

## Paragraph Perception by Seven Groups of Readers

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### 1. Introduction

When teachers of basic writing read their students' writing, they are often puzzled by the paragraphing they see. Some basic [remedial] writers never indent; some indent almost every sentence while others follow more traditional paragraphing strategies. The indentations themselves may seem insignificant, simply a part of the code of written language not yet fully mastered. But the incoherent and underdeveloped essays in which the irregular paragraphing often appears is of concern to everyone interested in the development of basic writers and in the general intricacies of literacy.

### 2. Background

Whether or not paragraphing is an issue worthy of investigation depends on assumptions about the validity of written language as an object of study. Bloomfield, in his efforts to direct linguistic study to oral language, demoted the value of written language: 'Writing is not language, but merely a way of recording language by means of visible marks. . . . We have to use great care in interpreting the written symbols into terms of actual speech; often we fail in this, and always we should prefer to have the audible word' (1933: 21). Critics of the study of paragraphs have cited an absence of paragraphing in oral language to support their position, believing that paragraphs were characteristic only of written language. After all, the term paragraph itself refers to a mark that appears 'beside writing' and is not related etymologically to speech. Those disinterested in paragraphing can cite rhetoricians such as Corbett to support their position, for according to Corbett, 'Paragraphing, like punctuation, is a feature only of the written language' (1971: 477).

Other researchers, such as Pike, believed that there were grammatical units larger than the sentence: 'A bias of mine--not shared by many linguists--is the conviction that beyond the sentence lie grammatical structures available to linguistic analysis, describable by technical procedures, and usable by the author for the generation of the literary works through which he reports to us his observations' (1964: 129).

Testing Pike's conviction, Koen, Becker, and Young (1969) conducted a study designed to determine the psychological reality of the paragraph. Their subjects were asked to mark sentences as paragraph openers in several continuously typed versions of a text. Their findings supported the hypothesis that paragraphs could be identified in written language. But no research had yet been conducted to determine whether there were paragraphs in speech.

In spite of his statement that paragraphing pertains only to written language, Corbett does acknowledge the contribution that paragraphing makes to readability of printed prose. He also suggests a basis of paragraphing in

oral language, for he predicts that a student, when asked to read 'a passage of prose with no punctuation, capitalization, or paragraphing, . . . might eventually be able to make sense of [the] passage,' especially 'if he reads it aloud, because the voice will add another grammatical element, intonation, which is the vocal equivalent of the graphic marks of punctuation' (1971: 448). The grammatical element that Corbett identifies as intonation and that is equivalent to paragraphing has now been shown to exist in speech.

As the domain of phonetic studies has increased from the segmental to the suprasegmental, from isolated sounds and words to sentences and connected discourse (with the development of the equipment necessary to conduct such research), knowledge of the phonetic characteristics of discourse has been revealed in Lehiste's seminal studies that show the existence of paragraphs, or their equivalent, in oral discourse. Lehiste has conducted a series of investigations of connected discourse that are summarized in her article, 'Some phonetic characteristics of discourse' (1982). She reports that 'Three phonetic factors appear to interact in providing paragraph boundary cues: length of pause, presence of laryngealization, and preboundary lengthening' (1982: 125). She concludes that 'the research . . . demonstrates the perceptual reality of phonological units consisting of more than a single sentence' (1982: 126) and that 'listeners agree among themselves about the presence of a paragraph boundary' (1982: 123).

Given this research that shows the perceptual reality of paragraphs in both written and spoken language, I conducted the present study in order to discover basic writers' perception of paragraphs. My hypothesis was that basic writers would differ in their perception of paragraphs from other writers--and readers. I assumed that in order to help them improve their writing skills, I must first understand their reading skills; i.e., to understand what they produce, I must first understand what they perceive.

### 3. Method

In conducting the study, I decided to follow the paradigm established by Koen, et al., (1969). The question I sought to answer was slightly different, however: 'Do basic writers perceive paragraphs similarly or differently from other groups of subjects?' If they did perceive paragraphs differently, I wanted to determine the nature of that difference and any implications those results might have for the development of literacy.

### 4. Subjects

In order to understand the responses that basic writers would produce in the experiment, I needed to establish a context for their responses. Thus, I selected a total of 7 groups of subjects, representing what I thought to be various degrees of experience with printed text. The 7 groups of readers represented 4 groups of undergraduate students and 3 groups who had graduated from college.

The first 4 groups of subjects were undergraduate students enrolled in different courses within the expository writing program at the Ohio State University. The first group of students consisted of beginning basic writers, enrolled in the first of 2 quarters of basic writing required before they could enroll in freshman composition. The second group were intermediate

basic writers, required to take only one quarter of basic writing before advancing to freshman composition. Students are placed in basic writing courses based on their standardized test scores, typically English ACT scores of 15 or below or SAT Verbal scores of 370 or below, and a writing sample.

The third group of students had enrolled directly in the non-remedial, standard freshman composition course. Such students usually have English ACT scores of 16 through 25 or SAT Verbal scores of 380 through 610.

The fourth group of undergraduates were upperclassmen enrolled in informative writing, an advanced writing course.

The fifth group consisted of students enrolled in their first quarter of graduate study in the Department of English. The sixth group were teachers who were experienced in teaching English language arts in secondary schools and were enrolled in graduate course work in English. The seventh and final group consisted of faculty members in English.

Thirty or more subjects in each group participated in the study. All were native speakers of English.

## 5. Text

In order to select a text that would be appropriate for the study, I surveyed a number of possibilities, searching for certain characteristics. First, the text should be written in an expository mode of discourse and should be non-fiction rather than fiction, similar to many of the writing assignments made in the expository writing courses in which the undergraduate students were enrolled. While written in the expository mode, the essay should treat a topic of general interest. Its vocabulary should represent a fairly common level of diction, for to the extent that it is possible, the study was not designed to test vocabulary skills.

After surveying many essays, I chose one written by an author who is often anthologized in readers used in writing courses, Lewis Thomas. Thomas, who heads the Sloan-Kettering Cancer Research Center, writes essays on a variety of topics. Several volumes of his essays, which typically first appear in the New England Journal of Medicine, have been published.

The essay selected, "On Death," appears in Table 1. The text, treating a universal topic, consists of 50 sentences arranged in 11 paragraphs. These paragraphs appear in yet a larger, three-part design, consisting of 3, 4, and 4 paragraphs, respectively. The first three paragraphs, sentences 1 through 12, form a discursive beginning that introduces the topic and some of the issues that are discussed later, such as places where death occurs--naturally and unnaturally, reactions to seeing dead animals in public places, and an acknowledgement that death is inevitable and constant, as is life.

The middle section contains 4 paragraphs, sentences 13 through 27, and discusses the natural death of 4 kinds of organisms, each in separate paragraphs: (1) creatures that vanish into their own progeny such as single cells, sentences 13-17; (2) insects, sentences 18-20; (3) birds, sentences 21-23; and (4) animals, focusing on the elephant, sentences 24-27 [1].

The final portion of the essay contains 4 paragraphs, beginning with sentence 28, and presents Thomas's reflections on death.

When presented to the subjects, the essay was double-spaced and typed continuously with only the paragraph indentations removed. As it appears in Table 1, the sentences have been numbered, circled numbers correspond to Thomas' paragraphs, and a # marks the beginning of each line in the version presented to the subjects.

Table 1. Text with Instructions

Instructions: Make a slash / before each sentence which you think begins a paragraph in the following selection.

① #Most of the dead animals you see on highways near the cities are dogs, a #few cats. 2 Out in the countryside, the forms and coloring of the dead are #strange; these are the wild creatures. 3 Seen from a car window, they appear #as fragments, evoking memories of woodchucks, badgers, skunks, voles, snakes, #sometimes the mysterious wreckage of a deer. ④ It is always a queer shock-- #part a sudden upwelling of grief, part unaccountable amazement. 5 It is simply #astounding to see an animal dead on a highway. 6 The outrage is more than #just the location; it is the impropriety of such visible death, anywhere. 7 #You do not expect to see dead animals in the open. 8 It is the nature of #animals to die alone, off somewhere, hidden. 9 It is wrong to see them lying #out on the highway; it is wrong to see them anywhere.

⑩ Everything in the #world dies, but we only know about it as a kind of abstraction. 11 If you #stand in a meadow, at the edge of a hillside and look around carefully, #almost everything you can catch sight of is in the process of dying, and most #things will be dead long before you are. 12 If it were not for the constant #renewal and replacement going on before your eyes, the whole place would turn #to stone and sand under your feet. ⑬ There are some creatures that do not seem #to die at all; they simply vanish totally into their own progeny. 14 Single cells #do this. 15 The cell becomes two, then four and so on, and after a while the last #trace is gone. 16 It cannot be seen as death; barring mutation, the descendants #are simply the first cell, living all over again. 17 The cycles of the slime #mold have episodes that seem as conclusive as death, but the withered slug, #with its stalk and fruiting body, is plainly the transient tissue of a #developing animal; the free-swimming amoebocytes use this organ collectively #to produce more of themselves. ⑱ There are said to be a billion billion #insects on the earth at any moment, most of them with very short life expect-#tancies by our standards. 19 Someone has estimated that there are 25 million #assorted insects hanging in the air over every temperate square mile, in a #column extending upward for thousands of feet, drifting through the layers #of the atmosphere like plankton. 20 They are dying steadily, some by being eaten, #some just dropping in their tracks, tons of them around the earth, disintegrat-#ing as they die, invisibly. ⑲ Who ever sees dead birds, in anything like the #huge numbers stipulated by the certainty of the death of all birds? 22 A dead #bird is an incongruity, more startling than an unexpected live bird, sure #evidence to the human mind that something has gone wrong. 23 Birds do their #dying off somewhere behind things, under things, never on the wing. ⑳ Animals #seem to have an instinct for performing death alone, hidden. 25 Even the largest, #most conspicuous ones find ways to conceal themselves in time. 26 If an elephant #missteps and dies in an open place, the herd will not leave him

Table 1. Text with Instructions (continued)

there; the #others will pick him up and carry the body from place to place, finally put-#ting it down in some inexplicably suitable location. 27 When elephants encounter #the skeleton of an elephant out in the open, they methodically take up each of #the bones and distribute them in a ponderous ceremony, over neighboring acres. (28) #It is a natural marvel. 29 All the life of the earth dies, all the time, in the #same volume as the new life that dazzles us each morning, each spring. 30 All #we see of this is the odd stump, the fly struggling on the porch floor of #the summer house in October, the fragment on the highway. 31 I have lived all #my life with an embarrassment of squirrels in my backyard; they are all over #the place, all year long, and I have never seen, anywhere, a dead squirrel. (32) #I suppose it is just as well. 33 If the earth were otherwise, and all the dying #were done in the open, with the dead there to be looked at, we would never #have it out of our minds. 34 We can forget about it much of the time, of think #of it as an accident to be avoided somehow. 34 But it does make the process of #dying seem more exceptional than it really is, and harder to engage in at #the times when we must ourselves engage. (36) In our way, we conform as best we #can to the rest of nature. 37 The obituary pages tell us the news that we are #dying away, and the birth announcements in finer print, off at the side of #the page, inform us of our replacements, but we get no grasp from this of #the enormity of scale. 38 There are three billion of us on the earth, and all #three billion must be dead, on a schedule, within this lifetime. 39 The vast #mortality, involving something over 50 million of us each year, takes place #in relative secrecy. 40 We can only really know of the deaths in our households, #or among our friends. 41 These, detached in our minds from all the rest, we take #to be unnatural events, anomalies, outrages. 42 We speak of our own dead in low #voices, struck down, we say, as though visible death can only occur for cause, #by disease or violence, avoidably. 43 We send off for flowers, grieve, make cer-#emonies, scatter bones, unaware of the rest of the three billion on the same #schedule. 44 All that immense mass of flesh and bone and consciousness will #disappear by absorption into the earth, without recognition by the transient #survivors. (45) Less than half a century from now, our replacements will have more #than doubled the numbers. 46 It is hard to see how we can continue to keep the #secret with such multitudes doing the dying. 47 We will have to give up the #notion that death is catastrophe, or detestable, or avoidable, or even strange. 48 #We will need to learn more about the cycling of life in the rest of the system, #and about our connection to the process. 49 Everything that comes alive seems to #be in trade for something that dies, cell for cell. 50 There might be some com-#fort in the recognition of synchrony--in the information that we all go down #together, in the best of company.

# = beginning of a line in the version presented to subjects

○ = beginning of a paragraph in original text

## 6. Results

Because I was interested primarily in subjects' responses by groups, I converted the responses for each sentence to percentages for each group, as shown in Table 2, where the number of subjects in each group is also presented. The horizontal lines across the Table correspond to the major divisions within the essay. The results reveal considerable differences

among groups of subjects in the frequency and pattern of their responses, yet there are some similarities as well.

Table 2. Paragraphing of Text by Groups (Percentage Agreement)

	Beginning Basic Writers	Intermed. Basic Writers	Freshmen	Upper- classmen	New Grad Students	English Teachers	Faculty
Number:	44	30	42	33	30	31	31
Sentence No.							
1*	30	27	29	33	50	35	26
2	3	7	10	9	0	3	3
3	0	0	5	0	0	0	0
4*	23	23	19	12	27	10	6
5	9	3	7	18	23	16	26
6	30	30	26	18	17	19	23
7	23	7	17	9	0	0	6
8	11	3	5	3	3	0	0
9	5	3	2	0	0	0	0
10*	36	53	50	52	67	81	74
11	27	17	12	9	17	6	3
12	11	3	0	3	3	0	0
13*	61	80	90	88	87	90	77
14	14	0	2	0	3	0	0
15	0	3	0	0	0	0	0
16	2	0	0	0	0	0	0
17	32	27	33	15	17	10	6
18*	80	73	86	88	67	90	77
19	14	3	2	3	7	0	0
20	0	0	2	0	0	0	0
21*	98	90	88	79	77	81	65
22	0	0	0	0	0	0	0
23	2	0	0	3	0	0	0
24*	50	43	55	67	67	65	58
25	7	7	10	6	3	3	0
26	23	0	5	3	7	0	0
27	7	10	2	0	7	0	0
28*	23	17	10	27	13	10	3
29	66	70	90	67	73	84	84
30	0	0	0	0	0	0	0
31	52	27	33	24	10	10	3
32*	2	3	10	6	20	6	16
33	14	10	5	15	10	3	3
34	14	7	0	6	0	3	6
35	2	0	0	3	3	0	0
36*	34	27	62	58	60	58	68
37	55	27	14	15	23	23	6
38	25	27	19	21	10	6	6
39	2	7	5	9	3	6	10
40	23	13	14	9	7	10	23

Table 2. Paragraphing of Text by Groups (Percentage Agreement) (continued)

41	14	3	0	0	7	3	0
42	25	13	12	9	0	3	3
43	11	7	0	0	0	0	0
44	20	27	21	3	33	19	19
45*	48	30	48	48	33	10	45
46	11	13	24	33	23	23	26
47	14	7	5	3	0	6	0
48	14	20	2	3	0	0	0
49	18	7	7	3	17	6	0
50	25	3	0	0	0	0	0

An asterisk, \*, indicates a paragraph opener in the original text. The horizontal lines indicate the three major sections of the text.

Because one of the primary questions prompting this study was to compare the responses of the seven groups of subjects, I divided the responses to each sentence into four categories of percentages of responses obtained. The first category consists of sentences which no subject indicated as opening a paragraph, sentences that were essentially judged to be paragraph internal. As Table 3 shows, the number of sentences receiving 0% responses increases dramatically. For beginning basic writers, only 5 sentences were not chosen by someone in the group as opening a paragraph. For intermediate basic writers, 9 sentences obtained 0% responses with the number increasing to 11 for freshmen and 12 for upperclassmen. For new graduate students, 16 sentences received 0% responses, with 19 for secondary English teachers and 22 for faculty.

Table 3. Number of Sentences Initiating Paragraphs by Percentage Agreement

	Beginning Basic Writers	Intermed. Basic Writers	Freshmen	Upper-classmen	New Grad Students	English Teachers	Faculty
0%	5	9	11	12	16	19	22
1-34%	37	36	31	31	26	23	21
35-64%	5	1	4	2	2	2	1
65-100%	3	4	4	5	6	6	6

These findings show that beginning basic writers are much more likely to respond to any sentence as a paragraph opener. The increase in number of sentences receiving 0% responses predicts the ordering of groups and is significant at the .0001 level [2].

The second category of sentences represents sentences that approximately one-third of each group of subjects did not select as paragraph openers. The number of sentences receiving 1-34% responses gradually decreases across the groups from a high of 37 for beginning basic writers to a low of 21 for faculty and is significant at the .001 level.

The third group of percentages represents the number of sentences that fell in the guessing range, roughly one-third to two-thirds (35-64%) of each group indicated they opened paragraphs. These numbers range in roughly

decreasing order but are not significant (.119).

The fourth category of sentences are those that obtain strong agreement as paragraph openers--approximately two-thirds or more of the subjects in each group identified them as paragraph openers (65-100%). The number of such sentences increases from 3 for beginning basic writers to 4 for intermediate basic writers and freshmen, to 5 for upperclassmen, to 6 for new graduate students, English teachers, and faculty. This increasing trend is significant at the .005 level.

Five of the 50 sentences in the passage are of particular interest: 3 sentences that 65% or more of the subjects selected as openers and 2 sentences that no subject selected as openers. The 3 sentences selected a paragraph openers are 18, 21, and 29, all occurring in the middle portion of the essay.

Sentence 18 is the sentence that introduces the subject of insects and corresponds with a paragraph opener as written by Thomas. Sentence 21 introduces the subject of birds and also corresponds to a paragraph opener in the original essay. It is a particularly interesting sentence because it received the highest percentage of responses of any of the 50 sentences in the selection, 98% from the beginning basic writers. Not only does the sentence introduce a new topic, it is an interrogative, the only non-declarative sentence in the essay.

The third sentence receiving a high percentage of responses from all groups is sentence 29, which does not open a paragraph in the original text. The preceding sentence, sentence 28, "It is a natural marvel," opens the final portion of Thomas' essay, though for these 241 subjects, it did not. These subjects tended to judge sentence 28 as the concluding sentence of the preceding paragraph, rather than as an opening sentence.

Two sentences in the passage were never selected by any of the subjects as paragraph openers, sentences 22 and 30. Each follows a sentence described above that received a high percentage of responses--the sentence introducing birds and the sentence that opens the concluding section of the essay, as interpreted by the subjects. These responses support in part the hypothesis advanced by Bond and Hayes that 'The length of the current paragraph influences paragraphing decisions' (1984: 159). They predict that 'readers still avoid one-sentence paragraphs' (1984: 165), supported by the results obtained here.

## 7. Implications

The results of this study reconfirm the psychological reality of paragraphs. For all groups, some sentences achieved high levels of agreement as opening paragraphs. Even for the beginning basic writers, agreement obtained, though only half as frequently as for more experienced readers.

The study also indicates that the nature of the text to be paragraphed influences the nature of responses. Where there are clear shifts in topics and purposes (as in sentences 18, 21 and 29) agreement obtains for all groups of subjects. Where paragraph boundaries are more subtle, only the more advanced groups of subjects will respond, as for sentence 36 which appears in the reflective, final portion of the essay.

The results obtained here also show that responses should not necessarily be categorized as right or wrong as compared to paragraphing in an original text. In this study, sentence 28 received responses in the bottom third, 1-34%, although it opened a paragraph in the original essay, while the following sentence, sentence 29, received responses above 65%, indicating that it began a paragraph.

But the groups of subjects respond in significantly different ways to such a paragraphing task. The differences can be predicted by the apparent experience of each group and indicates that the awareness of paragraphs develops gradually, not suddenly.

Finally, the results show that beginning basic writers do recognize paragraphs in printed texts, but not with as much agreement as their peers and teachers. They perceive text differently, and those differences should influence the instruction they receive and may predict the kind of writing they produce.

Perhaps a final caution should be to those who administer paragraph identification tests. Information about the subjects in such studies is crucial, for in this study, subjects representing different levels of exposure to text produced significantly different results. Whether or not that correlation extends to the identification of paragraph-like units in oral discourse remains to be seen.

#### Notes

1. Although Thomas discusses birds in a paragraph separate from animals, only 3 groups of subjects responded significantly to the shift in topics; they may have classified birds as animals.

2. I gratefully acknowledge the assistance with the statistical analysis of the data in this study provided by the Statistics Laboratory of the Ohio State University. The reference for the statistical tests used here is Hollander and Wolfe (1971: 222-224).

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