fuller (1984) has discussed in great detail the organizational constraints of medical clinical reports. Van Naerssen and Kaplan (1987) have surveyed the area generally, and have provided an overview of the syntactic and rhetorical features of a variety of sub-fields.

Certainly, all of these considerations together strongly support a rejection of composition teaching concerned only with the final product and necessitate approaches which show some concern for the writing process. At the same time, there is evidence that the concern with process has gone too far and that an environment has been created in which there is exclusive concern for process to the exclusion of the product. One such extreme is exemplified in the work of Elbow (1973) who takes the view that only the intellectual processes of the writer count for anything. The use of "journals" has become popular in writing instruction; this is an approach in which learners maintain journals in which they jot their ideas, and from which they derive their content at a subsequent time, somewhat in emulation of the process employed by many creative writers and documented in the biographical studies of writers of fiction and poetry.

The truth of the matter seems to lie somewhere between the extremes of a concern for process only or for product only. It is apparent that every product is the result of a process and every process leads to some product. A problem in the earlier, so-called product approach lies in the assumption that only the final product is of interest. That is, students in writing classes were given a topic and, after some appropriate period, were expected to return to the instructor a "finished" product. This conceptualization led to a strategy on the part of the instructor such that revision was seen as unnecessary and only editorial correction was at issue. Thus, instructors marked the editorial problems (grammar and spelling) and ignored larger structural problems. Grades were, then, partially based on technical accuracy but partially based on an evaluation of the cohesion and coherence of the text as a final product. But cohesion and coherence were only discussed in the abstract; that is, coherence and cohesion were exemplified in readings that the learner undertook in preparation for his/her own writing activity; they were rarely exemplified in the learner's writing. Nor were cohesion and coherence explicitly taught in terms of the syntactic features that permit them or of the rhetorical strategies that underlie them.

More recently, revision has become a major feature of the teaching of writing; revision concerned with modifying the coherence and cohesion of text rather than revision concerned only with editorial correction. It is now fairly well recognized that the writer passes through a process in which there may be several products, none of which may be considered "final". Even the product with which the exercise ends is not a "final" product, since it remains possible that the writer may at some future time move from that product through further processing to yet another product.

The extreme view—that one must concern oneself only with the process—sets up a situation in which a false opposition between product and process exists. That view fails to recognize that processes lead to products and that products represent the outcomes of processes. Given that products are constrained by real-world requirements, an opposition between process and product and an exclusive concern with process sets up a strawman whereby concern with the product is blamed for the essential failures in the teaching of writing. In the real world—for example, in the world of scientific writing—the product is externally constrained. It must, minimally, conform to the editorial constraints imposed by some particular scholarly journal. For example, without reference to the importance or interest of the ideas expressed in this article, *Lenguas Modernas* might refuse to publish it if it is presented in a form which ignores the editorial policies of the journal. But quite beyond that, a scholarly journal may refuse to publish a text which does not, at least to some extent, conform to the dominant paradigm which governs the field at a particular point in time. For example, Benjamin Franklin's interesting article on the physics of bread baking, which appeared in the annals of the British Royal Academy in the middle of the 18th century, would probably not be published today in a scholarly journal in physics, not merely because knowledge in physics has increased over the past 200 years, but because what he has to say does not conform with the dominant paradigm of physics at the present time and because the text is not presented in a form characteristic of the way in which information in physics is supposed to be presented.

These are not basic linguistic concerns with the process that a writer goes through in composing a text—concerns with coherence and cohesion or with spelling and grammaticality. They represent concerns with the product, not with the process by which the product was achieved. Thus, failure to pay attention to the product limits significantly the effectiveness of the teaching of writing. While scientific and technical writing has been taken as the model in the above examples, similar constraints exist for virtually all genres (with the possible exception of the personal letter, where form requirements are extremely loose). Students learning to write in the academic environment are in fact concerned with the conventions of the several genres defined as falling within academic writing. The notion of *convention* is an important one and must not be overlooked on the product side. Writers are compelled, if they wish to do more than write for their individual enjoyment, to conform to a variety of conventions: conventions of mechanics, conventions of the discipline in which they are writing, conventions of the language in which they are writing, and conventions of the society in which their writing will appear. For example, at the lowest level—conventions of mechanics—it is conventional in the Anglo-European publishing tradition to snug punctuation up against the preceding word, as I have done in this text; in Chinese publishing convention, punctuation occupies the middle of the space between two

words. At the level of conventions of the language, adjectives in English normally precede the nouns they modify rather than follow them as is the case in Spanish. At the level of conventions in a discipline, this whole paper can serve as an example of an acceptable procedure for presenting information in a scholarly journal in applied linguistics. It is difficult to find examples which illustrate an unconventional procedure, as such examples never get printed. It is possible, for example, that a first effort by a graduate student might serve as an example, since the graduate student aspires to be a writer in the field but cannot yet be one, no matter how wonderful his/her ideas may be, because s/he does not yet control the disciplinary form in which the ideas must be presented. If I were to assume, in an analogy to explain something in this paper for example, that the sun rises in the west and sets in the east, I would be violating the world knowledge of the readers and would, by doing so, create a credibility gap between the reader and myself of such magnitude that nothing else I have to say would be taken seriously. The examples I have used here are trivial and obvious, to make the point; there are, of course, much more profound issues subsumed in each of the categories I have created. The point is that a writer who chooses to ignore any of these conventions probably will not get his/her writing accepted anywhere and will, therefore, by definition, not be what we recognize as a writer. And the point is that these conventional concerns exist in the product, not in the process by which the writer arrived at some particular product.

There is another complex concern arising out of the product/process dichotomy. As noted, in teaching writing processes, students are encouraged to keep journals in which they record their thoughts. It is the nature of journals—a formal characteristic of the genre—that the text appearing in them tends to be descriptive or narrative. While description and narration may play some part in an academic text, the part played by those rhetorical types tends, conventionally, to be minimal and special. Bereiter and Scardamalia (1987) make an important distinction between what they call “knowledge telling” and “knowledge transforming.” Narration and description are important rhetorical forms in “knowledge telling”; they do not play a significant part in “knowledge transforming.” Bereiter and Scardamalia suggest that the cognitive processes involved in knowledge telling are very different from those inherent in knowledge transforming. Knowledge telling can be, at least to some extent, equated with narration; knowledge transforming can be, at least to some extent, equated with the kind of analytic and synthetic writing characteristic of what is generally called academic writing.

No society has ever been identified in which story telling does not exist; all societies, apparently, tell stories. Narration may be a universal feature of human societies. Narration is, to a large extent, governed by chronological and spatial orders, and the demands of narration in turn require a focus on certain kinds of features. For example, to the extent that narration involves the interaction of “characters” either with each other or with the environment in which they live, narration must subsume some description of the characters, either in terms of their physical features or in terms of certain types of behavioral characteristics. A number of scholars have provided the basic features of “story grammars.” A story grammar, for example, may have the following features.

This scheme, after Mandler 1978, accounts substantially for the probable features of a narrative. It should be fairly clear that academic texts are not structured in a similar

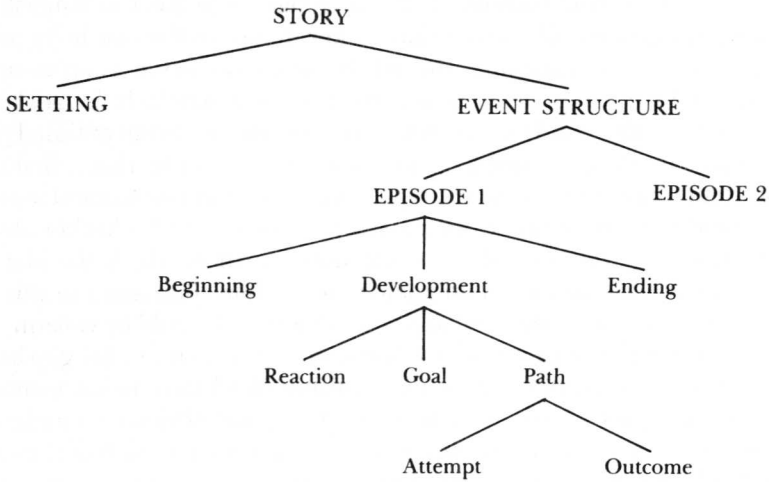


Figure 2

way; indeed, it would be difficult to generalize a single structure for academic texts (a point supporting disciplinary differentiation of text structure), but it would be unlikely that any acceptable structures for academic text would look anything like the structure suggested in Figure 2.

A number of studies suggest that the skills involved in narrative construction do not to any significant degree carry over to the composing of non-narrative text. On the contrary, non-narrative academic text, which seeks objectivity and which employs analytic and synthetic objectives, is likely to employ cause-effect relationships which are not inherent in story grammars. Academic texts attempt to deal with natural laws, not subject to differences in human personality or much effected by setting. Oxidation, for example, is not variable depending upon the site in which it occurs or upon the human actors involved with the process; it is a process subject to the presence of relative amounts of oxygen in the atmosphere. Human beings may turn such phenomena to their own purposes —e.g., a North American Indian using wood oxidation to send smoke signals as a method of communication— but then the narrative focus would be on the characteristics of the Indian or the content of the message, not on the process of wood oxidation. When students maintain journals noting events or the student reactions to events, they are not learning the techniques requisite to the generation of technical texts nor are they learning the cognitive processes underlying technical presentation.

Studies of the writing of certain groups in society suggest that some groups employ high proportions of conversational markers in their written texts (Montaño-Harmon 1988). Such conversational markers cannot be considered “wrong” in technical texts, but they clearly violate the constraint of objectivity, which technical text seeks to achieve. Such conversational markers are, however, entirely appropriate to narrative and descriptive text. Here is a practical example of the ways in which experience with narrative rather than non-narrative texts may interfere with the generation of non-

narrative text. This is an area in which writing instruction becomes unsuccessful to the extent that it relies solely on techniques such as the journal.

There is yet another difference between narrative and non-narrative texts which requires discussion. It is now generally accepted that oral language is a characteristic of normative human populations. There is significant evidence that human populations have employed oral systems of communication over great historical time. The Australopithecines, ancestors of *Homo Sapiens*, employed sophisticated call systems having great survival value because they were group-hunters and group-hunting requires members of the group to notify others in the group of their relationship to the thing being hunted, the direction of movement, and the relative speed of movement. Over long historical time, the pressures in favor of the evolution of oral language were great, and by about 100,000 years ago, the species had evolved to a point at which what is now recognized as human speech became possible—that evolution involving changes in the buccal cavity and in the brain and in the structure of the ear, all contributing to the use of speech. It is now generally recognized that all human infants are born with a natural, biologically conditioned predisposition to acquire speech, and that the basic requirement for triggering that predisposition is only the presence of a language in the environment. Once triggered, the language acquisition device appears to be self-appetitive, self-rewarding, and essentially impervious to teaching. As a consequence, all human children within the normative ranges acquire oral language. Indeed, the predisposition is built into the human genetic baggage, and many human societies define the normative range by the presence or absence of the acquisition of oral language. Human societies have, over long historical time, tended to destroy individuals not possessed of oral language, or to remove such individuals from the interbreeding population, thus adding to the already powerful biological pressure for the development of oral language as a defining characteristic of the species.

But writing is a very different kind of phenomenon; it is not part of the human genetic baggage. On the contrary, it is selectively distributed through the human population. And it is a very late addition to the inventory of human skills. On the order of 10,000 years ago, some human populations discovered writing. Even within the societies that discovered writing, writing facility was not equally distributed through the population; rather, the uses of writing were reserved to small sub-sets of the population. In no sense is writing genetically transmitted; it is learned anew in each generation. It is, thus, not a biological phenomenon but a post-biological evolutionary event. About 1,000 years ago, some still smaller sub-set of the human population discovered printing, the second of these post-biological evolutionary events. The discovery of printing made it possible to disseminate writing to a broader proportion of the population; indeed, it is probable that the availability of printing technologies made possible the widespread distribution of literacy, but again only among some of the human species. It is still the case that large numbers of human beings can live full and happy lives without ever coming into contact with written language. The most recent of these post-biological evolutionary events has been the invention of automated electronic word processing within our lifetimes. Again, the accessibility of this technology is extremely limited (cf., Kaplan 1986). On the basis of these changes, Ong (1967) posits a classification of human societies in the following way: Societies that are primarily orate (dependent upon the transmission of information through oral modes from storage in

living memory); or primarily literate (dependent upon the transmission of information through written modes from storage in public networks — e.g., libraries, but also international electronic information storage and retrieval networks); or existing somewhere along a continuum between oracy and literacy; or post-literate (dependent upon the transmission of information through oral modes from storage in public networks). North America is largely a post-literate culture; that is, vast quantities of information are transmitted through television (an oral medium) but that information is dependent upon written sources — is scripted rather than spontaneously spoken.

Unlike Ong, I would not wish to claim that literacy caused substantial changes in the structure of the human mind; I would, however, claim that the existence of writing of necessity causes changes in language and in attitudes toward information. When information is held in living memory, the language used is designed to facilitate storage in memory; once writing is available, memory-aiding devices are no longer necessary, and devices pertinent to written storage can develop. When information is stored in living memory, it is, of necessity, retrieved variably each time, depending upon the condition of the owner of the memory and the audience for which retrieval is performed; once writing is available, information can be retrieved invariably over time and space. Thus, the availability of writing makes fact invariable and truth immutable; that is not the condition of orate societies. Twentieth century science is entirely a product of literacy; indeed, the human inclination to exercise noetic control over nature is a product of literacy.

The argument, then, is that the utilization of narrative devices to teach writing is not particularly effectual because narrative is basically an oral phenomenon (admittedly gradually modified over time by the frequent application of written modes). Pure process approaches to the teaching of language are bound to be constrained in important ways because they operate on the assumption that all language is primarily oral. In literate societies, however, the written language is a separate phenomenon, not universally distributed in the population, not entirely available through the innate language acquisition device, and needing to be learned in each generation. Its features are different in important ways from the features of the oral language, and some significant realization of that different set of features occurs in the product. It is possible that some of the key features of written language can only be observed in the product and are not manifest in the composing process.

Because writing is not a universal human phenomenon but is a relatively late overlay to human communication activities, there is a strong probability that the way in which written text is organized is influenced by cultural features more powerful than any possible language universals. It is this belief that underlies the development of the research area known as contrastive rhetoric. In recent years, a great deal of evidence in support of the culturally variable structure of text has been accumulated. (See Kaplan 1983a, Connor and Kaplan 1987, Hudelson in press for bibliographic citations of the available evidence.) This culturally based variability is not a phenomenon of human intelligence; on the contrary, in principle, any organizational scheme in any language is potentially replicable in any other language, but in practice there will be significant differences in the frequency and distribution of different organizational schemes in different languages. Such culturally based organizational schemes are made manifest



in the product; while they are perceptible in the process, they are so far below the level of consciousness that it may be difficult to deal with them.

The implied dichotomy between process and product is, then, a strawman. Every piece of writing is a product derived from the application of a process. Teachers of writing must be aware of the operations of both process and product, must recognize which aspects of instruction about writing belong to process and which belong to product, and—perhaps most important of all—must recognize that writing is not often merely the recording of oral language. While speaking is undeniably a universal human characteristic, universally distributed through the normative population, writing is very different, neither universally distributed nor an index of the normative characteristics. In brief, writing is an artificial activity, late superimposed on top of other human communication functions. It must be learned *de novo* in every human generation, and the teaching of writing must be designed in such a way that formal and functional differences between the two modalities are fully recognized. Beyond that primary set of criteria, it is important that teachers of writing recognize that the preferred organization of written text varies significantly across languages and, within languages, across disciplines in the intellectual world. It is important that teachers be aware at least of primary differences between languages. These primary differences do not solely reflect grammatical differences occurring at the level of the sentence; rather, the differences under discussion occur at the text level and include such features as relative reader/writer responsibility (cf., Hinds 1987), tolerance for digression, direction of argument, sense of what constitutes evidence, sense of whether Galilean systematization constitutes the most viable order for the presentation of evidence or whether some other systematization is more productive, sense of whether Aristotelian syllogistic reasoning is acceptable or whether some other logical scheme is more productive, and so on.

More than twenty years ago, when I first introduced the notion of contrastive rhetoric, I called upon the linguistic community to undertake studies in a wide variety of languages to demonstrate whether the notion is valid or not. Indeed, some studies have been undertaken—in Arabic, Australian Aboriginal languages, English, Farsi, German, Hindi, Japanese, Korean, Mandarin, Marathi, North American Indian languages, and Thai. There has been a tiny amount of work done in Spanish, but largely in special dialect areas (e.g., the Spanish of Puerto Rico, Mexican-American Spanish in the U.S. Southwest), and not in the mainstream of Spanish discourse. These studies have demonstrated that there is some basic validity to the notion, but much remains to be done not only to validate the notion more fully but to explore the kind of differences that do indeed exist, assuming that differences are real and are not merely manifestations of emic/etic perceptions. Whether one chooses process teaching or wishes to be concerned with product, this question of cultural differences supersedes the methodological issues and confronts teachers of writing directly. What, after all, does it mean to disseminate text-generating skill in a population?

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