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A Discourse-Centered Rhetoric
of the Paragraph

PAUL C. RODGERS, JR.

Today's textbook paragraph, the paragraph taught by so many to so few—with its vision of triune organic integrity and its philosophy of mechanism—was unveiled almost precisely a century ago, in March 1866, by an unprepossessing Scottish logician and composition teacher named Alexander Bain. Bain laid no claim to infallibility as a rhetorician, and was more or less ignored in his own day, but the late nineteenth century chose to magnify his authority in retrospect: long after the man was forgotten, his dicta assumed something of the aura of revealed truth. In all the intervening years since 1866, though Bain's six "rules" have undergone considerable refinement and elaboration, virtually no one has ever challenged his basic concept of the paragraph or its underlying suppositions. In essence the paragraph today is just what it has been since the beginning, an "expanded sentence"—logically, structurally, semantically.[1]

Yet it has been obvious all along that Bain's analysis simply does not comprehend what goes on in many sound and effective paragraphs, and the language of its successive formulations never has given the student writer adequate guidance. As commonly defined (à la Bain), the paragraph is a group of sentences which develops the single idea conveyed in its topic sentence. Each of the key words in this definition offers pitfalls. What, for instance, is an "idea"? Does a noun or noun phrase express an idea, or must every idea be a proposition? Must the topic idea be carried as the major predication of the topic sentence? If not, then how does one distinguish

topic material from its context? Can the topic be merely suggested, as by a question or exclamation or negative declaration or figure of speech, or must it be spelled out? If the paragraph is a group of sentences, how small can the group be? Do two sentences constitute a group? Does one? That is, can a paragraph properly be conterminous with its own topic sentence?

Bain and his immediate successors worked by deduction, first assuming a close organic parallel between sentence and paragraph and then applying traditional sentence-law to the paragraph. But questions like the ones suggested above provoked inductive study of actual paragraphs and eventually produced a mass of inductive qualifications grafted upon the original deductive formula:

♦ A proper paragraph always has a single central topic idea, except when it has two, three, or more.

♦ Development of the topic is always limited to the paragraph in which the topic is broached, except when the topic requires that exposition continue in the next.

♦ The topic sentence always expresses the topic idea, but the work of expression may be disposed of in a minor segment of the sentence; or, on the other hand, a complicated topic may take several sentences, and these sentences may be widely separated in the paragraph.

♦ There is always a topic sentence, yet it may not actually be stated. In this case, it is "implied," and serves as a sort of offstage influence directing the action in the paragraph.

♦ A paragraph by definition is a series of sentences, but now and then it turns out to be one sentence only. If the sentence-series seems too long for presentation as a unit, it can be subdivided into several paragraphs without loss of unity. Conversely, a series of short paragraphs can be combined into a single unit, sometimes with the original components identified by number or letter.

♦ Moreover there are certain very useful and common paragraph types that show little interest in amplifying topics: transitional, introductory, directive, summary, and concluding paragraphs.

In short, the paragraph is what the textbook says it is, except . . . it isn't. At least, not always; and if one happens to be working with the wrong handbook or the wrong anthology of prose models, it often isn't.

Faced with this congeries of paradoxes, recent commentators have tended to reject or simply ignore traditional theory:

> Since every paragraph of the essay is part of the general flow, it is difficult to find in many paragraphs anything so static that it can be isolated as the single idea, or topic, of that paragraph. The notion that every paragraph must have a topic sentence is hence a misleading one.[2]
>
> Obviously any piece of composition possessing even a minimum of unity may be summed up in some kind of sentence. The "implied" topic sentence, therefore, is an abstraction—a not very useful kind of ghost sentence.[3]
>
> [The paragraph] is simply a convenient grouping of sentences. In a progression of sentences a few places will be more suited to indentations than others, but you can justify an indentation before almost any sentence of sophisticated prose.[4]

However well grounded such pronouncements may be, they contribute little to prose criticism. If ideas flow, how shall we measure and define the current? If a sequence of ideas can be introduced without interpretive comment, how does the sequence relate to its context, the discourse? If indentations can occur almost anywhere, upon what basis shall we justify or challenge a given decision to indent?

The current situation may be summed up as follows: Deduction has failed to yield a fully satisfactory model of the paragraph, and interest in the putative organic parallel between paragraph and sentence has declined sharply. Reviewing Barrett Wendell's epochal commentary of 1890 in its reincarnation of 1963, one marvels at the man's poise and aplomb; and inevitably, and perhaps a bit sadly, one also notes the anachronism:

> A paragraph is to a sentence what a sentence is to a word. The principles which govern the arrangement of sentences in paragraphs, then, are identical with those that govern the arrangement of words in sentences.[5]

Piecemeal inductive observations over the years have so far undermined this notion of the paragraph that it scarcely seems worthwhile to state it. Yet we have not broken cleanly with the past: to the contrary, many teachers and textbook writers, possibly a majority, finding some value still in sentence-based tradition, seem to be fearful of pitching the baby out with the bath. As recently as October 1965, Francis Christensen prefaced his trail-breaking "Generative Rhetoric of the Paragraph" with these words:

> My purpose here is. . . to show that the paragraph has, or may have, a struc-
> ture as definable and traceable as that of the sentence and that it can be
> analyzed in the same way. In fact . . . I have come to see that the parallel
> between sentence and paragraph is much closer than I suspected, so close,
> indeed, that as Josephine Miles put it (in a letter) the paragraph seems to
> be only a macro-sentence or meta-sentence.[6]

Christensen later went on to qualify his commentary with several of the
usual exceptions.

My intention here is not to criticize Professor Christensen's approach,
which strikes me as having great promise, but rather to argue for a concept
of the paragraph that will comprehend *all* paragraphs.

Let me begin by pointing out again that the sentence-based notion of
the paragraph was first introduced in words written, not in the skies, but at
the University of Aberdeen, and by a man of strong logical predisposition.
Secondly, when one explores its historical origin, one finds that the para-
graph (from Gr. *para*, beside, + *graphos*, mark) began as a punctuation
device, a symbol placed in the margin to indicate a noteworthy break in the
flow of discourse; only later did the word come to signify the stretch of lan-
guage between breaks. The original notion persists in our transitive verb *to
paragraph.*

Thus paragraph structure precedes, in a certain very vital sense, the
indentation that marks its physical limit; and rhetoric's proper task is to
understand why indentations occur when they do, rather than to devise
some Procrustean formula for governing the behavior of sentences between
breaks, and to insist upon applying it over and over again throughout all
written discourse. What we need is a philosophy of paragraph punctuation,
a flexible, open-ended *discourse-centered* rhetoric of the paragraph.

What, then, may be the aspects or qualities of discourse that writers rec-
ognize when they indent? The late nineteenth century visualized discourse
as a series of horizontal "leaps and pauses," a stream that "shoots toward
some point of interest, eddies about it for a moment, then hurries on to
another," with the paragraph indentations indicating successive conceptual
leaps and lingerings.[7] As Edwin Lewis observed in 1894, the writer

> conceives his paragraph topic before he develops it, though of course in
> the process of development the associations of the symbols used may lead
> him afield. He thinks, so to speak, in successive nebulous masses, perceiv-
> ing in each a luminous centre before he analyses the whole.[8]

This horizontal image still appears regularly in textbooks, but a second
image now has been added. In 1946 the late Wendell Johnson pointed out

that when the mind is "interested," attention fluctuates vertically, up and down the abstraction ladder:

> If you will observe carefully the speakers you find to be interesting, you are very likely to find that they play, as it were, up and down the levels of abstraction quite as a harpist plays up and down the strings of her harp.. . . . the speaker who remains too long on the same general level of abstraction offends our evaluative processes — no matter what his subject may be.[9]

In 1964, John Lord applied Johnson's insight to prose analysis, visualizing good writing as "a constant weaving up and down between the concrete and the abstract, as well as a constant forward movement from a beginning through a middle to an end."[10]

The vertical image ties in nicely with traditional ideas of paragraph structure. Topic sentences coincide with certain emphasized peaks of abstraction. The most common methods of "amplification" — clarification of the topic by use of definition, analogy, comparison, or contrast; presentation of causes or logical proof; citation of examples, instances, and illustrations; accumulation of supporting details — all these methods tend strongly toward lower-level statement. The two main types of "movement" — variously spoken of as loose and periodic, deductive and inductive, regressive and progressive, and (perhaps most satisfactorily) as analytic and synthetic — refer simply to the. upward or downward thrust of attention, toward or away from the abstract topic. Our thought-movement normally is synthetic, and moves upward from the particulars of experience to the high-level generalities of conceptual thought. The particulars "generate" the abstraction. When we write, however, we usually proceed by analysis, first stating the available generality, which stands first in consciousness, and then recovering or discovering ("generating") a sufficient bulk of particulars to support it. Extended synthetic movement accordingly is fairly uncommon in written discourse.

But neither horizontal leaps nor the vertical seesaw obligates a writer to indent. Both types of movement exist at all levels of discourse, in units smaller than the sentence and larger than the paragraph. Indentation frequently does mark major horizontal and vertical phases (which tend to coincide), but sometimes other considerations take precedence.

Like music, writing is a complex sequence of events in time. Subordinate patterns occur within the sequence, many of them interpenetrating and partly coinciding with others. The writer has at his disposal various punctuation devices with which he can tag and call attention to some of them. The paragraph break is only one such device, the most emphatic.

About all we can usefully say of *all* paragraphs at present is that their authors have marked them off for special consideration as *stadia of discourse*, in preference to other stadia, other patterns, in the same material. "At this point," the writer tells us with his indentation, "a major stadium of discourse has just been completed. Rest for a moment, recollect and consider, before the next begins." But his decision to indent may be taken for any one (or more) of at least half a dozen different reasons.

The great majority of stadia of course are logical, whatever else they may be, but thought-movement submits to very flexible partitioning; hence the size of a given logical paragraph frequently reflects secondary influences. Often the physical aspect of the paragraph must be controlled, especially in publications using narrow-column format. The reader must not be put off unnecessarily by paragraphs that seem overly bulky, and therefore indigestible, or by a long succession of thin, apparently anemic units. On the other hand, the need for rhetorical emphasis may dictate either bulk treatment or isolation of a short stadium in a paragraph of its own, and an impulse to vary paragraph length purely for variety's sake may have the same effect. To a lesser degree, patterns of prose rhythm may call for indentation;[11] so, too, may abrupt shifts in tone or strictly formal considerations, as when paragraphs are paired off for contrast or comparison or knit into some larger pattern involving paragraphs as units.

Thus the paragraph can be described very roughly as an autochthonous pattern in prose discourse, identified originally by application of logical, physical, rhythmical, tonal, formal, and other rhetorical criteria, set off from adjacent patterns by indentations, and commended thereby to the reader as a noteworthy stadium of discourse. Though all good paragraphs are distinct stadia, not all stadia are paragraphs. Many must always exist merely as emergent possibilities, potential paragraphs (as well as smaller units) dissolved in the flow of discourse. Paragraph structure is part and parcel of the structure of the discourse as a whole; a given stadium becomes a paragraph not by virtue of its structure but because the writer elects to indent, his indentation functioning, as does all punctuation, as a gloss upon the overall literary process under way at that point. Paragraphs are not composed; they are discovered. To compose is to create; to indent is to interpret. Accordingly, the qualities of the paragraph can no more be grasped through normative statement than can the qualities of discourse.

This conclusion is not wholly negative, of course. It denies only that the paragraph can be wrapped up conclusively in a tight deductive formula, and implies, positively, that inductive study of the art of paragraphing has an immense neglected potential. While intent upon determining

what The Paragraph is, we have very largely failed to appreciate what real paragraphs are.

To test this contention, let us contrast the traditional and discourse-centered views of a familiar paragraph sequence, Walter Pater's descant on "Style" (1888), an essay that recommends itself to our purpose for several special reasons. In it, Pater stresses what he calls "the necessity of *mind* in style," "that architectural conception of work, which foresees the end in the beginning and never loses sight of it," the underlying structural framework, which is "all-important, felt, or painfully missed, everywhere" (14.3).[12] One of the greatest pleasures in reading good prose, he tells us, lies in "the critical tracing out of that conscious artistic structure, and the pervading sense of it as we read" (15.16). Surely he must have foreseen that readers would judge his essay by its own forceful pronouncements; and he must therefore have paragraphed with unusual care.

But Pater always composed laboriously and deliberately. For thirty-five years, George Saintsbury admired his "wonderful perfection of craftsmanship,"[13] noting especially his sensitive control of prose rhythm and adroit management of the paragraph:

> Above all, no one, it must be repeated, has ever surpassed, and scarcely any one has ever equalled Mr. Pater in deliberate and successful architecture of the prose-paragraph—in what may, for the sake of a necessary difference, be called the scriptorial in opposition to the oratorical manner.[14]
>
> . . . it must always be remembered that the care of the paragraph was one of Mr. Pater's first and greatest anxieties; when I remarked on it [in 1876, apropos of Pater's *Renaissance*], . . . he wrote to me expressing special gratification, and acknowledging that it had been one of his principal objects.[15]

Such a conscious, calculated devotion to paragraph technique warrants close inspection.

But "Style" holds particular interest for us because of its structural subtlety and flexibility. As A. C. Benson observed, "the bones do not show; not only does the rounded flesh conceal them, but they are still further disguised into a species of pontifical splendour by a rich and stiff embroidered robe of language."[16] The great variety in paragraph "shape" can be inferred from the following statistics. Though Pater's average paragraph in this essay is quite long (271 words), individual paragraphs range from 24 to 793 words, and the totals of sentences per paragraph range from one to 18. Two paragraphs have fewer than 100 words; 11 contain between 100 and 200 words; 9 contain

between 200 and 300; and 9 run to more than 300. This breakdown corresponds almost exactly to Edwin Lewis's conclusions regarding English prose in general.[17]

The traditional analysis of the first three paragraphs would view each block of writing individually, describing P1 and P2 as introductory paragraphs, informally assembled, lacking clear-cut central ideas and topic sentences, serving mainly to carry the reader in to P3, a single directive statement which lays out the ground to be covered in the sequel and initiates the essay proper. P3 reads as follows:

> Dismissing then, under sanction of Wordsworth, that harsher opposition of poetry to prose, as savouring in fact of the arbitrary psychology of the last century, and with it the prejudice that there can be but one only beauty of prose style, I propose here to point out certain qualities of all literature as a fine art, which, if they apply to the literature of fact, apply still more to the literature of the imaginative sense of fact, while they apply indifferently to verse and prose, so far as either is really imaginative — certain conditions of true art in both alike, which conditions may also contain in them the secret of the proper discrimination and guardianship of the peculiar excellences of either.

Despite its complexity, this paragraph plainly leans upon the previous discussion for its full implication. Wordsworth's "sanction" has just been examined at the close of P2; the prejudiced claim that there can be but "one only beauty" of prose style refers to earlier comments about Dryden's notions of prose (2.3) and overly narrow conceptions of literature in general (P1 *passim*, esp. 1.4); the distinction between verse and prose recalls a major motif recurring throughout both preceding paragraphs; the opposition of "fact" and "imaginative sense of fact" draws upon the climactic concluding clause of 2.5; and the unobtrusive reference to "discrimination and guardianship" reaches all the way back to 1.1, where Pater relates "the sense of achieved distinctions" to "progress of mind." Each of these references imparts vital meaning to the language of P3. In short, although P3 does direct the reader's attention forward, it simultaneously reminds him of ground already covered. Its gaze is at least as much retrospective as prospective. And it has to be, in view of the complexity of the idea it conveys.

Yet P3 does more than summarize: it selects, relates, disposes, and assigns varying degrees of emphasis to previously discrete ideas. Thus the task of P1-2 is not merely to introduce but to lay a necessary basis for P3; and the thought-movement throughout the sequence, despite occasional analytic eddies, can readily be identified as synthetic. Indeed, with only minor

revisions, P1-3 could be combined into one huge synthetic paragraph, with the present P3 serving as its topic sentence.

Since an opening paragraph as bulky as this would obviously repel the reader, Pater divides his exposition into three manageable portions, arranging them in descending order of size as he moves toward his climax in P3. (The word count is 418-251-121; each succeeding unit contains roughly half as many words as its predecessor.) The pace is slow and even, transitions smooth. Although he regularly provides topic statements elsewhere, he omits them in P1 and P2—a further indication that he thinks of P1-3 as a single logical stadium. In a synthetic passage, the progression of ideas should unfold without interruption; otherwise it may not always be clear whether the writer is still approaching his as yet unstated conclusion, or making a new "leap." A topic sentence in either P1 or P2 would introduce just such an element of risk. Also, a terminal topic signals the close of a period of mental concentration. At this point, having surveyed the argument as a whole, and having judged it, the reader no longer feels obliged to bear in mind all the particulars from which the conclusion was drawn. He tends to relax his grip upon lesser elements as he pushes on toward the next major proposition. This is precisely what Pater has to prevent from happening: his reader must retain all the material of P1 and P2 till he arrives at P3.

To summarize, when we examine P1-3 closely, we discover a single synthetic logical stadium broken into three paragraphs, no doubt for physical or editorial reasons. Topic sentences are omitted, quite possibly deliberately, with the result that the thought-movement proceeds without that particular threat to continuity. Formal criteria may account for the length of the separate paragraphs, which descend in size to the relatively short and emphatic P3.

None of these observations could be made by a strict traditional paragraph analysis.

The next passage of interest is P4-6. Pater opens P4 by commenting on the difficulty of discriminating "fact" from "sense of fact" in prose, and then develops this topic at length with illustrations, remarking at the close of 4.8 that historical writing enters the domain of "art proper" when it reflects the historian's sensibility and bias. Then (4.9) he digresses sharply, explaining that prose becomes "fine" art when it transcribes the writer's sense of fact and (second clause) "good" art when it renders the inner vision "truthfully." In 4.10 he drifts further from his topic, praising truth as a fundamental requirement of all good writing; and in 4.11 drifts yet again, defining beauty as a by-product of goodness (i.e., truthfulness), "the finer accommodation of speech to that vision within."

Here the paragraph ends, but the line of thought pushes on into P5 without interruption, and Pater seals the transition, oddly, by opening the new paragraph with a dash followed by what amounts to an appositive depending from the predicate of 4.11:

> —The transcript of his sense of fact rather than the fact, as being preferable, pleasanter, more beautiful to the writer himself.

Pater often opens a new phase of argument in a grammatically subordinate element emphasized by placement in terminal position; the present usage is unusual only because the appositive has been detached from the base construction and moved to the head of a new paragraph.

Logically complete and satisfying in itself, P5 nevertheless participates in the long disquisition upon fidelity-to-inner vision beginning at 4.9. And P6 extends the commentary even further. Not till the final phrase of 6.2 does Pater relinquish the theme he first introduced ostensibly to clarify the short prepositional phrase at the end of 4.8.

How shall we describe what happens in 4.9-6.2? The digression at the end of P4 is too long to be taken as a mildly irrelevant conclusion. Does it not then constitute a serious break in paragraph unity? Traditionalist critics doubtless would say it did. They might further object, on the same ground, to the weight of introductory material concentrated in 6.1-2, and probably would view the sequence 4.9-6.2 as a single unified paragraph which Pater has sadly misconceived.

Can Pater be defended? He can, I think, if we set aside our preconceptions and observe the general flow of discourse. A single logical stadium does of course exist, beginning at 4.9. It could easily be presented as a single analytic paragraph based on 4.9, conveying material which now requires 325 words. This would make a very substantial block of writing, but Pater's paragraphs frequently run to more than 300 words; so mere physical length cannot account for his decision to indent the way he has.

We can appreciate his strategy, once we note how deficient the whole passage is in "vertical" movement. His sole concern here is to clarify his notion of art, and this involves statement of four ideas: fact vs. sense of fact as the criterion for separating "fine" from "merely serviceable" art; adherence to inward truth as the criterion for recognizing "good" art; goodness in art as the foundation of beauty; and the inevitability of pleasure to be found in artistic self-expression. All these ideas are highly general and abstract, and he develops them mainly by repetition, a method which tends to maintain the same abstraction level as the topic. The passage consequently proceeds

on a high abstraction plateau, and would surely risk boring the reader if it continued to its end without interruption.

Pater greatly reduces this hazard by dividing his material. Also, having worked out his four-point commentary in 4.9-5.1, he manages to repeat it in three separated contexts between 5.2 and 6.2, hammering his theses home not only by iteration but also by placement in terminal position, by isolation in a short paragraph, and by placement in initial position. He displays his argument much more forcefully in this way than he could have in a standard analytic paragraph. Further, if he had written such a paragraph, he probably would have felt obliged either to reduce the abstract exposition, thereby weakening its impact, or to introduce lower-level material — illustrations, causal statements, and the like — in order to generate interest.

Pater obviously found neither option appealing: to curtail treatment would have been to rob crucial ideas of emphasis they deserved — notably his doctrine of truth; to amplify them further, as by definition or illustration, would have been to raise problems he did not wish to handle, perhaps because of lack of space, perhaps because he sensed he could not handle them.[18]

Accordingly, rhetorical criteria in P4-6 take precedence over logical, the risk of dead-level dullness is reduced by partitioning, and a stadium of thought is allowed to straddle two paragraph breaks, exercising squatter's rights in paragraphs centered on other topics — to the dismay of traditionalist critics who perceive the massive breach of unity in P4, yet cannot honestly (I submit) find fault with it as they read.

Plainly, a stadium can be recognized as such without being punctuated as a paragraph. We have seen how Pater divides a stadium into separate paragraphs, and distributes portions of a divided stadium across paragraph breaks. He also does just the opposite, combines smaller stadia into a single paragraph. After a long series of routine analytic paragraphs dealing with diction and "contingent ornamentation" (P7-13), he broaches the general idea of structure in a synthetic transitional paragraph (P14), and then elaborates at great length in P15. The sequence 15.3-6 develops the topic by iteration; 15.7-8 concentrates on the structure of sentences; 15.9-10 deals with spontaneous structural elaborations, good and bad; 15.11-13 handles elaborations occurring after the main structure of a unit is complete; and 15.14-17 comments on the reader's pleasure in appreciating structure. Here, as elsewhere, Pater frequently advances in short, almost imperceptible steps taken in contexts otherwise devoted to illustration and repetition of previous points. His horizontal leaps, such as they are, often occur in minor subordinate structures within sentences, rather than across hiatuses between

sentences, so that when a topic finally is granted full predication, it seems but an amplified echo. Heaping one "long-contending, victoriously intricate" sentence upon another, he pushes P15 to a length of 793 words and ends with the substance of a small essay, punctuated as a single paragraph.

Coherence, this passage undeniably possesses, but is it unified? Does it focus on one topic? Retracing the flow of ideas, we can argue with some difficulty that all this material is generated by 15.1-2. Or can we? Traditional criticism would point out that the paragraph moves in phases and could easily be broken at 15.7, 15.9, 15.10, 15.11, and 15.15, each resulting unit having its own topic sentence. As it is, we find several sub-topics, or possibly one "divided" topic, six identifiable stadia, all drawn into one union. The integrity of this union, assessed by the usual logical standards, is certainly open to question; to defend it on traditional grounds, we probably would have to abandon 15.1-2 as topic and invoke a ridiculously broad "implied" topic.

All the same, the paragraph reads well enough. And to mount a theoretical defense, we need only recognize that other legitimate criteria here have overridden the tug of logic. Obviously Pater wants to present his notion of structure as a single idea, regardless of its ramifications. Division of components would involve extensive expansion of this phase of the essay (cf. P4-6). By combining components, he avoids having to elaborate and at the same time stresses the whole by bulk treatment. However, I suspect that formal reasons also figured in the decision: P15 (793 words) and P16 (583 words) are by far the heaviest paragraphs in the essay,[19] and they deal with paired concepts, "mind" and "soul" in style. By cumulating the substance of P15 into one impressive mass, and juxtaposing it to the massive P16, he interprets the two concepts visually as a pair.

By contrast, the long stadium that follows, on Flaubert and the doctrine of the perfect word (P17-29), is far too heavy for block presentation. So he breaks it down into smaller stadia paragraphed in routine analytic fashion.

For the most part, of course, Pater's stadia follow the normal analytic pattern, whether or not they are set off as paragraphs. Synthesis is reserved for special situations. In P1-3 synthesis not only offers the advantages mentioned above but provides a gentle, gradual introit that accords well with his quiet tone and generally relaxed manner. In P14, where the movement sets up a definite contrast with the foregoing analytic sequence, it heralds an important phase of argument. At the conclusion of the essay (in P31), it allows him to end on a heavy note of emphasis.[20]

But the penultimate P30 is synthetic, too—the only synthetic paragraph in the essay that is not clearly an introduction or a conclusion. One wonders why, inevitably, for Pater rarely does anything without reason, yet the reason here is hard to find. I can offer only this suggestion: that P30 really is the

conclusion of the essay, and was conceived and written as such originally. It rounds out the argument beautifully, summing up the essay's central thesis in its final sentence, and has the characteristic force and rhythmic impact of a conclusion. Upon reviewing what he had written, however, if not before, Pater saw that his literary theory lay wide open to the same moralistic objections that had led him to withdraw the famous "Conclusion" to the *Renaissance* (1873) in its second edition (1877). Admittedly, he had recently restored a slightly modified version of the "Conclusion" in the third edition (1888), but he may very well have felt the present essay would revive old criticisms.

So in P31, having brought his commentary to a very satisfying close, he resumes exposition. He has shown how good art is achieved, he now informs us, but "great" art is something else. Here the criterion is matter, substance, not truth or form. To be great, a work of art must be more than good; it must also have "something of the soul of humanity in it," must increase the sum of human happiness, enlarge the sympathies, ennoble, fortify, redeem . . . and find "its logical architectural place in the great structure of human life" (31.4).

With these words, having barely introduced a major new idea which places the whole foregoing discussion in a new perspective, Pater abruptly ends. Even so sympathetic a reader as Saintsbury objects to the "appearance of 'hedging'" in P31, the sudden return to subject matter, which "as easily rememberable and with a virtuous high sound in it, appears to have greatly comforted some good but not great souls."[21] Pater's own judgment upon his paragraph perhaps can be inferred from his willingness to let its synthetic predecessor stand unrevised: P31 is distinct and supernumerary, both logically and structurally.

The foregoing observations in no way exhaust the possibilities of discourse-centered paragraph analysis. I have said nothing of tonal fluctuation, which does not strike me as being particularly significant in this essay, nor of rhythm, which is definitely significant but very hard to describe. Nor have I noted adequately the methods used to launch topic ideas, or the rise and fall of the abstraction level, or the use of ellipsis and the dash to tighten transitions between stadia, or Pater's unusual penchant for underplaying important ideas grammatically while stressing them rhetorically.

Inductive analysis of Pater's "Style" shows us something of what a paragraph *can* be, not what it must be; another writer, or another essay by the same writer, would reveal different possibilities, further precedents. I have been concerned mainly to demonstrate that the paragraph is just one of several kinds of stadia, and that the logical partitioning of complex discourse into paragraphs can occur at so many junctures that additional non-logical criteria often have to be invoked to account for a given decision to indent.

To insist that logic establish every indentation is to ignore several of the prime resources of good prose—which elevate and help transmute it from a merely serviceable "good round-hand" (1.3) into fine art.

NOTES

1. See my "Alexander Bain and the Rise of the Organic Paragraph," *Quarterly Journal of Speech*, LI (December 1965), 399–408.

2. James McConkey, *The Structure of Prose* (New York, 1963), p. 4.

3. Cleanth Brooks and Robert Penn Warren, *Modern Rhetoric* (2nd ed; New York, 1958), pp. 269–270.

4. Leo Rockas, *Modes of Rhetoric* (New York, 1964), p. 6.

5. Barrett Wendell, *English Composition* (New York, 1963), p. viii.

6. Francis Christensen, "A Generative Rhetoric of the Paragraph," *College Composition and Communication*, XVI (October 1965), 144.

7. Fred N. Scott and Joseph V. Denney, *Paragraph-Writing* (Ann Arbor, 1891), p. 71.

8. Edwin Herbert Lewis, *The History of the English Paragraph* (Chicago, 1894), p. 43.

9. Wendell Johnson, *People in Quandaries: The Semantics of Personal Adjustment* (New York, 1946), pp. 277–278. For a partial adumbration of this idea, see the "Introduction" to Lane Cooper's translation of *The Rhetoric of Aristotle* (New York, 1932), pp. xxxiv–xxxv.

10. John B. Lord, *The Paragraph: Structure and Style* (New York, 1964), p. 73.

11. Herbert Read, *English Prose Style* (Rev. ed; New York, 1952), pp. 58–65.

12. To facilitate reference to Pater, I shall use numbers to specify a given sentence (14.3 = fourteenth paragraph, third sentence) and a capital P to indicate "paragraph" (P4-6 = paragraphs four through six, inclusive).

13. George Saintsbury, *A History of Nineteenth Century Literature* (New York, 1896), p. 401.

14. *Ibid.*, p. 400.

15. George Saintsbury, *A History of English Prose Rhythm* (London, 1912), p. 421.

16. A. C. Benson, *Walter Pater* (New York, 1911), pp. 147–148.

17. Of 73 representative English prose writers studied by Lewis (p. 171), 27 average between 100 and 200 words per paragraph, 25 average between 200 and 300, and 21 average either below 100 or above 300, presumably the latter. In establishing the Pater word-counts, I have included quoted material.

18. See Edmund Chandler, "Pater on Style: An Examination of the Essay on 'Style' and the Textual History of 'Marius the Epicurean,'" *Anglistica*, XI (Copenhagen, 1958), pp. 95–99.

19. With the exception of P17 (573 words). P17 appears to be much lighter, however, since more than half of it consists of an inset block quotation.

20. It can easily be argued that P31 is analytic, comprising a definition (31.1) followed by illustrations and expanded repetitions of the same idea (31.2-4). I classify the paragraph as synthetic because 31.1-3 seems to me to build toward and to reach a climax in 31.4, which is by far the fullest and most emphatic of the four statements.

21. George Saintsbury, *A History of English Criticism* (New York, 1911), p. 501.

The Frequency and Placement of Topic Sentences in Expository Prose

RICHARD BRADDOCK

Most textbooks on English composition have presented some concerted treatment of topic sentences, long hailed as means of organizing a writer's ideas and clarifying them for the reader. In the most popular composition textbook of the nineteenth century, for example, Alexander Bain recognized that topic sentences may come at the end of a descriptive or introductory paragraph, but he emphasized that expository paragraphs have topic sentences and that they usually come at the beginnings of paragraphs:

> 19. The opening sentence, unless obviously preparatory, is expected to indicate the scope of the paragraph. . . . This rule is most directly applicable to expository style, where, indeed, it is almost essential. (Bain, 1890, p. 108)

In one of the more popular composition textbooks of the present, Gorrell and Laird present a similar statement about topic sentences—a statement which is paralleled in many other textbooks these days:

> Topic sentences may appear anywhere, or even be omitted. . . . but most modern, carefully constructed prose rests on standard paragraphs, most of which have topic sentences to open them.

And of 15 items on "Paragraph Patterns" in a commercial test of "writing," three involve the identification of topic sentences in brief paragraphs. In

each of the three, the correct answer is the first sentence in the paragraph (*Basic Skills*, 1970).

How much basis is there for us to make such statements to students or to base testing on the truth of them? To clarify the matter, I studied the paragraphs in representative contemporary professional writing, seeking the answers to these two questions:

1. What proportion of the paragraphs contain topic sentences?

2. Where in the paragraphs do the topic sentences occur?

PROCEDURE

As a body of expository material representing contemporary professional writing, I used the corpus of 25 complete essays in American English selected by Margaret Ashida, using random procedures, from 420 articles published from January, 1964, through March, 1965, in *The Atlantic, Harper's, The New Yorker, The Reporter,* and *The Saturday Review.* Ashida indicated possible uses of the corpus:

> . . . this corpus could be used for a wealth of investigations by students, teachers, and research scholars—for anything from a relatively superficial examination of controversial matters of usage, to the exploration of the deep (and equally controversial) questions being raised by theoreticians of the new rhetorics. Because the sample has its own built-in validity, it represents a *common* corpus for use by many different scholars—something we desperately need in rhetorical research. . . . (Ashida, 1968, pp. 14–23)

Paragraphs

Working one-by-one with zerographic copies of the 25 articles,[1] I numbered each paragraph from the first paragraph of the essay to the last. For this study, a paragraph was what we normally take to be one in printed material—a portion of discourse consisting of one or more sentences, the first line of type of which is preceded by more interlinear space than is otherwise found between lines in the text and the first sentence of which begins either with an indentation or with an unindented large initial capital.

Headnotes and footnotes were not counted as parts of the text for this study and hence were not numbered and analyzed. A problem appeared when one article included an insert, consisting of a diagram and some ten sentences of explanation, which was crucial to an understanding of the text

proper.[2] This insert arbitrarily was not counted as a paragraph in the article. In those few essays in which dialog was quoted, each separately indented paragraph was counted as a paragraph, even though it consisted in one case merely of one four-word sentence (Taper, p. 138).

T-units

After numbering the paragraphs in an essay, I proceeded to insert a pencilled slash mark after each T-unit in each paragraph and to write the total number of T-units at the end of each paragraph.

The T-unit, or "minimal terminable unit," is a term devised by Kellogg Hunt to describe the "shortest grammatically allowable sentences into which . . . [writing can] be segmented" (Hunt, 1965, pp. 20–21). In other words, consideration of the T-units of writing permits the researcher to use a rather standard conception of a sentence, setting aside the differences occurring between writers when they use different styles of punctuation. A T-unit, then, "includes one main clause plus all the subordinate clauses attached to or embedded within it. . . ." (Hunt, p. 141). Hunt wrote that an independent clause beginning with "and" or "but" is a T-unit, but I also included "or," "for," and "so" to complete what I take to be the coordinating conjunctions in modern usage.

Although in the vast majority of cases there was no difficulty knowing where to indicate the end of a T-unit, several problems did arise. Take, for instance, the following sentence:

> The Depression destroyed the coalfield's prosperity, but the Second World War revived it, and for a few years the boom returned and the miner was again a useful and honored citizen. (Caudill, p. 49)

Obviously, one T-unit ends with "prosperity" and another with "revived it," but is what follows "revived it" one T-unit or two? I made the judgment that "for a few years" was an integral part of both clauses following it and that "and for a few years the boom returned and the miner was again a useful and honored citizen" was one T-unit. Similarly, I counted the following sentence as one T-unit, not two, judging the intent of the first clause in the speech of the Protocol man to be subordinate, as if he had said "If you put an ambassador in prison":

> For another, as a Protocol man said recently, "You put an ambassador in prison and you can't negotiate with him, which is what he's supposed to be here for." (Kahn, p. 75)

In marking off T-units, a person must be prepared for occasional embedding. Sometimes a writer uses parentheses to help accomplish the embedding:

> Gibbs & Cox (Daniel H. Cox was a famous yacht designer who joined the firm in 1929, retired in 1943, and subsequently died) is the largest private ship-designing firm in the world. (Sargeant, p. 49)

That sentence, of course, has one T-unit embedded within one other. In the following example, dashes enclose two T-units embedded within another, and the entire sentence consists of four T-units:

> "They're condescending, supercilious bastards, but when the 'United States' broke all the transatlantic records—it still holds them, and it went into service in 1952—they had to come down a peg." (Sargeant, p. 50)

But embedding does not prove to be a problem in determining what is and what is not a T-unit. With the exception of perhaps a dozen other problems in the thousands of sentences considered in the 25 essays, marking off and counting the T-units was a fairly mechanical operation.

Topic Sentences

The next problem was to decide which T-unit, if any, constituted a topic sentence in each paragraph. After several frustrating attempts merely to underline the appropriate T-unit where it occurred, I realized that the notion of what a topic sentence is, is not at all clear.

Consultation of composition textbooks provided no simple solution of the problem. Gorrell and Laird, for example, offered this definition of a topic sentence:

> Most paragraphs focus on a central idea or unifying device expressed in topical material. Occasionally this topical material is complex, involving more than one sentence and some subtopics; sometimes it carries over from a previous paragraph and is assumed to be understood or is referred to briefly; but usually it simply takes the form of a sentence, sometimes amplified or made more specific in a sentence or two following it. This topic sentence may appear at the end of the paragraph as a kind of summary or somewhere within the paragraph, but most frequently it opens the paragraph or follows an opening introduction or transition. (Gorrell and Laird, p. 25)

The authors further clarify their definition (pp. 25–26) by stating that a topic sentence has three main functions: (1) to provide transition, (2) to suggest the organization of the paragraph, (3) to present a topic, either by naming or introducing a subject or by presenting a proposition or thesis for discussion. In the next several pages, the authors consider various types of "topic sentences as propositions" (or theses) and the problems in writing them with precision.

From my preliminary attempts to identify topic sentences in paragraphs, I could see the truth of a complex definition like Gorrell and Laird's. But such a comprehensive definition presents problems. Sometimes a paragraph opens with a sentence which we could all agree is transitional but which does not reveal much about the content of the paragraph. The second sentence may name the topic of the paragraph but not make a statement about it. The actual thesis of the paragraph may be stated explicitly in a succeeding sentence or in several sentences, or it may merely be inferred from what follows, even though it is never stated explicitly. In such a paragraph, which is the topic sentence—the first, second, a succeeding sentence, perhaps even all of them? Many of the sentences seem to fit the definition. An all-embracing definition does not seem helpful to me in deciding which sentence can be named the topic sentence.

Furthermore, as Paul Rodgers demonstrated (1966), paragraphing does not always corresponds to a reader's perceived organization of ideas. Sometimes a paragraph presents an illustration of the thesis of the preceding paragraph. The second paragraph thus extends the previous paragraph, and the paragraph indentation seems quite arbitrary. Or sometimes a thesis is stated in a one-sentence paragraph and the following paragraph explains that thesis without restating it. In such situations, one cannot simply identify a topic sentence in each paragraph.

It seemed to me that the best test of topic sentences is the test a careful reader might make—the test offered when one constructs a sentence outline of the major points of an essay, drawing the sentences insofar as possible from the sentences the author has written. In constructing a sentence outline, one usually omits transitional and illustrative statements and concentrates on the theses themselves. Consequently, I decided to prepare a sentence outline of each of the 25 essays and *then* determine which paragraphs had topic sentences and where in the paragraphs they occurred.

Outlines

From the beginning of the first one, I was aware of the serious problems in constructing a sentence outline to study the organization of another person's

writing. To what degree would I tend to impose on an essay my own interpretation of what was written? Does it do violence to discursive writing to cast it into the form of a sentence outline, trying to make the outline understandable by itself when the essay includes details of thought and qualities of style omitted in the process? Would the paragraphing and other typographical features of the edited essay distract me from the ideas and structure of the written essay? Of course I would try to preserve the author's intent in all of these matters, but what I actually did would be so much a matter of judgment that I should expose my outlines for the criticism of others, permitting comparison to the original articles. Moreover, the outlines might be helpful to other investigators who would like to use them without going to the extensive effort of preparing their own. Although it is impractical to include the outlines here, I will make them available to others for the cost of the copying.

In outlining an article, I read it through in sections of a number of paragraphs which seemed to be related, underlining topic sentences where I could find them and constructing topic sentences where they were not explicit in the article. In constructing a topic sentence, I tried to include phrases from the original text as much as possible. Whatever sentences, phrases, or key words I did use from the original I was careful to enclose in quotation marks, indicating by ellipsis marks all omissions and by brackets all of my own insertions. Opposite each entry in the outline I indicated the number of the paragraph and T-unit of each quotation used. Thus the notation 20:2,3, and 4 indicates that quoted portions of the outline entry were taken from the second, third, and fourth T-units of the twentieth paragraph in the essay. On a few occasions where I took an idea from a paragraph but it did not seem possible to cast it in the author's original words at all, I put the paragraph number in parentheses to indicate that. But I tried to use the author's words as much as I could, even, in some cases, where it yielded a somewhat unwieldy entry in the outline.

To illustrate the approach, let me offer in Figure 1 the opening paragraphs from the first article in the corpus, indicating the corresponding entries in the outline.

Notice the different types of outline entries necessitated by the various kinds of paragraphs the author writes. Topic Sentence B is an example of what I would call a *simple topic sentence*, one which is quoted entirely or almost entirely from one T-unit in the passage, wherever that T-unit occurs. (Incidentally, the last sentence in Paragraph 2 is not reflected in Topic Sentence B because that last sentence is an early foreshadowing of the main idea of the entire article.)

Figure 1   Sample paragraphs and outline entries.

Opening Paragraphs from Drew, p. 33	Excerpt from Outline	
1. Among the news items given out to a shocked nation following the assassination of President Kennedy was the fact that Lee Harvey Oswald had purchased his weapon, a 6.5-mm Italian carbine, from a Chicago mail-order house under an assumed name. The rifle was sent, no questions asked, to one "A. Hidell," in care of a post-office box in Dallas. The transaction was routine in the mail-order trade; about one million guns are sold the same way each year.	I. "By the ordinary rules of the game, the events in Dallas should have ensured prompt enactment. . . ." of gun control legislation by Congress.	2:2
2. At the same time, a bill was pending in Congress to tighten regulation of the rapidly expanding mail-order business in guns. By the ordinary rules of the game, the events in Dallas should have ensured prompt enactment, just as the news of Thalidomide-deformed babies had provided the long-needed impetus for passage of stricter drug regulations in 1962. But Congress did not act—a testimonial to the deadly aim of the shotting lobby.	A. "President Kennedy" had recently been shot with one of the "one million guns . . . sold . . . each year" through "the mail-order business in guns."	1:1,3,4
	B. "At the same time, a bill was pending in Congress to tighten regulation of the rapidly expanding mail-order business in guns."	2:1
3. Two existing statutes presumably deal with the gun traffic. Both were passed in reaction to the gangsterism of the prohibition era. But, because of limited coverage, problems of proof, and various other quirks, they have had a negligible impact on the increasing gun traffic.	C. "Two existing statutes. . . . [had] a negligible impact on the increasing gun traffic."	3:1,3
4. The investigation of the mail-order traffic in guns began in 1961 under the auspices of the Juvenile Delinquency subcommittee. . . .		

Topic Sentence C is a fairly common type, one in which the topic sentence seems to begin in one T-unit but is completed in a later T-unit. In Paragraph 3, the first sentence does not make a specific enough statement about the two existing statutes to serve as a complete topic sentence, even though it reveals the subject of the paragraph. One must go to the third sentence to find the predicate for the topic sentence. Let us term this type a *delayed-completion topic sentence*. Not all delayed-completion topic sentences stem from separated subjects and predicates, though. Sometimes the two sentences present a question and then an answer (Fischer, 18: 1,2), a negative followed by a positive (Fischer, 38: 1,2), or metaphoric language subsequently explained by straight language (Drucker, 8: 1,2). The T-units from which a delayed-completion topic sentence is drawn are not always adjoining. In one instance, I discovered them separated by three T-units (Collado, 29: 1,2,6); in another, in adjoining paragraphs (Caudill, 17: 2 and 18: 1); in still another, nine paragraphs apart (Lear, 1: 1,2 and 10: 1).

Notice that Topic Sentence A is an example of a statement assembled by quotations from throughout the paragraph. The first sentence in Paragraph 1 cannot properly be considered the topic sentence: it includes such phrases as "the news item" and "a shocked nation" and such details as the name of the assassin, the size and make of the carbine, and the location of the mail order house—such matters as are not essential to the topic sentence; and it omits such a detail as the scope of the problem — "one million guns . . . sold . . . each year"—which helps convey the idea in Statement I. To ease later reference to this type of topic sentence, let us call it an *assembled topic sentence*.

Finally, there is what we might call an *inferred topic sentence*, one which the reader thinks the writer has implied even though the reader cannot construct it by quoting phrases from the original passage. Though the paragraph in Figure 2 comes out of context—from an article on cutting the costs of medical care—it may still be clear why the corresponding topic sentence had to be inferred.

As I was determining what were the topic sentences of an article, I was also keeping an eye out for what we might call the *major topic sentences* of the larger stadia of discourses. That is, a series of topic sentences all added up to a major topic sentence; a group of paragraphs all added up to what William Irmscher (1972) calls a "paragraph bloc" within the entire article. A major topic sentence (designated with a Roman numeral) might head as few as two topic sentences (designated with capital letters) in the outline or as many as 12 topic sentences (in the Kahn outline) or 15 (the most, in the Mumford outline). On the other hand, it was frequently apparent that the main idea of a paragraph was really a subpoint of the main idea of another

Figure 2 Sample of paragraph yielding inferred topic sentence.

Paragraph from Saunders, p. 24	Excerpt from Outline
Fortunately most ailments do not require such elaborate treatment. Pills cost a good deal less but even they are no small item in the medical bill. From 1929 to 1956 prescription sales climbed from $140 million to $1,466 million a year, and the average price per prescription rose from 85 cents to $2.62. Citing the findings of the Kefauver Committee, Professor Harris makes a strong case for more—and more stringent—regulation of the pharmaceutical industry by the government.	Prescription drug costs have risen.

paragraph. Let us call these *subtopic sentences*. As few as two and as many as seven subtopic sentences (in the Taper outline) were headed by a topic sentence. Sometimes a major topic sentence or a subtopic sentence was simply stated in a single T-unit, but sometimes it had to be assembled, sometimes inferred. Some occurred as delayed-completion topic sentences.

After completing the rest of the outline, I arrived at the main idea (the thesis) or, in the case of the Kahn and Sargeant articles (both *New Yorker* "Profiles"), the purpose. And as with the various types of topic sentences, I drew quoted phrases from the article to construct the statement of the main idea whenever possible, but with one exception—if a term or phrase occurred frequently in the article, I would not enclose it in quotations and note its location unless it seemed to me to have been put by the author in a particular place or signalled in a particular way to suggest that he was at that time intentionally indicating to readers the nature of his main idea.

After all of the outlines were completed, I went back through each one, classifying each topic sentence as one of the four types and checking the outline against the text of the original essay.

FINDINGS

A tabulation of the frequency of each type of topic sentence for each of the 25 essays is presented in Table 1. It should not escape the reader that the number of topic sentences in an outline does not correspond directly to the number of paragraphs in its essay. Sometimes a major topic sentence and a topic sentence occurred in the same paragraph, and sometimes several

Table 1 Frequency of types of topic sentences in each of the 25 essays.

Essay No.	Author	Magazine	Main Idea	Simple			Del-comp.			Assembled			Inferred			Total TS's	Total Pars.
				MTS	TS	STS	MTS	TS	STS	MTS	TS	STS	MTS	TS	STS		
1	Drew	Reporter	Inf.	3	8	2	0	2	0	2	2	2	0	0	0	22	20
2	Tebbel	Sat. Rev.	D-C	1	5	2	1	2	2	0	5	2	1	2	1	23	25
3	Collado	Sat. Rev.	Sim.	3	8	3	1	1	2	0	4	9	0	1	0	33	50
4	Sargeant	New York.	Inf.	1	3	0	0	0	0	1	13	6	3	3	1	32	26
5	Chamberlain	Atlantic	Inf.	3	5	2	0	2	0	1	7	3	0	0	0	24	24
6	Daniels	Sat. Rev.	Sim.	3	8	0	0	0	0	0	6	0	0	0	0	18	27
7	E. Taylor	Reporter	Ass.	3	8	0	0	2	0	1	2	0	0	1	0	17	19
8	Kaufman	Atlantic	Ass.	2	13	5	1	2	0	1	0	2	4	5	0	35	41
9	Kahn	New York.	Inf.	0	7	0	0	1	0	1	25	0	0	0	0	44	45
10	Handlin	Atlantic	Sim.	4	11	0	0	7	0	0	4	0	0	1	0	28	35
11	Francois	Reporter	Ass.	2	5	0	0	1	0	1	3	0	2	3	0	13	13
12	Sanders	Harper's	Sim.	3	12	0	2	4	0	2	6	0	2	1	0	32	35
13	Lear	Sat. Rev.	Sim.	0	7	0	1	2	0	1	15	0	0	2	0	32	67
14	Lyons	Atlantic	Sim.	5	8	0	0	4	0	1	13	0	1	0	0	31	53
15	Ribman	Harper's	Inf.	4	20	1	0	3	0	3	12	0	0	0	0	44	56
16	Taper	New York.	Inf.	4	14	9	0	1	1	1	16	11	0	1	0	53	53
17	Fischer	Harper's	Inf.	2	11	0	0	2	1	3	9	3	2	0	0	41	42
18	Mumford	New York.	Sim.	5	17	1	0	5	1	0	27	0	0	0	0	54	49
19	Drucker	Harper's	Sim.	2	15	3	0	7	1	2	16	1	1	1	0	45	53
20	Caudill	Atlantic	Sim.	1	10	0	0	1	1	2	6	0	0	0	0	31	39
21	C. Taylor	Atlantic	Sim.	1	11	0	1	2	1	0	7	3	0	0	0	29	29
22	Cousins	Sat. Rev.	Sim.	4	2	0	1	1	1	0	3	0	0	0	0	13	13
23	Clark	Harper's	Sim.	1	8	0	0	1	1	1	4	1	0	0	0	21	26
24	Durrell	Atlantic	Sim.	3	5	0	1	0	0	0	6	0	0	0	0	15	13
25	Rule	Atlantic	Ass.	3	15	0	1	3	0	1	9	0	0	0	0	33	36
Totals			25	64	236	28	10	56	13	27	220	43	16	21	2	761	889

MTS = major topic sentence   TS = topic sentence   STS = subtopic sentence

paragraphs seemed devoted to the presentation of one topic sentence. (The total number of topic sentences—including the main idea or purpose, major topic sentences, topic sentences, and subtopic sentences, if any—and the total number of paragraphs are given in the two columns at the right of the table.)

One conclusion from Table 1 is that the use made of the different types of topic sentences varies greatly from one writer to the next. Another is that the four articles taken from the *New Yorker* (each one a "Profile") tend to have yielded a higher proportion of assembled topic sentences than most of the other essays.

Frequency of Types of Topic Sentences

Table 2 combines the data for the 25 essays, indicating the distribution of topic sentences of each type. It is clear that less than half of all the topic sentences (45%) are simple topic sentences and almost as many (39%) are assembled. It is also apparent that—except for the statements of the main idea or purpose—the more of the text that the topic sentence covers, the more likely it is to be a simple topic sentence. That is, of the 117 major topic sentences, 55% were simple; of the 533 topic sentences, 44% were simple; of the 80 subtopic sentences, 33% were simple.

One might well maintain that simple and delayed-completion topic sentences are relatively explicit, that assembled and inferred topic sentences are relatively implicit. Pairing the types of topic sentences in that fashion, Table 2 reveals no great changes in the tendencies of the percentages. Slightly more than half of all the topic sentences (55%) are explicit, slightly less than half (45%) implicit. Again, with the exception of statements of

Table 2   Percentages of topic sentences of various types.

Types of Topic Sentences	No.	Sim.	D-C	Explicit	Ass.	Inf.	Implicit
Main idea or purpose	25	48	4	52	16	32	48
Major topic sentences	117	55	9	63	23	14	37
Topic sentences	533	44	11	55	41	4	45
Subtopic sentences	86	33	15	48	50	2	52
All types together	761	45	11	55	39	6	45

Note: columns 4–8 fall under the grouped heading "Percentages."

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main idea and purpose, the more of the text which the topic sentence covers, the more likely it is to be explicit.

If what the composition textbooks refer to as "the topic sentence" is the same thing as this study terms the simple topic sentence, it is apparent that claims about its frequency should be more cautious. It just is not true that most expository paragraphs have topic sentences in that sense. Even when simple and delayed-completion topic sentences are combined into the category "explicit topic sentences"—a broader conception than many textbook writers seem to have in mind—the frequency reaches only 55% of all the entries in a sentence outline. And when one remembers that only 761 outline topic sentences represent the 889 paragraphs in all 25 essays, he realizes that considerably fewer than half of all the paragraphs in the essays have even explicit topic sentences, to say nothing of simple topic sentences.

Placement of Simple Topic Sentences

How true is the claim that most expository paragraphs open with topic sentences? To find out, I studied the paragraph location of the 264 topic sentences and subtopic sentences in the outline. Gorrell and Laird, like others, had written that the "topic sentence may appear at the end of the paragraph as a kind of summary or somewhere within the paragraph, but most frequently it opens the paragraph or follows an opening introduction or transition (p. 25). Thus I decided to tabulate the occurrence of each simple topic sentence as it appeared in each of four positions: the first T-unit in the paragraph, the second T-unit, the last, or a T-unit between the second and last. To do that, of course, I could consider only paragraphs of four or more T-units. Consequently, I excluded from consideration paragraphs with three or fewer T-units. The results are presented in Table 3.

More than a fourth (28%) of all those paragraphs presenting simple topic sentences or simple subtopic sentences contained fewer than four T-units. Of the rest, 47% presented a simple topic sentence or simple subtopic sentence in the first T-unit, 15% in the second T-unit, 12% in the last T-unit, and 26% elsewhere. But these figures are based on the 190 paragraphs of four or more T-units which contain simple topic sentences or simple subtopic sentences. There were 355 paragraphs from which other topic sentences or subtopic sentences were drawn—delayed-completion, assembled, and inferred. One cannot say that they "have topic sentences to open them." Consequently, it is obvious that much smaller percentages than the above pertain to expository paragraphs in general. Furthermore, there were at least 128 paragraphs from which no topic sentences at all

Table 3 Location of simple topic sentences and simple subtopic sentences.

Location	Essay Number																									Tot.	%
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
(Paragraph shorter than 4 T-units)	1	1	4	0	3	2	6	5	0	4	1	7	4	0	9	0	6	1	4	2	0	1	6	1	6	74	(28)
First T-unit	6	2	2	3	3	2	0	2	6	4	2	2	1	2	7	5	7	3	6	5	8	1	0	3	7	89	47
Second T-unit	1	4	2	0	0	1	1	2	0	1	0	1	0	1	1	0	4	5	0	2	2	0	1	0	0	29	15
Last T-unit	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	1	1	4	3	2	1	0	1	0	1	22	12
Elsewhere	2	0	2	1	1	2	1	5	1	2	2	2	0	5	3	9	2	4	3	2	0	0	0	1	1	50	26
Total no. of TS's and STS's in essay	10	7	11	3	7	8	8	18	7	11	5	12	7	8	20	15	20	17	16	13	11	2	8	5	15	264	
Total no. of paragraphs in essay	20	25	50	26	24	27	19	41	45	35	13	35	67	53	56	53	42	49	53	39	29	13	26	13	36	889	

Grammar, Grammars,
and the Teaching of Grammar

PATRICK HARTWELL

For me the grammar issue was settled at least twenty years ago with the conclusion offered by Richard Braddock, Richard Lloyd-Jones, and Lowell Schoer in 1963.

> In view of the widespread agreement of research studies based upon many types of students and teachers, the conclusion can be stated in strong and unqualified· terms: the teaching of formal grammar has a negligible or, because it usually displaces some instruction and practice in composition, even a harmful effect on improvement in writing.[1]

Indeed, I would agree with Janet Emig that the grammar issue is a prime example of "magical thinking": the assumption that students will learn only what we teach and only because we teach.[2]

But the grammar issue, as we will see, is a complicated one. And, perhaps surprisingly, it remains controversial, with the regular appearance of papers defending the teaching of formal grammar or attacking it.[3] Thus Janice Neuleib, writing on "The Relation of Formal Grammar to Composition" in *College Composition and Communication* (23 [1977], 247–250), is tempted "to sputter on paper" at reading the quotation above (p. 248), and Martha Kolln, writing in the same journal three years later ("Closing the Books on Alchemy," *CCC*, 32 [1981], 139–151), labels people like me "alchemists" for our perverse beliefs. Neuleib reviews five experimental studies, most of them concluding that formal grammar instruction has no

effect on the quality of students' writing nor on their ability to avoid error. Yet she renders in effect a Scots verdict of "Not proven" and calls for more research on the issue. Similarly, Kolln reviews six experimental studies that arrive at similar conclusions, only one of them overlapping with the studies cited by Neuleib. She calls for more careful definition of the word *grammar*—her definition being "the internalized system that native speakers of a language share" (p. 140)—and she concludes with a stirring call to place grammar instruction at the center of the composition curriculum: "our goal should be to help students understand the system they know unconsciously as native speakers, to teach them the necessary categories and labels that will enable them to think about and talk about their language" (p. 150). Certainly our textbooks and our pedagogies—though they vary widely in what they see as "necessary categories and labels"—continue to emphasize mastery of formal grammar, and popular discussions of a presumed literacy crisis are almost unanimous in their call for a renewed emphasis on the teaching of formal grammar, seen as basic for success in writing.[4]

AN INSTRUCTIVE EXAMPLE

It is worth noting at the outset that both sides in this dispute—the grammarians and the anti-grammarians—articulate the issue in the same positivistic terms: what does experimental research tell us about the value of teaching formal grammar? But seventy-five years of experimental research has for all practical purposes told us nothing. The two sides are unable to agree on how to interpret such research. Studies are interpreted in terms of one's prior assumptions about the value of teaching grammar: their results seem not to change those assumptions. Thus the basis of the discussion, a basis shared by Kolln and Neuleib and by Braddock and his colleagues—"what does educational research tell us?"—seems designed to perpetuate, not to resolve, the issue. A single example will be instructive. In 1976 and then at greater length in 1979, W. B. Elley, I. H. Barham, H. Lamb, and M. Wyllie reported on a three-year experiment in New Zealand, comparing the relative effectiveness at the high school level of instruction in transformational grammar, instruction in traditional grammar, and no grammar instruction.[5] They concluded that the formal study of grammar, whether transformational or traditional, improved neither writing quality nor control over surface correctness.

> After two years, no differences were detected in writing performance or language competence; after three years small differences appeared in some

minor conventions favoring the TG. [transformational grammar] group, but these were more than offset by the less positive attitudes they showed towards their English studies. (p. 18)

Anthony Petrosky, in a review of research ("Grammar Instruction: What We Know," *English Journal*, 66, No. 9 [1977], 86–88), agreed with this conclusion, finding the study to be carefully designed, "representative of the best kind of educational research" (p. 86), its validity "unquestionable" (p. 88). Yet Janice Neuleib in her essay found the same conclusions to be "startling" and questioned whether the findings could be generalized beyond the target population, New Zealand high school students. Martha Kolln, when her attention is drawn to the study ("Reply to Ron Shook," *CCC*, 32 [1981], 139–151), thinks the whole experiment "suspicious." And John Mellon has been willing to use the study to defend the teaching of grammar; the study of Elley and his colleagues, he has argued, shows that teaching grammar does no harm.[6]

It would seem unlikely, therefore, that further experimental research, in and of itself, will resolve the grammar issue. Any experimental design can be nitpicked, any experimental population can be criticized, and any experimental conclusion can be questioned or, more often, ignored. In fact, it may well be that the grammar question is not open to resolution by experimental research, that, as Noam Chomsky has argued in *Reflections on Language* (New York: Pantheon, 1975), criticizing the trivialization of human learning by behavioral psychologists, the issue is simply misdefined.

> There will be "good experiments" only in domains that lie outside the organism's cognitive capacity. For example, there will be no "good experiments" in the study of human learning.
>
> This discipline . . . will, of necessity, avoid those domains in which an organism is specially designed to acquire rich cognitive structures that enter into its life in an intimate fashion. The discipline will be of virtually no intellectual interest, it seems to me, since it is restricting itself in principle to those questions that are guaranteed to tell us little about the nature of organisms. (p. 36)

ASKING THE RIGHT QUESTIONS

As a result, though I will look briefly at the tradition of experimental research, my primary goal in this essay is to articulate the grammar issue in

different and, I would hope, more productive terms. Specifically, I want to ask four questions:

1. Why is the grammar issue so important? Why has it been the dominant focus of composition research for the last seventy-five years?
2. What definitions of the word *grammar* are needed to articulate the grammar issue intelligibly?
3. What do findings in cognate disciplines suggest about the value of formal grammar instruction?
4. What is our theory of language, and what does it predict about the value of formal grammar instruction? (This question — "what does our theory of language predict?" — seems a much more powerful question than "what does educational research tell us?")

In exploring these questions I will attempt to be fully explicit about issues, terms, and assumptions. I hope that both proponents and opponents of formal grammar instruction would agree that these are useful as shared points of reference: care in definition, full examination of the evidence, reference to relevant work in cognate disciplines, and explicit analysis of the theoretical bases of the issue.

But even with that gesture of harmony it will be difficult to articulate the issue in a balanced way, one that will be acceptable to both sides. After all, we are dealing with a professional dispute in which one side accuses the other of "magical thinking," and in turn that side responds by charging the other as "alchemists." Thus we might suspect that the grammar issue is itself embedded in larger models of the transmission of literacy, part of quite different assumptions about the teaching of composition.

Those of us who dismiss the teaching of formal grammar have a model of composition instruction that makes the grammar issue "uninteresting" in a scientific sense. Our model predicts a rich and complex interaction of learner and environment in mastering literacy, an interaction that has little to do with sequences of skills instruction as such. Those who defend the teaching of grammar tend to have a model of composition instruction that is rigidly skills-centered and rigidly sequential: the formal teaching of grammar, as the first step in that sequence, is the cornerstone or linchpin. Grammar teaching is thus supremely interesting, naturally a dominant focus for educational research. The controversy over the value of grammar instruction, then, is inseparable from two other issues: the issues of sequence in the teaching of composition and of the role of the composition teacher. Consider, for example, the force of these two issues in Janice Neuleib's

conclusion: after calling for yet more experimental research on the value of teaching grammar, she ends with an absolute (and unsupported) claim about sequences and teacher roles in composition.

> We do know, however, that some things must be taught at different levels. Insistence on adherence to usage norms by composition teachers does improve usage. Students can learn to organize their papers if teachers do not accept papers that are disorganized. Perhaps composition teachers can teach those two abilities before they begin the more difficult tasks of developing syntactic sophistication and a winning style. ("The Relation of Formal Grammar to Composition," p. 250)

(One might want to ask, in passing, whether "usage norms" exist in the monolithic fashion the phrase suggests and whether refusing to accept disorganized papers is our best available pedagogy for teaching arrangement.)[7]

But I want to focus on the notion of sequence that makes the grammar issue so important: first grammar, then usage, then some absolute model of organization, all controlled by the teacher at the center of the learning process, with other matters, those of rhetorical weight—"syntactic sophistication and a winning style"—pushed off to the future. It is not surprising that we call each other names: those of us who question the value of teaching grammar are in fact shaking the whole elaborate edifice of traditional composition instruction.

THE FIVE MEANINGS OF "GRAMMAR"

Given its centrality to a well-established way of teaching composition, I need to go about the business of defining grammar rather carefully, particularly in view of Kolln's criticism of the lack of care in earlier discussions. Therefore I will build upon a seminal discussion of the word *grammar* offered a generation ago, in 1954, by W. Nelson Francis, often excerpted as "The Three Meanings of Grammar."[8] It is worth reprinting at length, if only to re-establish it as a reference point for future discussions.

> The first thing we mean by "grammar" is "the set of formal patterns in which the words of a language are arranged in order to convey larger meanings." It is not necessary that we be able to discuss these patterns self-consciously in order to be able to use them. In fact, all speakers of a language above the age of five or six know how to use its complex forms of organization with considerable skill; in this sense of the word—call it "Grammar 1"—they are thoroughly familiar with its grammar.

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The second meaning of "grammar"—call it "Grammar 2"—is "the branch of linguistic science which is concerned with the description, analysis, and formulization of formal language patterns." Just as gravity was in full operation before Newton's apple fell, so grammar in the first sense was in full operation before anyone formulated the first rule that began the history of grammar as a study.

The third sense in which people use the word "grammar" is "linguistic etiquette." This we may call "Grammar 3." The word in this sense is often coupled with a derogatory adjective: we say that the expression "he ain't here" is "bad grammar." . . .

As has already been suggested, much confusion arises from mixing these meanings. One hears a good deal of criticism of teachers of English couched in such terms as "they don't teach grammar any more." Criticism of this sort is based on the wholly unproven assumption that teaching Grammar 2 will improve the student's proficiency in Grammar 1 or improve his manners in Grammar 3. Actually, the form of Grammar 2 which is usually taught is a very inaccurate and misleading analysis of the facts of Grammar 1; and it therefore is of highly questionable value in improving a person's ability to handle the structural patterns of his language. (pp. 300–301)

Francis' Grammar 3 is, of course, not grammar at all, but usage. One would like to assume that Joseph Williams' recent discussion of usage ("The Phenomenology of Error," CCC, 32 [1981], 152–168), along with his references, has placed those shibboleths in a proper perspective. But I doubt it, and I suspect that popular discussions of the grammar issue will be as flawed by the intrusion of usage issues as past discussions have been. At any rate I will make only passing reference to Grammar 3—usage—naively assuming that this issue has been discussed elsewhere and that my readers are familiar with those discussions.

We need also to make further discriminations about Francis' Grammar 2, given that the purpose of his 1954 article was to substitute for one form of Grammar 2, that "inaccurate and misleading" form "which is usually taught," another form, that of American structuralist grammar. Here we can make use of a still earlier discussion, one going back to the days when PMLA was willing to publish articles on rhetoric and linguistics, to a 1927 article by Charles Carpenter Fries, "The Rules of the Common School Grammars" (42 [1927], 221–237). Fries there distinguished between the scientific tradition of language study (to which we will now delimit Francis' Grammar 2, scientific grammar) and the separate tradition of "the common school grammars," developed unscientifically, largely based on two inadequate principles—appeals to "logical principles," like "two negatives

make a positive," and analogy to Latin grammar; thus, Charlton Laird's characterization, "the grammar of Latin, ingeniously warped to suggest English" (*Language in America* [New York: World, 1970], p. 294). There is, of course, a direct link between the "common school grammars" that Fries criticized in 1927 and the grammar-based texts of today, and thus it seems wise, as Karl W. Dykema suggests ("Where Our Grammar Came From," *CE*, 22 (1961), 455–465), to separate Grammar 2, "scientific grammar," from Grammar 4, "school grammar," the latter meaning, quite literally, "the grammars used in the schools."

Further, since Martha Kolln points to the adaptation of Christensen's sentence rhetoric in a recent sentence-combining text as an example of the proper emphasis on "grammar" ("Closing the Books on Alchemy," p. 140), it is worth separating out, as still another meaning of *grammar*, Grammar 5, "stylistic grammar," defined as "grammatical terms used in the interest of teaching prose style." And, since stylistic grammars abound, with widely variant terms and emphases, we might appropriately speak parenthetically of specific forms of Grammar 5—Grammar 5 (Lanham); Grammar 5 (Strunk and White); Grammar 5 (Williams, *Style*); even Grammar 5 (Christensen, as adapted by Daiker, Kerek, and Morenberg).[9]

THE GRAMMAR IN OUR HEADS

With these definitions in mind, let us return to Francis' Grammar 1, admirably defined by Kolln as "the internalized system of rules that speakers of a language share" ("Closing the Books on Alchemy," p. 140), or, to put it more simply, the grammar in our heads. Three features of Grammar 1 need to be stressed: first, its special status as an "internalized system of rules," as tacit and unconscious knowledge; second, the abstract, even counterintuitive, nature of these rules, insofar as we are able to approximate them indirectly as Grammar 2 statements; and third, the way in which the form of one's Grammar 1 seems profoundly affected by the acquisition of literacy. This sort of review is designed to firm up our theory of language, so that we can ask what it predicts about the value of teaching formal grammar.

A simple thought experiment will isolate the special status of Grammar 1 knowledge. I have asked members of a number of different groups—from sixth graders to college freshmen to high-school teachers—to give me the rule for ordering adjectives of nationality, age, and number in English. The response is always the same: "We don't know the rule." Yet when I ask these groups to perform an active language task, they show productive control

over the rule they have denied knowing. I ask them to arrange the following words in a natural order:

French   the   young   girls   four

I have never seen a native speaker of English who did not immediately produce the natural order, "the four young French girls." The rule is that in English the order of adjectives is first, number, second, age, and third, nationality. Native speakers can create analogous phrases using the rule—"the seventy-three aged Scandinavian lechers"; and the drive for meaning is so great that they will create contexts to make sense out of violations of the rule, as in foregrounding for emphasis: "I want to talk to the French four young girls." (I immediately envision a large room, perhaps a banquet hall, filled with tables at which are seated groups of four young girls, each group of a different nationality.) So Grammar 1 is eminently usable knowledge—the way we make our life through language—but it is not accessible knowledge; in a profound sense, we do not know that we have it. Thus neurolinguist Z. N. Pylyshyn speaks of Grammar 1 as "autonomous," separate from common-sense reasoning, and as "cognitively impenetrable," not available for direct examination.[10] In philosophy and linguistics, the distinction is made between formal, conscious, "knowing about" knowledge (like Grammar 2 knowledge) and tacit, unconscious, "knowing how" knowledge (like Grammar 1 knowledge). The importance of this distinction for the teaching of composition—it provides a powerful theoretical justification for mistrusting the ability of Grammar 2 (or Grammar 4) knowledge to affect Grammar 1 performance—was pointed out in this journal by Martin Steinmann, Jr., in 1966 ("Rhetorical Research," *CE*, 27 [1966], 278–285).

Further, the more we learn about Grammar 1—and most linguists would agree that we know surprisingly little about it—the more abstract and implicit it seems. This abstractness can be illustrated with an experiment, devised by Lise Menn and reported by Morris Halle,[11] about our rule for forming plurals in speech. It is obvious that we do indeed have a "rule" for forming plurals, for we do not memorize the plural of each noun separately. You will demonstrate productive control over that rule by forming the spoken plurals of the nonsense words below:

thole   flitch   plast

Halle offers two ways of formalizing a Grammar 2 equivalent of this Grammar 1 ability. One form of the rule is the following, stated in terms of speech sounds:

a. If the noun ends in /s z š ž č ǰ/, add /ɨz/;
b. otherwise, if the noun ends in /p t k f Ø/, add /s/;
c. otherwise, add /z/.[11]

This rule comes close to what we literate adults consider to be an adequate rule for plurals in writing, like the rules, for example, taken from a recent "common school grammar," Eric Gould's *Reading into Writing: A Rhetoric, Reader, and Handbook* (Boston: Houghton Mifflin, 1983):

> *Plurals* can be tricky. If you are unsure of a plural, then check it in the dictionary. The general rules are
>   Add *s* to the singular: *girls, tables*
>   Add *es* to nouns ending in *ch, sh, x* or *s*: *churches, boxes, wishes*
>   Add *es* to nouns ending in *y* and preceded by a vowel once you have changed *y* to *i*: *monies, companies*. (p. 666)

(But note the persistent inadequacy of such Grammar 4 rules: here, as I read it, the rule is inadequate to explain the plurals of *ray* and *tray*, even to explain the collective noun *monies*, not a plural at all, formed from the mass noun *money* and offered as an example.) A second form of the rule would make use of much more abstract entities, sound features:

a. If the noun ends with a sound that is [coronal, strident], add /ɨz/;
b. otherwise, if the noun ends with a sound that is [non-voiced], add /s/;
c. otherwise, add /z/.

(The notion of "sound features" is itself rather abstract, perhaps new to readers not trained in linguistics. But such readers should be able to recognize that the spoken plurals of *lip* and *duck*, the sound [s], differ from the spoken plurals of *sea* and *gnu*, the sound [z], only in that the sounds of the latter are "voiced"—one's vocal cords vibrate—while the sounds of the former are "non-voiced.")

To test the psychologically operative rule, the Grammar 1 rule, native speakers of English were asked to form the plural of the last name of the composer Johann Sebastian *Bach*, a sound [x], unique in American (though not in Scottish) English. If speakers follow the first rule above, using word endings, they would reject a) and b), then apply c), producing the plural as /baxz/, with word-final /z/. (If writers were to follow the rule of the common school grammar, they would produce the written plural *Baches*, apparently, given the form of the rule, on analogy with *churches*.) If speakers follow the

second rule, they would have to analyze the sound [x] as [non-labial, non-coronal, dorsal, non-voiced, and non-strident], producing the plural as /baxs/, with word-final /s/. Native speakers of American English overwhelmingly produce the plural as /baxs/. They use knowledge that Halle characterizes as "unlearned and untaught" (p. 140).

Now such a "conclusion is counterintuitive—certainly it departs maximally from Grammar 4 rules for forming plurals. It seems that native speakers of English behave as if they have productive control, as Grammar 1 knowledge, of abstract sound features (± coronal, ± strident, and so on) which are available as conscious, Grammar 2 knowledge only to trained linguists—and, indeed, formally available only within the last hundred years or so. ("Behave as if," in that last sentence, is a necessary hedge, to underscore the difficulty of "knowing about" Grammar 1.)

Moreover, as the example of plural rules suggests, the form of the Grammar 1 in the heads of literate adults seems profoundly affected by the acquisition of literacy. Obviously, literate adults have access to different morphological codes: the abstract print -s underlying the predictable /s/ and /z/ plurals, the abstract print -ed underlying the spoken past tense markers /t/, as in "walked," /əd/, as in "surrounded," /d/, as in "scored," and the symbol /Ø/ for no surface realization, as in the relaxed standard pronunciation of "I walked to the store." Literate adults also have access to distinctions preserved only in the code of print (for example, the distinction between "a good sailer" and "a good sailor" that Mark Aranoff points out in "An English Spelling Convention," *Linguistic Inquiry*, 9 [1978], 299–303). More significantly, Irene Moscowitz speculates that the ability of third graders to form abstract nouns on analogy with pairs like *divine::divinity* and *serene::serenity*, where the spoken vowel changes but the spelling preserves meaning, is a factor of knowing how to read. Carol Chomsky finds a three-stage developmental sequence in the grammatical performance of seven-year-olds, related to measures of kind and variety of reading; and Rita S. Brause finds a nine-stage developmental sequence in the ability to understand semantic ambiguity, extending from fourth graders to graduate students.[12] John Mills and Gordon Hemsley find that level of education, and presumably level of literacy, influence judgments of grammaticality, concluding that literacy changes the deep structure of one's internal grammar; Jean Whyte finds that oral language functions develop differently in readers and non-readers; José Morais, Jésus Alegria, and Paul Bertelson find that illiterate adults are unable to add or delete sounds at the beginning of nonsense words, suggesting that awareness of speech as a series of phones is provided by learning to read an alphabetic code. Two experiments—one conducted by Charles A. Ferguson, the other

by Mary E. Hamilton and David Barton—find that adults' ability to recognize segmentation in speech is related to degree of literacy, not to amount of schooling or general ability.[13]

It is worth noting that none of these investigators would suggest that the developmental sequences they have uncovered be isolated and taught as discrete skills. They are natural concomitants of literacy, and they seem best characterized not as isolated rules but as developing schemata, broad strategies for approaching written language.

GRAMMAR 2

We can, of course, attempt to approximate the rules or schemata of Grammar 1 by writing fully explicit descriptions that model the competence of a native speaker. Such rules, like the rules for pluralizing nouns or ordering adjectives discussed above, are the goal of the science of linguistics, that is, Grammar 2. There are a number of scientific grammars—an older structuralist model and several versions within a generative-transformational paradigm, not to mention isolated schools like tagmemic grammar, Montague grammar, and the like. In fact, we cannot think of Grammar 2 as a stable entity, for its form changes with each new issue of each linguistics journal, as new "rules of grammar" are proposed and debated. Thus Grammar 2, though of great theoretical interest to the composition teacher, is of little practical use in the classroom, as Constance Weaver has pointed out (*Grammar for Teachers* [Urbana, Ill.: NCTE, 1979], pp. 3–6). Indeed Grammar 2 is a scientific model of Grammar 1, not a description of it, so that questions of psychological reality, while important, are less important than other, more theoretical factors, such as the elegance of formulation or the global power of rules. We might, for example, wish to replace the rule for ordering adjectives of age, number, and nationality cited above with a more general rule—what linguists call a "fuzzy" rule—that adjectives in English are ordered by their abstract quality of "nouniness": adjectives that are very much like nouns, like *French* or *Scandinavian*, come physically closer to nouns than do adjectives that are less "nouny," like *four* or *aged*. But our motivation for accepting the broader rule would be its global power, not its psychological reality.[14]

I try to consider a hostile reader, one committed to the teaching of grammar, and I try to think of ways to hammer in the central point of this distinction, that the rules of Grammar 2 are simply unconnected to productive control over Grammar 1. I can argue from authority: Noam Chomsky has

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touched on this point whenever he has concerned himself with the implications of linguistics for language teaching, and years ago transformationalist Mark Lester stated unequivocally, "there simply appears to be no correlation between a writer's study of language and his ability to write."[15] I can cite analogies offered by others: Francis Christensen's analogy in an essay originally published in 1962 that formal grammar study would be "to invite a centipede to attend to the sequence of his legs in motion,"[16] or James Britton's analogy, offered informally after a conference presentation, that grammar study would be like forcing starving people to master the use of a knife and fork before allowing them to eat. I can offer analogies of my own, contemplating the wisdom of asking a pool player to master the physics of momentum before taking up a cue or of making a prospective driver get a degree in automotive engineering before engaging the clutch. I consider a hypothetical argument, that if Grammar 2 knowledge affected Grammar 1 performance, then linguists would be our best writers. (I can certify that they are, on the whole, not.) Such a position, after all, is only in accord with other domains of science: the formula for catching a fly ball in baseball ("Playing It by Ear," *Scientific American*, 248, No. 4 [1983], 76) is of such complexity that it is beyond my understanding—and, I would suspect, that of many workaday centerfielders. But perhaps I can best hammer in this claim—that Grammar 2 knowledge has no effect on Grammar 1 performance—by offering a demonstration.

The diagram below is an attempt by Thomas N. Huckin and Leslie A. Olsen (*English for Science and Technology* [New York: McGraw-Hill, 1983]) to offer, for students of English as a second language, a fully explicit

ENTER NOUN

Does noun have a unique referent? — yes → Use *the*

no

Is noun countable? — yes → Is noun singular? — yes → Use *a* or *an*

no   no

Use no article   Use no article
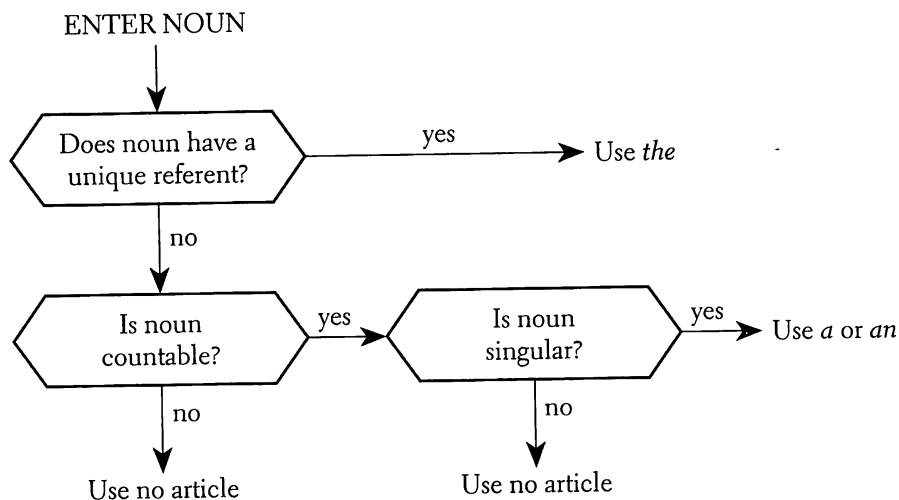
formulation of what is, for native speakers, a trivial rule of the language—the choice of definite article, indefinite article, or no definite article. There are obvious limits to such a formulation, for article choice in English is less a matter of rule than of idiom ("I went to college" versus "I went to a university" versus British "I went to university"), real-world knowledge (using indefinite "I went into a house" instantiates definite "I looked at the ceiling," and indefinite "I visited a university" instantiates definite "I talked with the professors"), and stylistic choice (the last sentence above might alternatively end with "the choice of the definite article, the indefinite article, or no article"). Huckin and Olsen invite non-native speakers to use the rule consciously to justify article choice in technical prose, such as the passage below from P. F. Brandwein (*Matter: An Earth Science* [New York: Harcourt Brace Jovanovich, 1975]). I invite you to spend a couple of minutes doing the same thing, with the understanding that this exercise is a test case: you are using a very explicit rule to justify a fairly straightforward issue of grammatical choice.

> Imagine a cannon on top of _____ highest mountain on earth. It is firing _____ cannonballs horizontally. _____ first cannonball fired follows its path. As _____ cannonball moves, _____ gravity pulls it down, and it soon hits _____ ground. Now _____ velocity with which each succeeding cannonball is fired is increased. Thus, _____ cannonball goes farther each time. Cannonball 2 goes farther than _____ cannonball 1 although each is being pulled by _____ gravity toward the earth all _____ time. _____ last cannonball is fired with such tremendous velocity that it goes completely around _____ earth. It returns to _____ mountaintop and continues around the earth again and again. _____ cannonball's inertia causes it to continue in motion indefinitely in _____ orbit around earth. In such a situation, we could consider _____ cannonball to be _____ artificial satellite, just like _____ weather satellites launched by _____ U.S. Weather Service. (p. 209)

Most native speakers of English who have attempted this exercise report a great deal of frustration, a curious sense of working against, rather than with, the rule. The rule, however valuable it may be for non-native speakers, is, for the most part, simply unusable for native speakers of the language.

COGNATE AREAS OF RESEARCH

We can corroborate this demonstration by turning to research in two cognate areas, studies of the induction of rules of artificial languages and studies

of the role of formal rules in second language acquisition. Psychologists have studied the ability of subjects to learn artificial languages, usually constructed of nonsense syllables or letter strings. Such languages can be described by phrase structure rules:

$S \Rightarrow VX$

$X \Rightarrow MX$

More clearly, they can be presented as flow diagrams, as below:
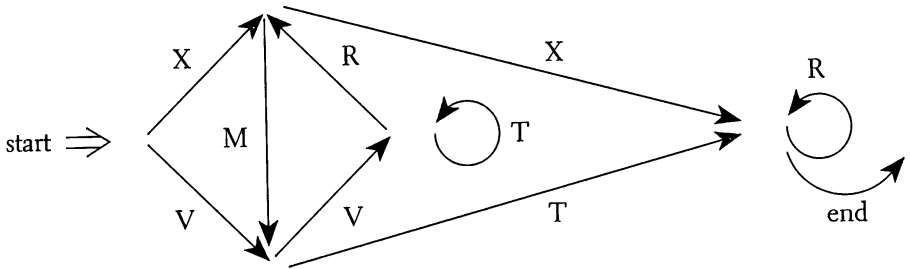
This diagram produces "sentences" like the following:

VVTRXRR.	XMVTTRX.	XXRR.
XMVRMT.	VVTTRMT.	XMTRRR.

The following "sentences" would be "ungrammatical" in this language:

|		
*VMXTT.	*RTXVVT.	*TRVXXVVM.

Arthur S. Reber, in a classic 1967 experiment, demonstrated that mere exposure to grammatical sentences produced tacit learning: subjects who copied several grammatical sentences performed far above chance in judging the grammaticality of other letter strings. Further experiments have shown that providing subjects with formal rules—giving them the flow diagram above, for example—remarkably degrades performance: subjects given the "rules of the language" do much less well in acquiring the rules than do subjects not given the rules. Indeed, even telling subjects that they are to induce the rules of an artificial language degrades performance. Such laboratory experiments are admittedly contrived, but they confirm predictions that our theory of language would make about the value of formal rules in language learning.[17]

The thrust of recent research in second language learning similarly works to constrain the value of formal grammar rules. The most explicit statement of the value of formal rules is that of Stephen D. Krashen's monitor model.[18] Krashen divides second language mastery into *acquisition*—tacit, informal mastery, akin to first language acquisition—and formal learning—conscious application of Grammar 2 rules, which he calls "monitoring" output. In another essay Krashen uses his model to predict a highly individual use of the monitor and a highly constrained role for formal rules:

> Some adults (and very few children) are able to use conscious rules to increase the grammatical accuracy of their output, and even for these people, very strict conditions need to be met before the conscious grammar can be applied.[19]

In *Principles and Practice in Second Language Acquisition* (New York: Pergamon, 1982) Krashen outlines these conditions by means of a series of concentric circles, beginning with a large circle denoting the rules of English and a smaller circle denoting the subset of those rules described by formal linguists (adding that most linguists would protest that the size of this circle is much too large):

rules of English

rules described by formal linguists

(p. 92)
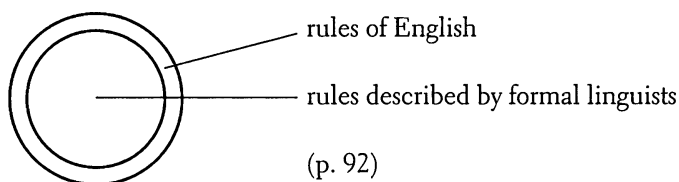
Krashen then adds smaller circles, as shown below—a subset of the rules described by formal linguists that would be known to applied linguists, a subset of those rules that would be available to the best teachers, and then a subset of those rules that teachers might choose to present to second language learners:

rules known to applied linguists

rules known to best teachers

rules taught

(p. 93)

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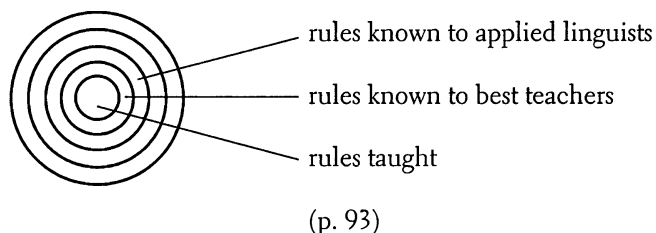
Of course, as Krashen notes, not all the rules taught will be learned, and not all those learned will be available, as what he calls "mental baggage" (p. 94), for conscious use.

An experiment by Ellen Bialystock, asking English speakers learning French to judge the grammaticality of taped sentences, complicates this issue, for reaction time data suggest that learners first make an intuitive judgment of grammaticality, using implicit or Grammar 1 knowledge, and only then search for formal explanations, using explicit or Grammar 2 knowledge.[20] This distinction would suggest that Grammar 2 knowledge is of use to second language learners only after the principle has already been mastered as tacit Grammar 1 knowledge. In the terms of Krashen's model, learning never becomes acquisition (*Principles*, p. 86).

An ingenious experiment by Herbert W. Seliger complicates the issue yet further ("On the Nature and Function of Language Rules in Language Learning," *TESOL Quarterly*, 13 [1979], 359–369). Seliger asked native and non-native speakers of English to orally identify pictures of objects (e.g., "an apple," "a pear," "a book," "an umbrella"), noting whether they used the correct form of the indefinite articles *a* and *an*. He then asked each speaker to state the rule for choosing between *a* and *an*. He found no correlation between the ability to state the rule and the ability to apply it correctly, either with native or non-native speakers. Indeed, three of four adult non-native speakers in his sample produced a correct form of the rule, but they did not apply it in speaking. A strong conclusion from this experiment would be that formal rules of grammar seem to have no value whatsoever. Seliger, however, suggests a more paradoxical interpretation. Rules are of no use, he agrees, but some people think they are, and for these people, assuming that they have internalized the rules, even inadequate rules are of heuristic value, for they allow them to access the internal rules they actually use.

THE INCANTATIONS OF THE "COMMON SCHOOL GRAMMARS"

Such a paradox may explain the fascination we have as teachers with "rules of grammar" of the Grammar 4 variety, the "rules" of the "common school grammars." Again and again such rules are inadequate to the facts of written language; you will recall that we have known this since Francis' 1927 study. R. Scott Baldwin and James M. Coady, studying how readers respond to punctuation signals ("Psycholinguistic Approaches to a Theory of Punctuation," *Journal of Reading Behavior*, 10 [1978], 363–383), conclude that

conventional rules of punctuation are "a complete sham" (p. 375). My own favorite is the Grammar 4 rule for showing possession, always expressed in terms of adding -'s or -s' to nouns, while our internal grammar, if you think about it, adds possession to noun phrases, albeit under severe stylistic constraints: "the horses of the Queen of England" are "the Queen of England's horses" and "the feathers of the duck over there" are "the duck over there's feathers." Suzette Haden Elgin refers to the "rules" of Grammar 4 as "incantations" (*Never Mind the Trees*, p. 9: see footnote 3).

It may simply be that as hyperliterate adults we are conscious of "using rules" when we are in fact doing something else, something far more complex, accessing tacit heuristics honed by print literacy itself. We can clarify this notion by reaching for an acronym coined by technical writers to explain the readability of complex prose—COIK: "clear only if known." The rules of Grammar 4—no, we can at this point be more honest—the incantations of Grammar 4 are COIK. If you know how to signal possession in the code of print, then the advice to add -'s to nouns makes perfect sense, just as the collective noun *monies* is a fine example of changing -*y* to -*i* and adding -*es* to form the plural. But if you have not grasped, tacitly, the abstract representation of possession in print, such incantations can only be opaque.

Worse yet, the advice given in "the common school grammars" is unconnected with anything remotely resembling literate adult behavior. Consider, as an example, the rule for not writing a sentence fragment as the rule is described in the best-selling college grammar text, John C. Hodges and Mary S. Whitten's *Harbrace College Handbook*, 9th ed. (New York: Harcourt Brace Jovanovich, 1982). In order to get to the advice, "as a rule, do not write a sentence fragment" (p. 25), the student must master the following learning tasks:

Recognizing verbs.

Recognizing subjects and verbs.

Recognizing all parts of speech. (*Harbrace* lists eight.)

Recognizing phrases and subordinate clauses. (*Harbrace* lists six types of phrases, and it offers incomplete lists of eight relative pronouns and eighteen subordinating conjunctions.)

Recognizing main clauses and types of sentences.

These learning tasks completed, the student is given the rule above, offered a page of exceptions, and then given the following advice (or is it an incantation?):

> Before handing in a composition, . . . proofread each word group written as a sentence. Test each one for completeness. First, be sure that it has at least one subject and one predicate. Next, be sure that the word group is not a dependent clause beginning with a subordinating conjunction or a relative clause. (p. 27)

The school grammar approach defines a sentence fragment as a conceptual error—as not having conscious knowledge of the school grammar definition of *sentence*. It demands heavy emphasis on rote memory, and it asks students to behave in ways patently removed from the behaviors of mature writers. (I have never in my life tested a sentence for completeness, and I am a better writer—and probably a better person—as a consequence.) It may be, of course, that some developing writers, at some points in their development, may benefit from such advice—or, more to the point, may think that they benefit—but, as Thomas Friedman points out in "Teaching Error, Nurturing Confusion" (*CE*, 45 [1983], 390–399), our theory of language tells us that such advice is, at the best, COIK. As the Maine joke has it, about a tourist asking directions from a farmer, "you can't get there from here."

REDEFINING ERROR

In the specific case of sentence fragments, Mina P. Shaughnessy (*Errors and Expectations* [New York: Oxford University Press, 1977]) argues that such errors are not conceptual failures at all, but performance errors—mistakes in punctuation. Muriel Harris' error counts support this view ("Mending the Fragmented Free Modifier," CCC, 32 [1981], 175–182). Case studies show example after example of errors that occur *because of* instruction—one thinks, for example, of David Bartholomae's student explaining that he added an -s to *children* "because it's a plural" ("The Study of Error," CCC, 31 [1980], 262). Surveys, such as that by Muriel Harris ("Contradictory Perceptions of the Rules of Writing," CCC, 30 [1979], 218–220), and our own observations suggest that students consistently misunderstand such Grammar 4 explanations (COIK, you will recall). For example, from Patrick Hartwell and Robert H. Bentley and from Mike Rose, we have two separate anecdotal accounts of students, cited for punctuating a *because*-clause as a sentence, who have decided to avoid using *because*. More generally, Collette A. Daiute's analysis of errors made by college students shows that errors tend to appear at clause boundaries, suggesting short-term memory load and not conceptual deficiency as a cause of error.[21]

Thus, if we think seriously about error and its relationship to the worship·of formal grammar study, we need to attempt some massive dislocation of our traditional thinking, to shuck off our hyperliterate perception of the value of formal rules, and to regain the confidence in the tacit power of unconscious knowledge that our theory of language gives us. Most students, reading their writing aloud, will correct in essence all errors of spelling, grammar, and, by intonation, punctuation, but usually without noticing that what they read departs from what they wrote.[22] And Richard H. Haswell ("Minimal Marking," *CE*, 45 [1983], 600–604) notes that his students correct 61.1% of their errors when they are identified with a simple mark in the margin rather than by error type. Such findings suggest that we need to redefine error, to see it not as a cognitive or linguistic problem, a problem of not knowing a "rule of grammar" (whatever that may mean), but rather, following the insight of Robert J. Bracewell ("Writing as a Cognitive Activity," *Visible Language*, 14 [1980], 400–422), as a problem of metacognition and metalinguistic awareness, a matter of accessing knowledges that, to be of any use, learners must have already internalized by means of exposure to the code. (Usage issues—Grammar 3—probably represent a different order of problem. Both Joseph Emonds and Jeffrey Jochnowitz establish that the usage issues we worry most about are linguistically unnatural, departures from the grammar in our heads.)[23]

The notion of metalinguistic awareness seems crucial. The sentence below, created by Douglas R. Hofstadter ("Metamagical Themas," *Scientific American*, 235, No. 1 [1981], 22–32), is offered to clarify that notion; you are invited to examine it for a moment or two before continuing.

Their is four errors in this sentence. Can you find them?

Three errors announce themselves plainly enough, the misspellings of *there* and *sentence* and the use of *is* instead of *are*. (And, just to illustrate the perils of hyperliteracy, let it be noted that, through three years of drafts, I referred to the choice of *is* and *are* as a matter of "subject-verb agreement.") The fourth error resists detection, until one assesses the truth value of the sentence itself—the fourth error is that there are not four errors, only three. Such a sentence (Hofstadter calls it a "self-referencing sentence") asks you to look at it in two ways, simultaneously as statement and as linguistic artifact—in other words, to exercise metalinguistic awareness.

A broad range of cross-cultural studies suggest that metalinguistic awareness is a defining feature of print literacy. Thus Sylvia Scribner and Michael Cole, working with the triliterate Vai of Liberia (variously literate in English,

through schooling; in Arabic, for religious purposes; and in an indigenous Vai script, used for personal affairs), find that metalinguistic awareness, broadly conceived, is the only cognitive skill underlying each of the three literacies. The one statistically significant skill shared by literate Vai was the recognition of word boundaries. Moreover, literate Vai tended to answer "yes" when asked (in Vai), "Can you call the sun the moon and the moon the sun?" while illiterate Vai tended to have grave doubts about such metalinguistic play. And in the United States Henry and Lila R. Gleitman report quite different responses by clerical workers and PhD candidates asked to interpret nonsense compounds like "house-bird glass": clerical workers focused on meaning and plausibility (for example, "a house-bird made of glass"), while PhD candidates focused on syntax (for example, "a very small drinking cup for canaries" or "a glass that protects house-birds").[24] More general research findings suggest a clear relationship between measures of metalinguistic awareness and measures of literacy level.[25] William Labov, speculating on literacy acquisition in inner-city ghettoes, contrasts "stimulus-bound" and "language-bound" individuals, suggesting that the latter seem to master literacy more easily.[26] The analysis here suggests that the causal relationship works the other way, that it is the mastery of written language that increases one's awareness of language as language.

This analysis has two implications. First, it makes the question of socially nonstandard dialects, always implicit in discussions of teaching formal grammar, into a non-issue.[27] Native speakers of English, regardless of dialect, show tacit mastery of the conventions of Standard English, and that mastery seems to transfer into abstract orthographic knowledge through interaction with print.[28] Developing writers show the same patterning of errors, regardless of dialect.[29] Studies of reading and of writing suggest that surface features of spoken dialect are simply irrelevant to mastering print literacy.[30] Print is a complex cultural code—or better yet, a system of codes—and my bet is that, regardless of instruction, one masters those codes from the top down, from pragmatic questions of voice, tone, audience, register, and rhetorical strategy, not from the bottom up, from grammar to usage to fixed forms of organization.

Second, this analysis forces us to posit multiple literacies, used for multiple purposes, rather than a single static literacy, engraved in "rules of grammar." These multiple literacies are evident in cross-cultural studies.[31] They are equally evident when we inquire into the uses of literacy in American communities.[32] Further, given that students, at all levels, show widely variant interactions with print literacy, there would seem to be little to do with grammar—with Grammar 2 or with Grammar 4—that we could isolate as a basis for formal instruction.[33]

GRAMMAR 5: STYLISTIC GRAMMAR

Similarly, when we turn to Grammar 5, "grammatical terms used in the interest of teaching prose style," so central to Martha Kolln's argument for teaching formal grammar, we find that the grammar issue is simply beside the point. There are two fully-articulated positions about "stylistic grammar," which I will label "romantic" and "classic," following Richard Lloyd-Jones and Richard E. Young.[34] The romantic position is that stylistic grammars, though perhaps useful for teachers, have little place in the teaching of composition, for students must struggle with and through language toward meaning. This position rests on a theory of language ultimately philosophical rather than linguistic (witness, for example, the contempt for linguists in Ann Berthoff's *The Making of Meaning: Metaphors, Models, and Maxims for Writing Teachers* [Montclair, N.J.: Boynton/Cook, 1981]); it is articulated as a theory of style by Donald A. Murray and, on somewhat different grounds (that stylistic grammars encourage overuse of the monitor), by Ian Pringle. The classic position, on the other hand, is that we can find ways to offer developing writers helpful suggestions about prose style, suggestions such as Francis Christensen's emphasis on the cumulative sentence, developed by observing the practice of skilled writers, and Joseph Williams' advice about predication, developed by psycholinguistic studies of comprehension.[35] James A. Berlin's recent survey of composition theory (*CE*, 45 [1982], 765–777) probably understates the gulf between these two positions and the radically different conceptions of language that underlie them, but it does establish that they share an overriding assumption in common: that one learns to control the language of print by manipulating language in meaningful contexts, not by learning about language in isolation, as by the study of formal grammar. Thus even classic theorists, who choose to present a vocabulary of style to students, do so only as a vehicle for encouraging productive control of communicative structures.

We might put the matter in the following terms. Writers need to develop skills at two levels. One, broadly rhetorical, involves communication in meaningful contexts (the strategies, registers, and procedures of discourse across a range of modes, audiences, contexts, and purposes). The other, broadly metalinguistic rather than linguistic, involves active manipulation of language with conscious attention to surface form. This second level may be developed tacitly, as a natural adjunct to developing rhetorical competencies—I take this to be the position of romantic theorists. It may be developed formally, by manipulating language for stylistic effect, and such manipulation may involve, for pedagogical continuity, a vocabulary of style. But it is primarily developed by any kind of language activity that enhances

the awareness of language as language.[36] David T. Hakes, summarizing the research on metalinguistic awareness, notes how far we are from understanding this process:

> the optimal conditions for becoming metalinguistically competent involve growing up in a literate environment with adult models who are themselves metalinguistically competent and who foster the growth of that competence in a variety of ways as yet little understood. ("The Development of Metalinguistic Abilities," p. 205: see footnote 25)

Such a model places language, at all levels, at the center of the curriculum, but not as "necessary categories and labels" (Kolln, "Closing the Books on Alchemy," p. 150), but as literal stuff, verbal clay, to be molded and probed, shaped and reshaped, and, above all, enjoyed.

THE TRADITION OF EXPERIMENTAL RESEARCH

Thus, when we turn back to experimental research on the value of formal grammar instruction, we do so with firm predictions given us by our theory of language. Our theory would predict that formal grammar instruction, whether instruction in scientific grammar or instruction in "the common school grammar," would have little to do with control over surface correctness nor with quality of writing. It would predict that any form of active involvement with language would be preferable to instruction in rules or definitions (or incantations). In essence, this is what the research tells us. In 1893, the Committee of Ten (*Report of the Committee of Ten on Secondary School Studies* [Washington, D.C.: U.S. Government Printing Office, 1893]) put grammar at the center of the English curriculum, and its report established the rigidly sequential mode of instruction common for the last century. But the committee explicitly noted that grammar instruction did not aid correctness, arguing instead that it improved the ability to think logically (an argument developed from the role of the "grammarian" in the classical rhetorical tradition, essentially a teacher of literature—see, for example, the etymology of *grammar* in the *Oxford English Dictionary*).

But Franklin S. Hoyt, in a 1906 experiment, found no relationship between the study of grammar and the ability to think logically; his research led him to conclude what I am constrained to argue more than seventy-five years later, that there is no "relationship between a knowledge of technical grammar and the ability to use English and to interpret language" ("The Place of Grammar in the Elementary Curriculum,"

Teachers College Record, 7 [1906], 483–484). Later studies, through the 1920s, focused on the relationship of knowledge of grammar and ability to recognize error; experiments reported by James Boraas in 1917 and by William Asker in 1923 are typical of those that reported no correlation. In the 1930s, with the development of the functional grammar movement, it was common to compare the study of formal grammar with one form or another of active manipulation of language; experiments by I. O. Ash in 1935 and Ellen Frogner in 1939 are typical of studies showing the superiority of active involvement with language.[37] In a 1959 article, "Grammar in Language Teaching" (*Elementary English*, 36 [1959], 412–421), John J. DeBoer noted the consistency of these findings.

> The impressive fact is . . . that in all these studies, carried out in places and at times far removed from each other, often by highly experienced and disinterested investigators, the results have been consistently negative so far as the value of grammar in the improvement of language expression is concerned. (p. 417)

In 1960 Ingrid M. Strom, reviewing more than fifty experimental studies, came to a similarly strong and unqualified conclusion:

> direct methods of instruction, focusing on writing activities and the structuring of ideas, are more efficient in teaching sentence structure, usage, punctuation, and other related factors than are such methods as nomenclature drill, diagramming, and rote memorization of grammatical rules.[38]

In 1963 two research reviews appeared, one by Braddock, Lloyd-Jones, and Schorer, cited at the beginning of this paper, and one by Henry C. Meckel, whose conclusions, though more guarded, are in essential agreement.[39] In 1969 J. Stephen Sherwin devoted one-fourth of his *Four Problems in Teaching English: A Critique of Research* (Scranton, Penn.: International Textbook, 1969) to the grammar issue, concluding that "instruction in formal grammar is an ineffective way to help students achieve proficiency in writing" (p. 135). Some early experiments in sentence combining, such as those by Donald R. Bateman and Frank J. Zidonnis and by John C. Mellon, showed improvement in measures of syntactic complexity with instruction in transformational grammar keyed to sentence combining practice. But a later study by Frank O'Hare achieved the same gains with no grammar instruction, suggesting to Sandra L. Stotsky and to Richard Van de Veghe that active manipulation of language, not the grammar unit, explained the earlier results.[40] More recent summaries of research—by Elizabeth I. Haynes, Hillary Taylor

Holbrook, and Marcia Farr Whiteman—support similar conclusions. Indirect evidence for this position is provided by surveys reported by Betty Bamberg in 1978 and 1981, showing that time spent in grammar instruction in high school is the least important factor, of eight factors examined, in separating regular from remedial writers at the college level.[41]

More generally, Patrick Scott and Bruce Castner, in "Reference Sources for Composition Research: A Practical Survey" (*CE*, 45 [1983], 756–768), note that much current research is not informed by an awareness of the past. Put simply, we are constrained to reinvent the wheel. My concern here has been with a far more serious problem: that too often the wheel we reinvent is square.

It is, after all, a question of power. Janet Emig, developing a consensus from composition research, and Aaron S. Carton and Lawrence V. Castiglione, developing the implications of language theory for education, come to the same conclusion: that the thrust of current research and theory is to take power from the teacher and to give that power to the learner.[42] At no point in the English curriculum is the question of power more blatantly posed than in the issue of formal grammar instruction. It is time that we, as teachers, formulate theories of language and literacy and let those theories guide our teaching, and it is time that we, as researchers, move on to more interesting areas of inquiry.

NOTES

1. *Research in Written Composition* (Urbana, Ill.: National Council of Teachers of English, 1963), pp. 37–38.

2. "Non-magical Thinking: Presenting Writing Developmentally in Schools," in *Writing Process, Development and Communication*, Vol. II of *Writing: The Nature, Development and Teaching of Written Communication*, ed. Charles H. Frederiksen and Joseph F. Dominic (Hillsdale, N.J.: Lawrence Erlbaum, 1980), pp. 21–30.

3. For arguments in favor of formal grammar teaching, see Patrick F. Basset, "Grammar—Can We Afford Not to Teach It?" *NASSP Bulletin*, 64, No. 10 (1980), 55–63; Mary Epes, et al., "The COMP-LAB Project: Assessing the Effectiveness of a Laboratory-Centered Basic Writing Course on the College Level" (Jamaica, N.Y.: York College, CUNY, 1979) ERIC 194 908; June B. Evans, "The Analogous Ounce: The Analgesic for Relief," *English Journal*, 70, No. 2 (1981), 38–39; Sydney Greenbaum, "What Is Grammar and Why Teach It?" (a paper presented at the meeting of the National Council of Teachers of English, Boston, Nov. 1982) ERIC 222 917; Marjorie Smelstor, *A Guide to the Role of Grammar in Teaching Writing* (Madison: University of Wisconsin School of Education, 1978) ERIC 176 323; and A. M. Tibbetts, *Working Papers: A Teacher's Observations on Composition* (Glenview, Ill.: Scott, Foresman, 1982).

For attacks on formal grammar teaching, see Harvey A. Daniels, *Famous Last Words: The American Language Crisis Reconsidered* (Carbondale: Southern Illinois University Press, 1983); Suzette Haden Elgin, *Never Mind the Trees: What the English Teacher Really Needs to*

Know about Linguistics (Berkeley: University of California College of Education, Bay Area Writing Project Occasional Paper No. 2, 1980) ERIC 198 536; Mike Rose, "Remedial Writing Courses: A Critique and a Proposal." *College English*, 45 (1983), 109–128; and Ron Shook, "Response to Martha Kolln," *College Composition and Communication*, 34 (1983), 491–495.

4. See, for example, Clifton Fadiman and James Howard, *Empty Pages: A Search for Writing Competence in School and Society* (Belmont, Cal.: Fearon Pitman, 1979); Edwin Newman, *A Civil Tongue* (Indianapolis, Ind.: Bobbs-Merrill, 1976); and *Strictly Speaking* (New York: Warner Books, 1974); John Simons, *Paradigms Lost* (New York: Clarkson N. Potter, 1980); A. M. Tibbetts and Charlene Tibbetts, *What's Happening to American English?* (New York: Scribner's, 1978); and "Why Johnny Can't Write," *Newsweek*, 8 Dec. 1975, pp. 58–63.

5. "The Role of Grammar in a Secondary School English Curriculum." *Research in the Teaching of English*, 10 (1976), 5–21; *The Role of Grammar in a Secondary School Curriculum* (Wellington: New Zealand Council of Teachers of English, 1979).

6. "A Taxonomy of Compositional Competencies," in *Perspectives on Literacy*, ed. Richard Beach and P. David Pearson (Minneapolis: University of Minnesota College of Education, 1979), pp. 247–272.

7. On usage norms, see Edward Finegan, *Attitudes toward English Usage: The History of a War of Words* (New York: Teachers College Press, 1980), and Jim Quinn, *American Tongue in Cheek: A Populist Guide to Language* (New York: Pantheon, 1980); on arrangement, see Patrick Hartwell, "Teaching Arrangement: A Pedagogy," *CE*, 40 (1979), 548–554.

8. "Revolution in Grammar," *Quarterly Journal of Speech*, 40 (1954), 299–312.

9. Richard A. Lanham, *Revising Prose* (New York: Scribner's, 1979); William Strunk and E. B. White, *The Elements of Style*, 3rd ed. (New York: Macmillan, 1979); Joseph Williams, *Style: Ten Lessons in Clarity and Grace* (Glenview, Ill.: Scott, Foresman, 1981); Christensen, "A Generative Rhetoric of the Sentence," *CCC*, 14 (1963), 155–161; Donald A. Daiker, Andrew Kerek, and Max Morenberg, *The Writer's Options: Combining to Composing*, 2nd ed. (New York: Harper & Row, 1982).

10. "A Psychological Approach," in *Psychobiology of Language*, ed. M. Studdert-Kennedy (Cambridge, Mass.: MIT Press, 1983), pp. 16–19. See also Noam Chomsky, "Language and Unconscious Knowledge," in *Psychoanalysis and Language: Psychiatry and the Humanities*, Vol. III, ed. Joseph H. Smith (New Haven, Conn.: Yale University Press, 1978), pp. 3–44.

11. Morris Halle, "Knowledge Unlearned and Untaught: What Speakers Know about the Sounds of Their Language," in *Linguistic Theory and Psychological Reality*, ed. Halle, Joan Bresnan, and George A. Miller (Cambridge, Mass.: MIT Press, 1978), pp. 135–140.

12. Moscowitz, "On the Status of Vowel Shift in English," in *Cognitive Development and the Acquisition of Language*, ed. T. E. Moore (New York: Academic Press, 1973), pp. 223–260; Chomsky, "Stages in Language Development and Reading Exposure," *Harvard Educational Review*, 42 (1972), 1–33; and Brause, "Developmental Aspects of the Ability to Understand Semantic Ambiguity, with Implications for Teachers," *RTE*, 11 (1977), 39–48.

13. Mills and Hemsley, "The Effect of Levels of Education on Judgments of Grammatical Acceptability," *Language and Speech*, 19 (1976), 324–342; Whyte, "Levels of Language Competence and Reading Ability: An Exploratory Investigation," *Journal of Research in Reading*, 5 (1982, 123–132; Morais, et al., "Does Awareness of Speech as a Series of Phones Arise Spontaneously," *Cognition*, 7 (1979), 323–331; Ferguson, *Cognitive Effects of Literacy: Linguistic Awareness in Adult Non-readers* (Washington, D.C.: National Institute of

Education Final Report, 1981) ERIC 222 85; Hamilton and Barton, "A Word Is a Word: Metalinguistic Skills in Adults of Varying Literacy Levels" (Stanford, Cal.: Stanford University Department of Linguistics, 1980) ERIC 222 859.

14. On the question of the psychological reality of Grammar 2 descriptions, see Maria Black and Shulamith Chiat, "Psycholinguistics without 'Psychological Reality'," *Linguistics*, 19 (1981), 37–61; Joan Bresnan, ed., *The Mental Representation of Grammatical Relations* (Cambridge, Mass.: MIT Press, 1982); and Michael H. Long, "Inside the 'Black Box': Methodological Issues in Classroom Research on Language Learning," *Language Learning*, 30 (1980), 1–42.

15. Chomsky, "The Current Scene in Linguistics," *College English*, 27 (1966), 587–595; and "Linguistic Theory," in *Language Teaching: Broader Contexts*, ed. Robert C. Meade, Jr. (New York: Modern Language Association, 1966), pp. 43–49; Mark Lester, "The Value of Transformational Grammar in Teaching Composition," *CCC*, 16 (1967), 228.

16. Christensen, "Between Two Worlds," in *Notes toward a New Rhetoric: Nine Essays for Teachers*, rev. ed., ed. Bonniejean Christensen (New York: Harper & Row, 1978), pp. 1–22.

17. Reber, "Implicit Learning of Artificial Grammars," *Journal of Verbal Learning and Verbal Behavior*, 6 (1967), 855–863; "Implicit Learning of Synthetic Languages: The Role of Instructional Set," *Journal of Experimental Psychology: Human Learning and Memory, 2* (1976), 889–894; and Reber, Saul M. Kassin, Selma Lewis, and Gary Cantor, "On the Relationship between Implicit and Explicit Modes in the Learning of a Complex Rule Structure," *Journal of Experimental Psychology: Human Learning and Memory*, 6 (1980), 492–502.

18. "Individual Variation in the Use of the Monitor," in *Principles of Second Language Learning*, ed. W. Richie (New York: Academic Press, 1978), pp. 175–185.

19. "Applications of Psycholinguistic Research to the Classroom," in *Practical Applications of Research in Foreign Language Teaching*, ed. D. J. James (Lincolnwood, Ill.: National Textbook, 1983), p. 61.

20. "Some Evidence for the Integrity and Interaction of Two Knowledge Sources," in *New Dimensions in Second Language Acquisition Research*, ed. Roger W. Anderson (Rowley, Mass.: Newbury House, 1981), pp. 62–74.

21. Hartwell and Bentley, *Some Suggestions for Using Open to Language* (New York: Oxford University Press, 1982), p. 73; Rose, *Writer's Block: The Cognitive Dimension* (Carbondale: Southern Illinois University Press, 1983), p. 99; Daiute, "Psycholinguistic Foundations of the Writing Process," *RTE*, 15 (1981), 5–22.

22. See Bartholomae, "The Study of Error"; Patrick Hartwell, "The Writing Center and the Paradoxes of Written-Down Speech," in *Writing Centers: Theory and Administration*, ed. Gary Olson (Urbana, Ill.: NCTE, 1984), pp. 48–61; and Sondra Perl, "A Look at Basic Writers in the Process of Composing," in *Basic Writing: A Collection of Essays for Teachers, Researchers, and Administrators* (Urbana, Ill.: NCTE, 1980), pp. 13–32.

23. Emonds, *Adjacency in Grammar: The Theory of Language-Particular Rules* (New York: Academic, 1983); and Jochnowitz, "Everybody Likes Pizza, Doesn't He or She?" *American Speech*, 57 (1982), 198–203.

24. Scribner and Cole, *Psychology of Literacy* (Cambridge, Mass.: Harvard University Press, 1981); Gleitman and Gleitman, "Language Use and Language Judgment," in *Individual Differences in Language Ability and Language Behavior*, ed. Charles J. Fillmore, Daniel Kempler, and William S.-Y. Wang (New York: Academic Press, 1979), pp. 103–126.

25. There are several recent reviews of this developing body of research in psychology and child development: Irene Athey, "Language Development Factors Related to Reading

Development," *Journal of Educational Research,* 76 (1983), 197–203; James Flood and Paula Menyuk, "Metalinguistic Development and Reading/Writing Achievement," *Claremont Reading Conference Yearbook,* 46 (1982), 122–132; and the following four essays: David T. Hakes, "The Development of Metalinguistic Abilities: What Develops?," pp. 162–210; Stan A. Kuczaj, II, and Brooke Harbaugh, "What Children Think about the Speaking Capabilities of Other Persons and Things," pp. 211–227; Karen Saywitz and Louise Cherry Wilkinson, "Age-Related Differences in Metalinguistic Awareness," pp. 229–250; and Harriet Salatas Waters and Virginia S. Tinsley, "The Development of Verbal Self-Regulation: Relationships between Language, Cognition, and Behavior," pp. 251–277; all in *Language, Thought, and Culture,* Vol. II of *Language Development,* ed. Stan Kuczaj, Jr. (Hillsdale, N.J.: Lawrence Erlbaum, 1982). See also Joanne R. Nurss, "Research in Review: Linguistic Awareness and Learning to Read," *Young Children,* 35, No. 3 [1980], 57–66.

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