Psychological detachment and the revision of expository essays: a study of college freshmen

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Psychological detachment and the revision of expository essays: A study of college freshmen

by

Cheryl A. Koski

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APPENDIX A. ANNOTATED BIBLIOGRAPHY OF ARTICLES ON THE TEACHING OF REVISION 119

APPENDIX B. QUESTIONNAIRE ITEMS THAT MEASURE PSYCHOLOGICAL DETACHMENT 129
The rewriter is as one who packs his thoughts for a long journey. Having packed the garment, he does not merely straighten out the folds and close the paragraph. Instead, he unpacks completely and repacks again. And again; and again and again. Each time, he tucks just one more thought into this or that pocket. When he quits, there are more of them than of words.

Martin Joos
"The Five Clocks"\(^1\)

Nothing is more difficult than for the writer to ride his passion while still managing to observe it critically. The memoirs of good writers of every sort are studded with long thoughts on this essential duplicity, this sense of aesthetic detachment, of a second attention lurking in the mind at the very moment they have felt the need to be most indivisibly absorbed in what they are doing.

John Ciardi
Dialogue with an Audience\(^2\)
FOREWORD

Thomas S. Kuhn, the noted philosopher of science, argues in The Structure of Scientific Revolutions that the development of science is characterized by major turning points that are revolutionary rather than cumulative. In the physical sciences, which Kuhn discusses at length, the names of Copernicus, Newton, Lavoisier, and Einstein are associated with such revolutions. Yet Kuhn also says that a revolution "need not be a large change, nor need it seem revolutionary to those outside a single [scientific] community." A "smaller scale" revolution of the type Kuhn mentions began in the field of composition with the publication of The Composing Processes of Twelfth Graders in 1971 by Janet Emig. "This report," according to the NCTE Committee on Research, "describes an expedition into new territory, an investigation of the writing process. This is an area hitherto almost untouched by researchers ... who by and large have focused their attention upon the written product." In the twelve years since Emig published her report, the journals have been inundated with articles on the composing process, as even a cursory glance through the Current Index to Journals in Education reveals: the word "process" appears in the titles of literally hundreds of articles. As a result of this unprecedented interest in the composing process, a number of theorists and researchers, most notably Lillian S. Bridwell, Ellen W. Nold, and Nancy I. Sommers, have recognized the importance of revision.
Revision is the topic of this thesis. In the first chapter, I review a number of theories of the composing process, identifying one major revision issue—the linear/recursive issue, which involves the question of when revision occurs—as well as seven other issues. Two are considered important by both linear model and recursive model theorists: one, the error detection and correction issue, has to do with the "what" of revision; and the other, the psychological detachment issue, has to do with the "how" of revision. The remaining chapters deal with the linear/recursive, error detection and correction, and psychological detachment issues. In the second chapter, which is supplemented by Appendix A, I review articles and recent textbooks to gain an understanding of composition teachers' views on those three issues; in the third chapter, I review case studies and experimental studies to determine whether or not there is evidence to substantiate the teachers' views. Finally, in the fourth chapter, I report on my own study, which I conducted primarily to investigate the hypothesis that psychological detachment in college freshmen is a concomitant of revision, and secondarily to investigate two other hypotheses: that revision occurs intermittently throughout the composing process, and that revision is more than just the detection and correction of errors. Another purpose of my study was to test a method by which students themselves make a record of their revisions as they occur. Clearly, then, my study is one of process rather than product, and as such, I, too, have been influenced by the report that has revolutionized the field of composition.
CHAPTER I. REVISION THEORY

Judging from a sample of the readers, handbooks, and rhetorics that were available fall, 1981, for adoption by college freshman composition teachers, "revision" is a writing ability that students ought to develop. Of the twenty-seven textbooks that I received from ten publishers as a 1980-81 graduate student member of the Freshman English Committee at Iowa State University, only seven texts—all of them readers—do not include any material on revision. The remaining twenty texts—three readers, three handbooks, and fourteen rhetorics—include from several sentences to several chapters on revision. Yet an examination of the material in these texts reveals that there is a marked lack of consensus as to what revision is. Some texts, like the Heath Handbook of Composition, first published in 1907, define revision as the making of "simple mechanical repairs," such as "looking up the spelling of difficult or troublesome words, checking rules of punctuation and mechanics, [and] looking for . . . faults in sentence structure," that occurs after "the first draft of the whole paper" has been written. Others, like the brand-new Well-Bound Words: A Rhetoric, distinguish revision from the detection and correction of "spelling errors, grammar, usage, and typographical slips," defining it instead as the evaluation and reconsideration of "words, sentences, paragraphs, and whole essays" that "can begin with the first words you write." Thus, these two texts disagree both on a writer's scope of concerns—whether he revises to
detect and correct errors or to evaluate and consider larger elements; and on his pattern of behavior—whether he revises after his paper has been largely completed, or as it is being written. It is the second of the two issues that composition theorists debate with greatest intensity.

Linear Model

One group of composition theorists maintains, like the authors of the *Heath Handbook of Composition*, that revision occurs after a paper has been largely completed. Hence, they subscribe to the three-stage linear model\(^6\) of the writing process, the principal idea of which is that writing consists of a prewriting stage, followed by a writing stage, followed by a rewriting or revision stage. Some of the most important linear model theorists are the authors of *The Development of Writing Abilities* (11-18): James Britton, Tony Burgess, Nancy Martin, Alex McLeod, and Harold Rosen. Britton hypothesizes in the second chapter, "The Process of Writing," that the first stage of writing is conception, the second is incubation, and the third is production. Then, at the very end of that chapter in a section entitled "Other Aspects of Writing as Process," he discusses revision, "the final stage of the process." During the revision stage, a writer "becomes the reader of his own work"—perhaps even a "detached and critical reader"—and by so doing is able to satisfy his audience and himself by putting on "the finishing touches." He satisfies his audience by "correcting and improving" obvious slips and errors; data and references; and grammar, syntax, tone, and appropriateness of language. He satisfies himself by
"redrafting" to ensure that the words he has used have "achieved the embodiment of his thoughts sufficiently." Sometimes a writer redrafts because his thoughts have changed; other times he does so because he has not succeeded in embodying his original thoughts. Hence, unlike the authors of the *Heath Handbook of Composition*, Britton maintains that revision includes the evaluation and reconsideration of words, as well as the detection and correction of errors. But because Britton hypothesizes that revision is the final stage of writing—although he does concede that the distinction between the stages of writing cannot "always be sharply maintained" since during the production stage, a writer pauses and scans back over what he has written, possibly deciding to make "corrections and improvements"—he, like the authors of the *Heath Handbook of Composition*, is a linear model theorist.  

Another important linear model theorist is Donald Murray, who hypothesizes that there are three stages of writing: "prevision," "vision," and "revision." Although Murray, like Britton, concedes that the stages can overlap, he also emphasizes that "for most writers most of the time," the stages are distinct. The third stage begins after the completion of a draft, and during it, Murray asserts, as Britton similarly does, that writers must read their work with "a detachment . . . that allows them to see what is on the page, not what they hoped will be on the page." They must also read to consider alternatives, because for writers, the words on the page are tentative rather than finished. As a result, writers need to perform a special reading skill that is different from the decoding taught in school. Furthermore, the third
stage is of two principal forms: "external" and "internal." During external revision, a writer reads "as an outsider" as he edits; proof-reads; heeds conventions of form, language, mechanics, and style; and considers his audience. During internal revision, a writer discovers his content, form and structure, language, and voice. Hence, unlike Britton's, Murray's definition of revision goes far beyond the evaluation and reconsideration of words. But Murray and Britton both maintain, unlike the authors of the Heath Handbook of Composition, that a writer's scope of concerns during revision is wider than just error detection and correction; as a result, they have become the most influential linear model theorists. Significantly, then, the composition theorists who subscribe to the linear model do not necessarily define "revision" as just the detection and correction of errors.

Recursive Model

Another group of composition theorists agrees with the author of Well-Bound Words: A Rhetoric, who rejects the linear model of the writing process by maintaining that revision "can begin with the first words you write." By further maintaining that writing, which "is revising," does "not move in a straight line but lurches and digresses all across a page," he replaces the linear model with another: the recursive model, according to which revision occurs as a paper is being written. This model has been proposed in recent years by many theorists, including Janet Emig, Nancy I. Sommers, Sondra Perl, Gabriel M. Della-Piana, Ellen W. Nold, Barbara Tomlinson, and Lillian S. Bridwell. Of these seven, it was Emig who first questioned the linear model. In a 1967 article, she
points out that in general, writing is described by literary, rhetorical, and textbook canon as a "monolithic process, with that process made up of three discrete components--planning, writing, and revising." And most teachers and textbook writers believe that revision occurs "at a time usually separated from the writing of a draft." Such a belief, however, is belied by introspection, the examination of drafts, and the experience of composition teachers. Hence, Emig hypothesizes that revision is more likely to be a component of a writing process (or perhaps processes) that is "recursive, a loop rather than a linear affair." And she asserts further in another article that the written product, rather than the writing process, is linear. 10

Like Emig, Sommers hypothesizes that the linear model is inaccurate, although she too asserts that the written product has prewriting, writing, and revision stages, and although she further asserts that writing, like any observable behavior, takes place "linearly over time." Sommers is important, for it is she who identified the possible origin of the linear model, she who delineated two basic flaws of the linear model, and she who argued that the linear model has negatively affected composition research and teaching. According to Sommers, classical rhetoric, which was created to apply to the spoken art of oratory, came to be applied, with some modification, to the written art of composition. More specifically, the first three parts of oratory--inventio, dispositio, and elocutio--were the sources of the three stages of composition, although they do not correspond exactly to "prewriting," "writing," and "rewriting" or "revision." Because the complex process of writing is easily described
as a series of discrete temporal stages, the linear model became very popular among composition researchers, textbook writers, and teachers. But the linear model is flawed, partly because there are no criteria by which to judge where one stage ends and another begins (Sommers, unlike Murray and Britton, maintains that unless the stages are mutually exclusive, "it becomes trivial and counter-productive to refer to these junctures as stages"); and partly because it does not account for the principal difference between speech and writing: the impossibility of revision in the one, which is not reversible, and the possibility of revision in the other, which is reversible. Because of this second flaw, the linear model relegates revision to the final stage of the writing process, a stage so superfluous and redundant that most proponents of the linear model cannot but regard revision as an "isolated non-creative activity." If revision were instead regarded as a recursive process, one which occurs "continually throughout the writing of a work," it would be the focus of more and better research and teaching. According to Sommers, particularly needed in all composition research, including research on revision, is theory. ¹¹

The other six important recursive model theorists, Emig, Perl, Della-Piana, Nold, Tomlinson, and Bridwell, have each made some progress towards a revision theory or theories. Emig theorizes in a research report that the composing processes of secondary school students, and in particular, twelfth graders, has ten dimensions: context of composing, stimulus for composing, prewriting, planning, starting, composing aloud, reformulation, stopping, contemplation of the product, and teacher
influence on the product. During reformulation, a student performs three types of transforming operations: addition, deletion, reordering or substitution, and embedding. In order to be proficient at reformulation, a student must have three abilities: the ability to recall large sections of his writing over long periods of time; the ability to cope with interferences that can reduce his ability to recall his writing; and the ability to decode his writing using scannings that are short and retrospective. These scannings must be visual rather than auditory, Emig hypothesizes in an article published six years after the research report. She cites Jean-Paul Sartre, who, after losing the sight in his second eye, attempted to revise by listening to recorded tapes of his writing. He could not, concluding, "I think there is an enormous difference between speaking and writing." Emig agrees: according to her, "there are hazards, conceptually and pedagogically, in creating too complete an analogy between talking and writing, in blurring the very real differences between the two." And finally, not only must a student have those three abilities in order to be proficient at reformulation, but, as Emig hypothesizes in her 1967 article, he probably must also be free of certain personality traits, such as strong temperament and weak ego-strength. For a student with a strong temperament, reformulation may be too boring, and for a student with weak ego-strength, reformulation may be too threatening or painful. 12

Perl, unlike Emig, does not attempt to explain the entire recursive writing process. Instead, she explains revision only. Asserting that "reducing the composing process to a simple linear scheme" is a fallacy,
she describes three recursive movements that can result in revision: the movement to completed phrases or sentences that for the writer constitute a semantic, rather than a syntactic, unit; the movement to a key word suggested by the topic, or to the topic itself; and the movement, which Perl concedes "is not so easy to document," to a "felt sense." This third recursive movement, which is often accompanied by bodily sensations, is neither to the words on the page nor to the topic, but instead to "images, words, and vague fuzzy feelings" that are evoked by the words and the topic. In addition to describing three recursive movements, Perl suggests that writers assume two "alternating mental postures": one of "retrospective structuring" and one of "projective structuring." Retrospective structuring consists of waiting, allowing a felt sense to form, and then writing out of that sense; it allows a writer to both discover and construct meaning. Projective structuring consists of imagining what will make a piece of writing intelligible and compelling to an audience; it allows a writer to maintain a strict focus on correctness and to determine what his audience's needs and expectations are. Interestingly, Perl's "retrospective structuring" is almost identical to Murray's "internal revision," and her "projective structuring" is almost identical to his "external revision." The only real difference between them is that Perl conceives of retrospective and projective structuring as occurring all "through the act of composing," whereas Murray conceives of internal and external revision as usually occurring "after a draft is completed."
designed flow charts of the writing process. And because the flow charts emphasize the interrelationships between what the linear model theorists call the "stages" of writing, an understanding of how the flow charts explain the writing process in general is necessary for an understanding of how they explain revision in particular. The first to publish such a flow chart was Della-Piana, and although his specifically deals with the writing of poetry, it may also be applicable to the writing of prose. Della-Piana theorizes that a writer begins with preconceptions that both guide his preliminary work (which may be sensed, thought, spoken, or written) and provide criteria against which he makes discriminations concerning "what the work does or does not do" and "what the work itself suggests as to what it is about." If the writer then perceives that there is dissonance between his work and his preconceptions, he may or may not experience tension. If he does experience tension, he may attempt to resolve both it and the dissonance by one of three methods: revising to make his preconceptions congruent with his work; revising to make his work congruent with his preconceptions; or revising to remove obstacles—such as being unable to re-see the work when dissonance is perceived and tension is experienced—that prevent dissonance and tension from being resolved. These three methods of revision do not, according to Della-Piana, occur only "after a work is largely finished." Rather, because dissonance can be perceived and tension experienced at any time during the writing process, they can occur throughout and even prior to the writing of a poem. In fact, for Della-Piana, the writing process, which is characterized by diversity
both within each poet and between poets, is more accurately called "the process of writing-as-revision."^{15}

In the same year that Della-Piana's flow chart of the writing process was published, Nold's first appeared in "The Process of Composing," an unpublished manuscript which comprises the first three chapters of an eleven-chapter book that Nold is writing. And although Nold's flow chart will be published soon in "Revising," a chapter of a book of collected essays by various authors, it is developed more completely and explained more thoroughly in the unpublished manuscript. There Nold theorizes that writing consists of three principal processes--planning, transcribing, and reviewing--the sequences of which vary within each writer and between writers according to five factors, including the degree to which the conventions and tasks of writing, such as spelling and handwriting, have become routine, and the degree to which the strategy of breaking writing down into manageable chunks of planning, transcribing, and reviewing is used. Skilled writers' sequences of planning, transcribing, and reviewing are much different from unskilled writers' sequences. Most skilled writers plan heavily at the beginning, review heavily at the end, and do some planning and reviewing throughout transcribing. However, some skilled writers plan and review heavily in the middle. Unskilled writers generally believe that writing is essentially no different from speech; hence, they do not plan and review heavily at all. Instead, they space short planning and reviewing sequences out from beginning to end. And because their planning sequences are so short, unskilled writers cannot experience much dissonance, as
skilled writers can, when they review their texts against their plans. Both skilled and unskilled writers who engage in the processes of planning, transcribing, and reviewing use the short-term memory (STM) and the long-term memory (LTM). The STM can generally hold from five to nine items at any one time; the LTM stores knowledge, experiences, and beliefs produced by perceiving objects and events and then processing them into forms available to memory, as well as intentions and goals produced by the writer's intellectual capabilities, social milieu (demands by others for writing and status relationships), and situational constraints (amount of time, physical well-being, and psychological well-being).

During the planning process, a skilled writer makes decisions concerning topic and audience, decisions that are both informed by the raw materials—knowledge, experiences, beliefs, intentions, and goals—already stored in his LTM, and that may alter his intentions and goals. Those decisions cause three kinds of representations to be produced and then stored in his LTM: an Intended Meaning Representation (IMR), an Intended Audience Representation (IAR), and an Intended Writer Persona (IWP). During the transcribing process, a skilled writer converts English sounds into written symbols on one level, and, on a higher level, converts his IMR into a text. At the same time, he is constrained by the three products of the planning process (his IMR, IAR, and IWP), as well as by seven other demands: word choice, syntax, grapholect (the dialect of English used only in writing), semantic layout (the manipulation of old and new information and the signaling of relationships
between clauses and sentences), physical layout (paragraphing and headings, for example), orthographics (spelling and punctuation), and motor skills (handwriting and typing). More often than not, these ten constraints on the transcribing process, many of which constrain each other (for example, grapholect constrains word choice), overload the writer's STM. For that reason, the third process, reviewing, is a "necessary part of the production of a highly acceptable product, even for good writers."

During the reviewing process, a skilled writer reads or rereads his text for the purpose of either reviewing it in preparation for further writing or evaluating it, and, as a result, establishes in his LTM a cognitive map or matrix of the meaning of his text as might be produced by his intended audience. This cognitive map or matrix is his Text Meaning Representation and must be established before he can evaluate his text against three criteria: conformity to his IMR, rhetorical effectiveness and consistency, and ease of processing. How well and at what level he evaluates his text depends upon his reading ability and upon how detached he is from his intentions. The greater his detachment, the more able he is to process his text separately from his intentions. Once he evaluates his text, he can make three kinds of revisions to it: deletions, substitutions, and insertions. How successfully he revises his text depends upon various factors, including his ability to manipulate syntax and lexicon, as well as the situational constraint of time. Nold, then, like Della-Piana, Perl, Sommers, and Emig, theorizes that writing is recursive: according to her, "it is a mistake . . . to
view the processes [of planning, transcribing, and reviewing] ... as only one-time occurrences."  

Tomlinson, unlike the other recursive model theorists who have designed flow charts, has designed a flow chart not of the entire writing process, but of the sentence-writing process only. In her unpublished manuscript, Tomlinson theorizes that the writing of a nonfiction prose sentence by a mature writer is a creative problem-solving activity that consists of three loops: the production loop, the revision loop, and the verification loop. While in the production loop, a writer answers the task-defining question "What shall I say?" by performing three subtasks: verbally or nonverbally conceptualizing an idea to present in the sentence; engaging in a series of operations which will render the idea into either fragmentary or complete verbal form; and producing the result of those operations physically. The writer is influenced by five cognitive and linguistic factors while in the production loop: his orientation to the writing process (physical environment, physiological condition, and affective concerns); his cognitive strategies (conceptual organization, cognitive style, sociocultural influences, and LTM); his fluency of thought (additional affective concerns, the breadth and depth of conceptualization, experiential influences, semantic competence, and verbal fluency); his productive capacity (again verbal fluency, lexical competence, graphophonemic or spelling ability, graphomotoric or handwriting/typing ability, and STM); and task constraints (task initiator, topic requirements, discourse mode, and audience). Tomlinson's influences on the production loop are
clearly very similar to Nold's constraints on the transcribing process. Following the production of a sentence, the writer may return to the first subtask of the production loop in order to conceptualize a new idea and produce a new sentence, or he may proceed to the revision loop.

While in the revision loop, the writer answers the task-defining question "How can I best say it?" by performing three subtasks: assessing the degree to which the sentence meets technical, rhetorical, and task demands; deciding which changes will make the sentence better meet those demands; and making those changes. While performing the three subtasks, the writer attempts to maximize the accuracy and effectiveness of his sentence by addressing, through a combination of intuition and chance, concerns of orthography, phonology, lexicon, syntax, grammar, technical and rhetorical perspective, and contextual linkup, or the suitability of a sentence for its context. In order to be able to address those seven concerns, the writer must have certain competencies and be able to perform certain process tasks. For example, in order to be able to revise a sentence for contextual linkups, the writer must have four types of competencies—reading process, writing process, cognitive process, and psychological—the last of which includes the writer's ability to detach himself from the sentence. This ability is required for the successful completion of nine process tasks necessary for revision, including that of reading his own writing with critical detachment. The writer is influenced by four types of cognitive and linguistic factors while in the revision loop: affective factors (his willingness to spend time on revision, to exploit his linguistic
competence, and to respond and adapt to writing constraints, as well as his philosophies of rhetorical and grammatical acceptability); task constraints (constraints on style, content, semantic choices, and syntactic choices); rhetorical competence (semantic and syntactic competence and sensitivity to both context and phonological patterns); and technical competence (orthographic and syntactic competence). At any point while in the revision loop, the writer may return to the production loop for one of three reasons: to determine whether the revised sentence corresponds to the original idea; to develop an entirely new sentence that will better render the original idea into verbal form; or to return to the first subtask of the production loop in order to conceptualize a new idea. Eventually the writer proceeds to the verification loop.

While in the verification loop, the writer answers the task-defining question "Did I say it intelligibly?" by performing two subtasks: determining whether and to what degree the sentence is intelligible; and determining whether it corresponds to the idea conceptualized while in the production loop. If the sentence is not intelligible at all, or if it is somewhat intelligible but not entirely so, the writer may return to the revision loop. And if the sentence does not correspond to the original idea and this lack of correspondence is unacceptable to the writer, he may return to the revision loop. But if the sentence is entirely intelligible, the writer may conclude the sentence-writing process. And if the sentence does correspond to the original idea; or if the sentence does not correspond to the original idea, but is for that reason more effective; or if it cannot correspond to the original
idea because there are major difficulties with the paper as a whole, then the writer may conclude the sentence-writing process, which varies for "each individual writer, or even at different times for a single writer." And furthermore, although Tomlinson asserts, similar to Emig and Sommers, that the task of writing may be conceived as a linear one in that "writers begin with blank pages and conclude with sets of sentences," she also asserts that the activity of writing is not a linear one: "characterizing the writing process as one of distinct stages fails to account for the interactive, dynamic processes involved in the actual production of a sentence."17

And finally, one recursive model theorist, Bridwell, has designed a flow chart of the writing process that is a composite of her own research and others' theories: Emig's, Della-Piana's, Nold's, and Tomlinson's, as well as ones that are located in Sommers' and Sharon Pianko's doctoral dissertations. Bridwell theorizes that a writer begins with a concept and then proceeds with the production of that concept. Although it is possible for the writer to "proceed linearly with the unfolding of that concept," he is far more likely to stop during the writing process in order to rescan his text or reread it. Rescanning or rereading may cause the writer either to verify what he has written or to perceive some dissonance. Verification leads to the termination or the continuation of the writing process. Dissonance leads to one of three decisions: the decision to terminate the writing process; the decision to continue the writing process without revising; or the decision to revise. If the writer decides to revise, he may do so during the
writing of a draft or between drafts. And finally, the writer may choose to recopy his final draft before terminating the writing process. 18

Summary

Comparing and constrasting the theories developed by those who propose a linear model—Britton and Murray—and those who propose a recursive model—Emig, Sommers, Perl, Della-Piana, Nold, Tomlinson, and Bridwell—reveals that there are at least six points of agreement and one point of disagreement among them. The one point of disagreement is whether revision, as Nold hypothesizes in "Revising," is the "retranscribing on text already produced" and hence is not an independent subprocess "in the same way as planning, transcribing and reviewing are"; or whether revision is an independent "dimension," in Emig's words; "process," in Sommers' and Della-Piana's words; "substrand," or "sub-routine," in Perl's words; or "loop," in Tomlinson's and Bridwell's words. 19 The first two points of agreement are that revision occurs in writing, but not in speech, as Sommers, Emig, and Nold suggest; 20 and that revision varies both within and between writers, as Della-Piana, Nold, and Tomlinson suggest. 21

The next three points of agreement are all concerned with concomitants to revision. Della-Piana, Nold, and Bridwell agree that revision will not occur unless a writer perceives dissonance between his writing and what Della-Piana calls "preconceptions," what Nold calls "IMRs" and "IARs", and what Bridwell calls a "concept." 22 But in order for the writer to perceive dissonance, he must, Perl, Emig, Nold, Tomlinson, and Bridwell agree, be able to read his own writing skillfully:
projective structuring "asks writers to attempt to become readers and to imagine what someone other than themselves will need," says Perl; during reformulation "one becomes more truly the reader, rather than the writer," says Emig; if, during the reviewing process, the writer "has general difficulty reading, the differences between a well-written and a poorly-written text may not seem so great," says Nold; "reading is an integral part of the revision process," says Tomlinson; typically, the writer stops "during the writing process, either for rescanning or rereading," says Bridwell. Significantly, Britton and his colleagues concur with those five proponents of the recursive model: "We can see a writer scanning back over what has been done, and possibly making alterations; this . . . may be quite important." Furthermore, Emig and Bridwell pose questions about the relationship between reading and revision. Emig asks, "Without the opportunity to re-read, does the writer continue to revise? And if so, what form does revising take?" Bridwell asks, do "poorer writers . . . lack the reading skills to assess their own writing and to determine a need for revision?"  

In order to perceive dissonance, a writer must also, Nold and Tomlinson further agree, be detached. According to Nold, he must be detached from his "intentions in order to process [i.e., read] his . . . text separately from them"; and according to Tomlinson, from "the sentence and view it as external" to his ego. Tomlinson hypothesizes that this is a psychological competency or ability that a writer must have if he is to read "the paragraph and perhaps other parts of the paper with critical detachment." Thus, although Nold and Tomlinson have
somewhat different conceptions of the kind of detachment necessary for
revision—Nold conceiving of it as detachment from intentions and
Tomlinson conceiving of it as detachment from written words—both agree
that detachment is associated in some way with the reading that occurs
during revision. Significantly, the linear model theorists concur with
Nold and Tomlinson that there is an association between detachment and
reading during revision. Britton maintains that during the revision
stage, a writer may be a "detached and critical reader" of his work, and
Murray maintains that during the revision stage, a writer must read his
work with "detachment." 24

And finally, the last point of agreement is concerned with a
writer's scope of concerns. Just as Murray and Britton disagree
partly with the authors of the Heath Handbook of Composition in that
they do not define revision as just the making of "simple mechanical
repairs," the seven recursive model theorists disagree partly with
the author of Well-Bound Words: A Rhetoric. They, like Murray and
somewhat like Britton (who maintains that revision does not go beyond
the evaluation and reconsideration of words), define revision in
the course of describing their theories as the correction of "spelling
errors, grammar, usage, and typographical slips," as well as the
evaluation and reconsideration of "words, sentences, paragraphs, and
whole essays." Thus, the critical difference between the definitions
of revision offered by Emig, Sommers, Perl, Della-Piana, Nold, Tomlinson,
and Bridwell, recursive model theorists, and those offered by Murray and
Britton, linear model theorists, is not the writer's scope of concerns,
but his pattern of behavior, or the point at which he begins to revise: either "with the first words" he writes, or after he has written "the first draft of the whole paper."
CHAPTER II. REVISION PEDAGOGY

The three major theoretical issues that have been discussed by composition teachers are ones concerned with the what, when, and how of revision. The "what": is revision the making of "simple mechanical repairs," or is it the evaluation and reconsideration of "words, sentences, paragraphs, and whole essays"? Or is it both? The "when": does revision occur "with the first words" a writer puts down, or after a writer has completed "the first draft of the whole paper"? The "how": must a writer be detached from his intentions or his written words or both? And is detachment associated in some way with the reading that occurs during revision? The annotated bibliography of articles on the teaching of revision (see Appendix A on page 119), provides information about teachers' views on these three issues.

Of the forty-one articles in the annotated bibliography, approximately two-thirds include reference to the error detection and correction issue, and approximately one-third to the linear/recursive issue. The teachers agree that revision is an activity that can involve more than just errors. Only one teacher dissents. On the other hand, the teachers disagree over whether the writing process is linear or recursive, with approximately twice as many authors of articles in the annotated bibliography supporting the linear model as the recursive model. Some of the teachers support both, saying that although writing is, in
fact, recursive, the linear model needs to be taught because the recursive model is too difficult for students to understand. For example, one teacher says that the linear model is to be preferred "for purposes of ease in explicating it to students," even though it does not describe "how recursive and overlapping are the writer's operations." Most of the teachers, then, support the linear model of the writing process, and virtually none define "revision" as error detection and correction.

The teachers are likewise interested in the detachment issue. They discuss it both in articles on revision—approximately one-sixth of the articles in the annotated bibliography include reference to it—and in recent composition textbooks. Most of the teachers favor the first hypothesis, that detachment is a concomitant of revision, and many also favor the second, that detachment is associated in some way with the reading that occurs during revision. In fact, I did not find any articles or textbooks that reject both hypotheses. The teachers go beyond merely supporting the hypotheses, however, for in many of their articles and textbooks they ask the same question—"How can students achieve the detachment (also commonly referred to "distance") that they need to revise their papers effectively?"—and answer it by saying, "with the passage of time." In fact, I found only two articles and no textbooks that criticize that advice at all. One of the articles says that "we can teach our students ... to find other means to the objectivity that time offers"; and the other says that a student "needs more than the maxim that he should let a paper 'cool off' by putting it aside for a
while and then returning to it with a fresh point of view."

Other articles argue without qualification that the passage of time will allow students to achieve the detachment they need. For example, one article argues that children in the upper grades "often require a time 'distancing'" from their writing before they can see the need for revision. Another article on revision argues more strongly, "All writers need to be freed from excessive attachment to their own kind of print. That requires distance and time." Of the many textbooks which tell students that the passage of time will allow them to achieve detachment or distance, some do not actually use either of those two terms. Rather, they use phrases like "to separate itself," "with a critical eye," and "with a fresh perspective." For example, the authors of the Heath Handbook of Composition suggest that revision "is a task best accomplished a day or two after" a paper has been "put aside, allowed to settle and to separate itself from the writer's hand." The author of another handbook suggests, "When you have written a first draft, take a break--for a day or so if possible--so that you can read the draft with a critical eye when you begin to revise"; and the authors of a rhetoric suggest, "your report can be treated like any other first draft . . . by putting it away for several days. When you return to it with a fresh perspective, consider these questions. . . ."30

Some textbooks do use either the term "detachment" or "distance." For example, in Writing With Power, Peter Elbow uses "detachment" in distinguishing between four revision techniques: "quick revising," "thorough revising," "cut-and-paste revising," and "revising with
feedback." The first relies primarily on "a detached critical consciousness," which, he tells the student, allows you to "step out of your involvement with your writing and clean it up with dispassionate pragmatic eyes"; the second, on time, which "gives you newer, fresher eyes than you could get by mere will power or any vow to be dispassionate"; the third, on "aesthetic intuition"; and the fourth, on "the eyes of others," but also on a detached critical consciousness, time, and aesthetic intuition. According to Elbow, then, detachment can be achieved to some degree without the passage of time, as it is with quick revising; but in order for a student to gain the degree of detachment needed for thorough revising, he must put his writing "aside long enough to forget about it--a couple of days or better yet a couple of weeks."

The authors of another rhetoric similarly use the term "distance" in their chapter on revision: "To revise effectively, most writers need to distance themselves from their work so that they can approach it objectively when they begin revising. A good night's rest or a few hours of relaxation usually provide enough time for a writer to generate the mental distance necessary for effective revision. Then, when you sit down to revise, you should try to feel as though you are reading someone else's work." Even two Freshman English readers include the same essay on revision by linear model theorist Murray, who in it states, as he does in his article on theory, that detachment is a concomitant of revision. One way that writers can detach themselves, suggests Murray, like the authors of the rhetorics and handbooks, is with time. He cites science fiction writer Ray Bradbury, who "supposedly puts each manuscript
away for a year to the day and then rereads it as a stranger." However, most writers, says Murray, have neither enough time nor the discipline to follow Bradbury's practice. Instead, they must read when their judgment "may be at its worst," when they are "close to the euphoric moment of creation." For that reason, "detachment is not easy." 31

Perhaps no recent textbook--reader, rhetoric, or handbook--includes more material on detachment or distance than Writing Today: A Rhetoric and Handbook. At the beginning of that text's chapter on revision is a four-page section entitled "Distancing Yourself," in which the student is told that "the whole process of writing demands, in effect, that you become two persons": on the one hand, "you must generate the ideas, concepts, and points that you want to convey"; and on the other, you must "approach the results of your creative work as if you were someone else--uninvolved, skeptical, critical. You must distance yourself from yourself. You must regard your work as a stranger might." Writing Today, like all of the other texts, suggests that time is a distancer: "The first and most effective aid to self-criticism that you can employ is the passage of time," since "later, when you reread what you wrote," you will be able to be "objective and analytical." And, somewhat like Elbow's Writing With Power, which suggests that detachment can be achieved by means of feedback in conjunction with time and aesthetic intuition, Writing Today suggests that "outside commentary" is a distancer: "an opinion on a paper you have written from a person you trust can be a great aid in improving your writing. Another person, simply because he or she is another person, can approach your material
without your biases and blind spots, may detect errors that you might miss, and may be more aware of problems than you might be." (In this, the author of *Writing Today*, as well as Elbow, who says that "the eyes of others" can be helpful, disagree with Murray, who, when discussing detachment, asserts, "writers cannot depend on others."). But unlike all of the other texts, *Writing Today* suggests three other distancers: role-playing, or pretending to be, for example, "the most skeptical critic of what you are trying to say"; using a tape recorder to find "trouble spots" by "hearing someone's voice—even your own—reading your work"; and using a checklist, which "lessens your chances of deceiving yourself about your work" because it consists of "specific questions to answer."32

Significantly, many of the textbooks which tell students that the passage of time will allow them to achieve the detachment they need to revise their papers effectively also tell them that detachment is related in some way to the reading that occurs during revision: "read the draft with a critical eye when you begin to revise"; once you have generated "the mental distance necessary for effective revision," you should "try to feel as though you are reading someone else's work"; "detachment is not easy," for you probably "must read" when you are "close to the euphoric moment of creation" and your judgment "may be at its worst"; and finally, you can objectively and analytically "re-read what you wrote" after you "distance yourself." Furthermore, an article which does not offer advice about the passage of time but which does argue for detachment similarly supports the hypothesis about
detachment and reading. It describes nine ways in which a student can achieve a "disinterested perspective," eight of which involve special kinds of reading: reading silently, then aloud; reading backwards; reading every other line; reading to locate the thesis statement, the main idea of each paragraph, and the supporting evidence of each paragraph; and reading to evaluate the transitions between paragraphs and the overall structure.

The teachers, then, not only discuss the theoretical questions concerned with the what, when, and how of revision, but also come to a consensus about them: revision, they say, can be an activity of more than just error detection and correction and can occur intermittently throughout the writing process, but only if a writer is sufficiently detached from his intentions or written words or both--they do not appear to make a distinction--possibly while he reads his work. And furthermore, the teachers advise that the passage of time will allow students to achieve the detachment they need to revise effectively. The obvious questions are these: how accurate are the answers that the teachers give to the questions posed by the theorists about the what, when, and how of revision? And how accurate is the advice that teachers give about detachment? The second question is a particularly important one, for it is based upon various assumptions. One is that students do, in fact, need to be detached in order to revise effectively. Another is that students can achieve detachment by means of time; and yet another is that students can achieve detachment at all. Perhaps rather than being a state that students can achieve, detachment is a trait that,
to one degree or another, they possess or do not possess. Or perhaps it is both a state and a trait. Furthermore, the advice seems to be predicated upon an acceptance of the principal idea of the linear model, which is that prewriting, writing, and revision are mutually exclusive stages. After all, if students ought to let time pass or intervene between writing and revision, as the teachers advise, then writing and revision must be mutually exclusive. The following statement, taken from Writing Today, clearly reveals an acceptance of the linear model: "It is not always possible to allow a long period of time to elapse between the writing of something and the time at which you can begin to go over it objectively. Nevertheless, whenever possible, allow as much time as you can between the writing of your first draft and your typing or recopying of it."34

The other handbooks and rhetorics which offer advice about the passage of time allowing students to achieve detachment similarly make statements which reveal an acceptance of the linear model idea that revision occurs only after, and never during, writing: "put the first draft of the whole paper in a drawer for a day or two (at least overnight) before beginning to revise it"; "before you begin to revise your first draft, take a break for at least a few hours to clear your mind"; "first write freely and uncritically . . .; then turn around and adopt a critical frame of mind and thoroughly revise what you have written"; and "revising a paper takes place . . . after you have completed the first draft of the paper."35 Furthermore, articles which do not offer advice about the passage of time but which do emphasize the importance
of detachment similarly reveal an acceptance of the linear model. For example, one article says that once "the first draft is finished," a writer "begins the most difficult and most important aspect of the writing process, revision," during which he "must always maintain a safe distance"; another says that in order to revise well, a writer should, "upon completion of the initial draft," achieve a "disinterested perspective." 36

Significantly, although the advice about achieving detachment with the passage of time seems to be predicated upon an acceptance of the principal idea of the linear model, that writing and revision are mutually exclusive stages, it is, of course, not only the linear model theorists, Murray and Britton, who make the two hypotheses about detachment: that detachment is a concomitant of revision and that there is an association between detachment and the reading that occurs during revision. Two of the recursive model theorists, Nold and Tomlinson, make the same hypotheses. 37 However, there is a critical difference between the linear model and recursive model hypotheses about detachment: according to the linear model theorists, detachment is needed just at the end of the writing process, during the revision stage; and according to the recursive model theorists, detachment is needed intermittently throughout the writing process, whenever revision occurs.
CHAPTER III. REVISION RESEARCH

Whether the composition teachers' views on revision are accurate ones can be best determined by examining the information gathered by researchers using two complementary methods: the case study and the experiment. Case-study researchers rely on "the full description and detailed analysis of one or a series of cases" to generate hypotheses, and experimental researchers on statistical analysis to test hypotheses. Information about revision, and more specifically the error detection and correction, linear/recursive, and detachment issues, has been gathered from case studies of first-grade through fourth-grade children, twelfth-grade students, college students, and adult writers; and experimental studies of fourth-grade and eighth-grade children, high-school students, and college students.

Case Studies

All of the case studies of children have apparently been conducted by Donald H. Graves and his associates (most notably Lucy McCormick Calkins), who studied sixteen children, half first-graders and half third-graders, at a public grade school in a small New England community for two years. In order to discover similarities and differences among the children, as well as to study the children individually, the researchers selected them to represent specific developmental levels, ranging from the most elementary, that of barely being able to hold a
pencil, to the most advanced, that of being able to revise their rough drafts. The researchers not only recorded their observations of what the children said and did before, during, and after they wrote, but also used a video camera to record all sound and activity, including that indicative of revision, when the children chose to work at a certain table in their classrooms. Other information was gathered from analyses of the children's papers, and from interviews with the children, teachers, and parents. Graves and Calkins also report on other research.  

Like the composition teachers, Graves maintains that revision can involve more than just errors. Revision, he says, can be "as simple as adjusting the shape of the letter 's' written seconds before or as complex as removing a second paragraph of an article and rewriting a fifth to move up to replace the second." When the children whom he studied began to revise their writing, however, their scope of concerns was virtually limited to error detection and correction, and more specifically, to spelling error detection and correction. For example, most of the revisions that eight-year-old Brian made were spelling adjustments to words as he wrote them. He was just beginning to change words because he wanted "more precise meaning." Even after the children were developmentally able to make more substantial revisions than spelling changes, they often did not because of the premium that they—or their teachers—placed on neatness. Although "a spelling mistake can be neatly erased, and new letters written," the same cannot be said of revisions that involve larger considerations. "Adding a whole line," for example, "permanently mars a paper." Boys particularly, whose
definitions of "the good writer" tended to focus on "spacing, formation of letters, and neatness," were reluctant to move from "reactive" word-level revising to "reflective" word- and phrase-level revising. Teachers, then, must relax their "rigid standards of . . . neatness" and encourage children to cross words out rather than to erase them, draw lines and arrows, and use revision codes, such as asterisks. For once children learn that neatness can be relegated to a second draft, they can begin to make substantial revisions. 40

Unlike most of the composition teachers, Graves supports the recursive model. For although he maintains that "writers, from beginners to professionals, seem to follow the same steps in composing--prewriting, writing, and revision"--he also maintains that rereading and revision, two recursive behaviors, occur intermittently throughout the writing process, and furthermore, that rereading often leads to revision. Graves describes how, during the course of the study, eight-year-old Andrea learned to reread and revise her writing. At first she "rarely . . . re-read a sentence" and "made no content revisions." Later she engaged in "several new and significant writing behaviors," including that of rereading her writing "with pencil in hand." As a result, she found an inconsistency of plot that she eliminated through revision. Although she did not immediately make rereading and revising part of her writing process, within a few months Graves was able to report that Andrea "rereads as she writes." Similarly, ten-year-old Rebecca "rereads, then rewrites, what she has written"; and six-year-old Sarah "may discover an omission or an inconsistency while she rereads her story." She then
"revises immediately . . . without waiting to be told."^41

And finally, Graves agrees with the composition teachers who favor the two hypotheses about detachment—that detachment is a concomitant of revision, and that detachment is associated with the reading that occurs during revision—as well as those who suggest that the passage of time will allow students to achieve the detachment they need to revise effectively. Graves, who uses the word "distance" rather than "detachment," found that children of various ages and developmental levels needed to put distance between themselves and their writing, particularly when the writing task was a new one. The manner in which individual children achieved distance, however, varied. Six-year-old Sarah achieved distance physically when, in an attempt to "give herself distance from a new task—telling her story in chronological order"—she left her desk to get paper that she did not need, read books to the researcher, have a snack, and talk with other children. Seven-year-old Jill achieved distance with the passage of time when she became "more critical" of a story she had written four days after completing it. And finally, nine-year-old Amy, who was one of the most developmentally advanced children in the study, achieved distance mentally when she sat up straight, held the paper away from her face, and mouthed the words as she read them. In changing her posture and mannerisms, she revealed her ability to shift "between playful involvement with the process and critical concern with the product." As Amy herself explained, "First you write down how you know it. Then you read it over and you think, 'Can other people understand this?'" The shift that Amy made "between involvement
and distance, between writer and reader," indicates that there is a relationship between detachment and reading during revision, as Graves himself points out: "A child with an experience, the words to recall it, and the reading power to disengage from his own written text, can be led to revise" (emphasis added). On the other hand, a child like six-year-old Annie, who lacked this "reading power," was unable to "imagine her writing as a product or her readers as separate from herself." As a result, she did not revise, even when she knew, for example, that her classmates would have difficulty understanding one of her stories. According to Graves, then, one function of distance is to make it possible for writers to consider their audience.

At least two case studies of twelfth-graders have been conducted. One of them is a classic: The Composing Processes of Twelfth Graders, an NCTE Research Report written by Emig, one of the recursive model theorists. Emig met individually four times with eight students, who varied on four indices: sex, intelligence, race, and type of secondary school. Five were girls; three, boys. Six had above-average intelligence; two, average intelligence. Six were white; one, black; one, Chinese-American. And they represented six types of secondary schools, ranging from an almost all-black ghetto school to a private, university-affiliated laboratory school. The first two times that Emig met with the students, they simultaneously composed aloud and on paper; the third time, Emig asked each to bring in all the writing he had ever done that was still available, and to give his writing autobiography; and the fourth time, to bring in a piece of imaginative writing done at home, and to recount the
process he engaged in while writing it. Emig's study provided the
"inspiration and guidelines" for a study done by Terry Mischel, who met
with one student, Clarence, a black twelfth-grader, for eight sessions
of about forty-five minutes each. Clarence attended a school that draws
many of its students from the poor and black east side of town, and,
according to his teachers and the school counselors, was "generally
intellectually and developmentally far ahead of the average twelfth
grader." During the eight sessions, Clarence simultaneously composed
aloud and on paper, brought in writing done at home, explained his ideas
and feelings about his writing and the writing task, and described the
writing instruction he had received in school.43

Both Emig and Mischel use the term "reformulation" to denote three
tasks: the correcting of mechanical errors and stylistic infelicities;
the revising of larger segments of the discourse; and the rewriting of the
discourse as a whole, or the discarding of the discourse and the writing
of an entirely new one. Hence, like the composition teachers, they main­
tain that error detection and correction is just one of several activities
that writers can engage in when they make changes to their writing. When
the students did self-sponsored "reflexive" writing, a mode that "focuses
on the writer's thoughts and feelings concerning his experiences," they
sometimes reformulated in "major" ways. However, when the students did
school-sponsored "extensive" writing, a mode that "focuses upon the writ­
er's conveying a message or a communication," they tended to limit their
scope of concerns to errors, for that was what their teachers encouraged
them to do. For example, one of Emig's students, Lynn, recalled that her
English teachers told her, "if you have more than so many mistakes, you have to rewrite your composition and it has to be in by Friday." Under the guise of reformulation, then, her teachers required her to correct "trivia," and did not give her the time or inspiration she needed to do more than that. As a result, Lynn characterized reformulation as "punishment work." Emig's seven other students recalled that their elementary school teachers emphasized trivia--"about all they were interested in was grammar and spelling"--as did Mischel's student, Clarence, who, like Emig's students, was "rather disdainful" of the instruction that he had received. Emig and Mischel share the disdain that the students had for writing instruction that focuses on errors. Emig says, "much of the teaching . . . in American high schools is essentially a neurotic activity. There is little evidence, for example, that the persistent pointing out of specific errors in student themes leads to the elimination of these errors, yet teachers expend much of their energy in this futile and unrewarding exercise"; and Mischel says, "it seems that much . . . writing instruction . . . is concerned with the more 'shallow mechanical activities,' and superficial, outward skills and conformities of language expression."

Emig and Mischel are less resolute on the linear/recursive issue than they are on the error detection and correction issue, the reason being that simultaneously composing aloud and on paper more or less precludes the recursive behavior of reformulation. As Emig explains, "of prime importance is the fact that the design does not explicitly provide for reformulation, an activity which requires quiet, if not solitude;
leisure; and some separation in time from the act of writing." Emig reports that her eight students "engaged in no reformulating of pieces." When Lynn composed aloud, for example, "the movement of the sentence was essentially left-to-right," since the "essential, or base" transforming operation that she used was that of a right-branching addition. Yet she sometimes reformulated by using the operations of insertion, substitution, and expansion. For example, she substituted "store" for "shop" to eliminate lexical repetition. Furthermore, she sometimes reformulated after rereading her writing: as she said at one point, "I'm reading over my last paragraph. I have to think of a better ending." Thus, Lynn engaged in at least two recursive behaviors: reformulation and rereading. Emig finally concludes, as some of the composition teachers do, by supporting the recursive model: composing aloud, she says, "does not occur as a left-to-right solid, uninterrupted activity with an even pace. Rather, there are recursive, as well as anticipatory, features." Mischel's findings are similar to Emig's: Clarence did little correcting; some revising--inserting and deleting words and reordering groups of words, usually when rereading his writing; and no rewriting. Clarence, then, like Lynn, both reformulated and reread his writing. Yet, possibly because Clarence engaged in those behaviors infrequently, Mischel, like most of the composition teachers, supports the linear model. Clarence, he says, "proceeded in a chronological linear fashion."

And finally, Emig and Mischel are even less resolute on the detachment issue than they are on the linear/recursive issue. Only Emig
discusses it at all, and she does so in her one-paragraph review of an essay in which Jerome Bruner contends that detachment "from that which exists conventionally" is one of nine "conditions of creativity." Furthermore, Emig may agree with what the composition teachers say about the passage of time allowing students to achieve the detachment they need to revise effectively, for she says that reformulation is an "activity which requires ... some separation in time from the act of writing." However, she does not explain why time must intervene between writing and reformulation. Perhaps she believes that time is needed for a reason other than that of allowing students to achieve detachment.

At least two case studies of college students and two of both college students and experienced adult writers have been conducted. Perl, one of the recursive model theorists, met individually for five ninety-minute sessions with five students whom she classifies as "unskilled writers." During four of the sessions, the students simultaneously composed aloud and on paper, twice in the reflexive mode and twice in the extensive mode, and during the remaining session, Perl asked them to discuss their perceptions and memories of writing. Perl's study, then, is very similar in design to both Emig's and Mischel's. However, Perl also developed a method by which the movements or behavior sequences of the students during composing—which consisted of various kinds of talking, writing, and reading, as well as periods of silence—were coded and then recorded on charts. These charts, or "composing style sheets," were constructed for every paper that the students wrote. They tell not what the students wrote, but how they wrote it. In other words, they indicate
the behavior sequences that occurred "from the beginning of the [composing] process to the end." Perl examined the style sheets for composing patterns, patterns that she says can be obscured by the narrative descriptions that are typical of case studies, and based her results on them. Richard Beach asked twenty-six upperclassmen enrolled in a writing methods course to write two short papers on topics of their own choice. For each paper, they wrote a first draft in a "free-writing' mode" and then recorded their evaluations of that draft on tape. Then they continued writing as many drafts as necessary, being certain to allow a two-day break between each draft, and continued recording their evaluations of their drafts on tape. After the students completed their papers, two judges rated each draft according to the degree of revision from the previous draft: "extensive," exhibiting change or alteration of the content or form; or "little," not exhibiting such change or alteration. On the basis of the judges' ratings, Beach divided the twenty-six students into two groups: extensive revisers and nonrevisers. He then analyzed transcriptions of the taped self-evaluations in order to determine the "characteristics common to each group that may have influenced the degree of revision."

Sommers, one of the recursive model theorists, asked twenty freshman composition students and twenty experienced adult writers, including journalists, editors, and academics, to write three essays—expressive, explanatory, and persuasive—and to revise each essay twice. The essays were analyzed by counting the changes made and categorizing them according to operation (deletion, substitution, addition, and reordering)
and level (word, phrase, sentence and theme). Following the final revision of each essay, each student and experienced writer was interviewed three times. Transcripts of the interviews enabled Sommers to determine what her subjects were concerned about as they revised the drafts of the three essays. Furthermore, each student and experienced writer made suggestions concerning how a composition by an anonymous author might be revised. Lastly, Faigley and Witte asked six inexperienced student writers, six advanced student writers, and six expert adult writers to write an essay over a period of three days. On the first day, they thought about the topic and were given the option of making notes about it; on the second day, they wrote the first draft; and on the third day, they wrote the second draft. Because they used pens of one color when writing the first draft and pens of another when writing the second, it was possible to determine when they made each revision. Faigley and Witte also asked the six expert adult writers to revise the first drafts that three of the inexperienced writers had written. Revisions were categorized using a taxonomy that Faigley and Witte developed "for analyzing the effects of revision changes on meaning." Their taxonomy was "based on whether new information is brought to the text or whether old information is removed in such a way that it cannot be recovered through drawing inferences." Revisions that did not bring new information or remove old information were "Surface Changes," subcategorized into "Formal Changes" (spelling; tense, number, and modality; abbreviations; punctuation; and format), and "Meaning-Preserving Changes" (additions, deletions, substitutions, permutations, distributions, and consolidations).
Revisions that did bring new information or remove old information were "Text-Base Changes," subcategorized into "Microstructure Changes" (those that would not alter the summary of a text), and "Macrostructure Changes" (those that would alter the summary of a text).

Like the composition teachers, researchers Perl, Beach, Sommers, and Faigley and Witte maintain that revision is an activity that can involve more than just errors. Perl and Beach, in fact, disapprove of composition teaching that focuses on errors, just as Graves, Emig, and Mischel do. Perl says that devoting class time to "examining the rules of the standard code" causes students to "conceive of writing as a 'cosmetic' process where concern for correct form supersedes development of ideas. As a result, the excitement of composing, of constructing and discovering meaning, is cut off almost before it has begun"; and Beach says that using such metaphors as "smoothing out," "polishing," and "tying together" in reference to revision, as both teachers and textbooks do, implies that "the topic has already been adequately dealt with" and that "only minor cosmetic alterations" need be made. Perl and Beach say only that revision can involve more than errors. Thus, they are not inconsistent when they report that the unskilled writers and nonrevisers whom they studied concentrated on error detection and correction. Perl reports that her students made a total of 617 changes to their papers, 67 of them ones of content (organization, coherence, and audience), and 550 of them ones of form (spelling, word choice, the context of words, grammar, punctuation, and sentence structure). In fact, her students made more spelling changes, a total of 191, than any other type of change. Perl concludes
that for her unskilled writers, revision was "primarily an exercise in error-hunting." Beach reports that the nonrevisers differed from the extensive revisers in three ways that caused them to concentrate on errors. First, they conceived of the revising process as one of "making minor alterations in matters of form," as opposed to one of "making major alterations in the content or substance of their drafts." Second, they conceived of free-writing as being in "little need of further reworking," as opposed to "a spontaneous, tentative record of their thoughts that would need to be clarified and reformulated." And third, they held the attitude "that their time and effort were limited"--for example, "they would set quotas for the number of drafts"--which caused them to be "prematurely concerned with mechanics and wording."

Perl's and Beach's findings are similar to those of Sommers, who reports that her students understood revision to be an activity of rewording that they could engage in to eliminate lexical, as opposed to conceptual, repetition, as well as to conform to "lexically cued" rules, such as "never begin a sentence with a conjunction" and "never end a sentence with a preposition." These revision strategies allowed her students to deal with only one part of their essays--words--at the expense of their essays as a whole. As Sommers puts it, all that was necessary according to her students was "a better word," for they believed that the meaning be communicated was "already there, already finished, already produced."

The experienced writers, on the other hand, understood revision to be an activity of finding or discovering meaning, primarily through a concern for their argument and secondarily through a concern for their readers.
Faigley and Witte report, as Sommers does, that college students, especially those who were inexperienced writers, were more likely than adults to concentrate on errors when revising. Most of the revisions that the inexperienced student writers made were Surface Changes: 38.9 Formal Changes and 113.4 Meaning-Preserving Changes per 1000 words. In comparison, they made few Text-Base Changes: 19.7 Microstructure Changes and 1.3 Macrostructure Changes per 1000 words. Faigley and Witte conclude that the inexperienced student writers understood revision to be "a cleansing of errors." On the other hand, the advanced student writers' and expert adult writers' revisions "were more evenly distributed."

The advanced students averaged 50.4 Formal Changes, 163.9 Meaning-Preserving Changes, 44.8 Microstructure Changes, and 23.1 Macrostructure Changes per 1000 words, whereas the expert adults averaged 22.3 Formal Changes, 73.3 Meaning-Preserving Changes, 29.4 Microstructure Changes, and 19.6 Macrostructure Changes per 1000 words. But all three groups of writers engaged in more than just error detection and correction. 48

Unlike most of the composition teachers, researchers Perl, Beach, Sommers, and Faigley and Witte support the recursive model. Perl, one of the recursive model theorists, reports that her students engaged in many recursive behaviors, including rereading and revising: "Recursive movements appeared at many points during the writing process." Occasionally sentences were written in groups and then reread. . . . In the midst of writing, editing [Perl's term for "revision"] occurred. . . . Often planning of a global nature took place: in the midst of producing a first draft, students stopped and began planning how the second draft
would differ from the first. Often in the midst of writing, students stopped and referred to the topic in order to check if they had remained faithful to the original intent. . . . In all these behaviors, they were shuttling back and forth. . . ." Perl concludes that for her unskilled writers, composing did not occur "in a straightforward, linear fashion." For example, one of Perl's students, Tony, "rarely produced a sentence without stopping to reread either a part or the whole," particularly when composing in the extensive mode, and never wrote "more than two sentences" before he began to revise. Not surprisingly then, the "most salient feature of Tony's composing process was its recursiveness." Apparently, Tony was not atypical. For the other students, revision intruded "so often and to such a degree" that it broke down "the rhythms generated by thinking and writing." Faigley and Witte report that inexperienced student writers, advanced student writers, and expert adult writers all made revisions during three stages of composing: Stage 1 (in-process, first draft), Stage 2 (between draft), and Stage 3 (in-process, second draft). However, "noticeable differences occurred between the groups in the number of revisions made at each stage," particularly at Stage 1: the expert writers and advanced writers made more Stage 1 revisions than did the inexperienced writers, probably because they engaged in the recursive behavior of stopping to reread what they had written. Hence, although Faigley and Witte use linear model terminology by speaking of the "stages" of composing, they support the recursive model.

Sommers and Beach take similar positions on the linear/recursive
issue. Sommers, one of the recursive model theorists, contends that the students whom she studied had adopted the linear model, which functioned "to restrict and circumscribe not only the development of their ideas, but also their ability to change the direction of these ideas." The experienced writers, on the other hand, had adopted the recursive model, which allowed them to "balance competing demands on attention" by seeing revision as "a process with significant recurring activities--with different levels of attention and different agenda for each cycle." During the first cycle they were concerned mainly with their argument--"narrowing the topic and delimiting their ideas"--and not until later cycles with style. Sommers concludes that revision is a recursive process, best defined as "a sequence of changes . . . which . . . occur continually throughout the writing of a work." Beach, who did not seem to actually examine the linear/recursive issue, contends that his students had been taught that revision is the "final" stage of writing--in other words, they had been taught the linear model--and that instead, they needed "helpful models of the revision process," presumably recursive models.49

And finally, Perl, Beach, and Faigley and Witte agree with the composition teachers who favor the hypothesis that detachment is a concomitant of revision. Sommers is the only one who does not discuss the issue. Perl found that three problems arose for her students as they revised--rule confusion, selective perception, and egocentricity--one of which, selective perception, prevented them from establishing detachment, or, as Perl calls it, distance. "Selective perception" refers to the
students' tendency to assume that readers other than themselves would be able to extract meaning from the minimal cues they provided in their papers. One of the students, Tony, did not have this problem at the beginning of each session. He realized that his composition "might need revision," and therefore "immediately established distance between himself as a writer and his discourse." However, by the end of each session of simultaneously composing aloud and on paper, particularly when composing in the extensive mode, he "consistently voiced complete sentences... but only transcribed partial sentences," did the same "in relation to words with plural or marked endings," "rarely perceived syntactic errors," and "did not untangle overly embedded sentences." Thus, the distance that he had established when he began writing "had decreased if not entirely disappeared" by the time he finished. Perl concludes that selective perception, along with rule confusion (the students' tendency to become confused about editing rules, academic language, and the difference between their speech codes and the standard writing code) and egocentricity (the students' tendency to take "the reader's understanding for granted") caused her students to overlook "serious syntactic and stylistic problems" as they revised. Beach found that extensive revisers differed from nonrevisers in degree of detachment. Extensive revisers seemed to have less difficulty in "detaching themselves, in achieving an 'aesthetic distance,'" than the nonrevisers did. For example, one extensive reviser evaluated her paper by saying that she had intended "to be philosophical, but it doesn't come out like that"; another extensive reviser similarly evaluated her paper by saying that "it turned out
emphasizing facts . . . instead of what I thought." Those two extensive revisers were typical in their ability to be self-critical by stepping "outside their own egocentric perspective" and considering "alternative approaches." According to Beach, the ability to become detached from writing is related to the ability to make generalizations about writing both within and across drafts. And finally, Faigley and Witte found that when the expert adult writers revised inexperienced student writers' drafts, they "stood back and formed an impression of what they thought an inexperienced writer's text should say." Then, when they revised, they did so "with a detached, yet broad, perspective." Faigley and Witte conclude that "somehow we must teach our students to distance themselves from what they have written, . . . then revise." 50

Experimental Studies

Apparently, only one experiment involving both children and high-school students has been conducted. It was a part of the National Assessment of Educational Progress (NAEP), and selected results from it appear in the U.S. Government report entitled "Write/Rewrite: An Assessment of Revision Skills." Approximately 2,500 subjects at each of three ages--nine, thirteen, and seventeen--who varied on five indices--sex, race, parental education, community type, and geographic region--were included in the NAEP study. The nine- and thirteen-year-olds were given fifteen minutes to write a report in pencil, and thirteen minutes to revise it in pen. Changes made with the pen were considered to be revisions. The instructions they were given in regard to revision were as follows: "Now that you have finished writing, take time to read over
your report. ... Make any changes you think will make your report better." Similarly, the seventeen-year-olds wrote a letter of complaint in pencil, and revised it in pen. Changes made with the pen were considered to be revisions. The instructions they were given in regard to revision were as follows: "Now that you have finished writing, take time to improve your note. ... Make any changes you think will make your note better." Each report and letter was evaluated and described by two or three experienced teachers. 51

The NAEP study was not conducted for the purpose of gathering information about the linear/recursive issue. In fact, as recursive model theorist Nold points out, it was predicated on the assumption—a false one, according to Nold—that "revision is a one-time process that occurs at the end of a writing session," since "no attempt was made to account for the pencilled revisions made on the pencilled draft." 52 Neither was the NAEP study conducted for the purpose of gathering information about the detachment issue. The remaining issue, however—the error detection and correction issue—was central to the NAEP study, as suggested by the fact that in the introduction to the report on it are a number of questions about the "what" of revision: "Does revision mean improving the appearance or legibility of one's writing; does it mean making mechanical changes ... ; or does it mean making grammatical changes? Does revision mean adding information or clarifying transitions ... ? Does revision mean changing the style or tone of a passage? Does revision involve rearranging or reorganizing the elements so that they are easier for the potential audience to understand?" 53 Those
questions were answered in the NAEP study by categorizing just the revi-
sions that the students made in pen at the end of the writing session.

The nine- and thirteen-year-olds made revisions in nine categories,
three of which—cosmetic, mechanical, and grammatical—involved error
detection and correction, and six of which—continuational, transitional,
informational, stylistic, organizational, and holistic—did not. Of the
60% of nine-year-olds who revised, more made revisions in the mechanical
stylistic, and informational categories—46%, 43%, and 42%, respectively—
more than in any other category. Similarly, of the 78% of thirteen-year-olds
who revised, more made revisions in the stylistic, mechanical, and inform-
informational categories—68%, 63%, and 61%, respectively—than in any other
category. The seventeen-year-olds made revisions in the same categories
as the nine- and thirteen-year olds, as well as in an additional category:
careless error, which, although not defined in the report, may be con-
strued to involve simple error detection and correction. Of the 68% of
seventeen-year-olds who revised, more made revisions in the stylistic,
informational, and mechanical categories—38%, 37%, and 25%, respec-
tively—than in any other category. Thus, the nine-, thirteen-, and
seventeen-year-olds who revised did more than just detect and correct
effort, which indicates that they defined "revision" in much the same
way that the composition teachers do. In the words of the report on the
NAEP study, "a working definition of revision for many students seems to
be substituting more appropriate words or phrases for preliminary attempts
... , adding relevant and deleting irrelevant information, and attend-
ing to capitalization, punctuation, and other mechanical conventions."54
At least four experimental studies of high school students have been conducted. Tom Liner included in his study over 200 average and above-average students in grades nine through twelve, who wrote three one-page papers during fifty-five minute class periods. Their papers were returned to them during a later class period with the instruction that they were to make one of the three better, although they could also choose not to revise. From the sets of original and revised papers that were collected, one hundred--twenty-five from each grade--were examined to determine the kind of revision that predominated. Of the one hundred sets, forty--ten from each grade--were examined more closely to determine the number of revisions made in twelve categories. Charles K. Stallard studied thirty high-school seniors in order to gather information about the "behaviors and cognitive processes" involved in writing. Fifteen were good writers, and fifteen were randomly selected writers. They wrote an essay, and rather than erasing, they were instructed to "simply draw a line through anything they wanted to change." In addition to examining the essays for revisions, Stallard observed the students as they wrote and conducted interviews immediately after they had finished writing.

Beach, who conducted a case study of upperclass college students, has also conducted an experiment. He studied 103 students in grades ten through twelve in order to determine whether teacher evaluation (TE) or guided self-evaluation (SE) of rough drafts caused students to revise more extensively than the usual practice of having students revise their rough drafts without any evaluation at all (NE, or no evaluation). During three fifty-minute class periods, students in all three treatment groups--TE, SE, and NE--wrote rough drafts on three different topics. The
group that the students were assigned to and the order in which they wrote on the topics were determined randomly. During the two class periods following the writing of each of the three rough drafts, the students wrote their final drafts. Also, those in the TE group were given a completed Teacher Evaluation form, and those in the SE group were asked to complete a self-evaluation form. Both forms included the same "open-ended categories." The students' rough drafts and final drafts were rated for quality and degree-of-change. In addition, a fluency score was obtained by counting the number of words written. And finally, Bridwell, one of the recursive model theorists, conducted an experiment involving 171 students to answer both a behavioral question and a cognitive/developmental one: "what do twelfth graders do when they revise?"; and "are there any differences between the patterns of more successful and less successful twelfth grade writers?" The students did a piece of "transactional" writing, that which is both expository and argumentative and is "most representative of the kind of writing students are asked to do most frequently in school." After being given time to develop ideas about the assignment, they did the writing itself during two regular class periods. During the first, they used blue pens and were instructed to "lightly cross through any changes they might make as they wrote"; and during the second, they used black pens and were instructed to "consider their first drafts, make revisions on them if they so desired, and write a second revised draft of the essays." Having the students use pens of different colors made it possible to determine when they made each revision. The revisions made
to 100 randomly selected papers were categorized in various ways, including by stage and level.55

Like the composition teachers, researchers Liner, Stallard, Beach, and Bridwell maintain that revision can involve more than just errors. Beach, who earlier found in his case study that one group of upper-class college students--nonrevisers--focused on errors, and that another group--extensive revisers--did not, found in his experimental study that teacher evaluation caused high school students to revise more extensively than either self evaluation or no evaluation. Specifically, compared to the SE and NE subjects, the TE subjects had significantly higher fluency scores, degree-of-change scores, and final draft quality ratings for the criterion of "support," which suggests that the TE subjects did more than just detect and correct errors as they revised their rough drafts. Liner found that of the five basic categories of revision that he identified, paragraph (which included indentation and changes to or addition of sentences) predominated in thirty-nine of the one hundred sets of papers. The following categories were within sentences (included changes to punctuation, word choice, and phrasing), twenty-nine sets; organization (changes to the basic structure or content of the original paper), twenty-eight sets; R/O (no revisions made), three sets; and recopied only (no revisions made, but original paper recopied), one set. Liner also found that of the twelve specific categories of revision that he identified, deletion contained the largest number of revisions (104). The following categories were phrase substitution (101), punctuation (67), single word substitution (59), sentence addition (54), whole sentence
substitution (52), spelling (46), verb changes (45), single word addition (41), phrase addition (also 41), sentence combining (6), and active/passive change (0). The students in Liner's study, then, were concerned with more than just errors of grammar, punctuation, and spelling.

Stallard says that more good writers and randomly selected writers expressed a concern for the mechanics of writing than reported making a mental outline, thinking about audience, and wanting to get across ideas. Specifically, 61% of good writers and 47% of randomly selected writers expressed such a concern. However, neither group concentrated on errors during revision. The largest number of revisions for both groups were those involving single words (not including spelling changes or changes that affected syntax) and multiple words (not including changes that affected syntax). The good writers made one hundred and nine single word changes, the randomly selected writers, thirty-five; and the good writers made forty-two multiple word changes, the randomly selected writers, four. The differences were significant at the .01 level. In comparison, the good writers made only four syntactic, six punctuation, and eighteen spelling revisions; and the randomly selected writers did not make any syntactic or punctuation revisions, but did make twenty-three spelling revisions. The differences were not significant. Bridwell found that the level of revision with the highest percentage of revisions was that of word (31%), followed by surface (25%), phrase (18%), multiple-sentence (12%), sentence (8%), and finally, clause (6%). Clearly, then, although the students did engage in a considerable amount of error detection and correction, as indicated by
the large percentage of surface revisions, they were not limited to that activity as they revised. Interestingly, there was a negative correlation between surface level revision and mechanics ratings because, according to Bridwell, "the students who did a great deal of surface revising were mired in spelling and mechanical problems."56

Of the researchers who have conducted experiments involving high school students, neither Beach nor Liner used a research design which would have allowed them to gather information about the linear/recursive issue. Beach compared what he calls "rough drafts" and "final drafts," and Liner compared what he calls "original papers" and "revised papers." Beach did not examine the rough drafts for revisions. Thus, he was unable to determine whether his students revised throughout the writing process or just at the end of it. Liner did attempt to informally examine the original papers for "observable evidence of in-process revision," but concludes that "some other research design is needed to explore this important part of the writing process."

Unlike most of the composition teachers, the remaining two researchers, Bridwell and Stallard, both support the recursive model. Bridwell, one of the recursive model theorists, found that her students revised at three points during the writing process, which, using linear model terminology, she refers to as "stages." They made 31% of their revisions at Stage A (in-process, first draft), 17% at Stage B (between-draft), and 52% at Stage C (in-process, second draft). Thus, although her students made over half of their revisions at the end of the writing process, they did not write first, then revise. Interestingly, they
made their most effective revisions during the middle of the writing process, as suggested by the "overwhelming number of significant positive correlations of levels at Stage B with quality on both the first and second drafts." Stallard found that the good writers were more likely than the randomly selected writers to engage in the recursive behaviors of rereading and revising. The good writers stopped to read what they had written an average of almost four times, whereas the randomly selected writers did so an average of less than once. The difference was significant at the .01 level. Furthermore, the good writers invariably revised during periods of rereading, whereas the randomly selected writers infrequently revised during such periods. In addition to observing the students, Stallard asked them whether they revised as they wrote their papers, and whether they did so after they had finished writing their papers. More good writers than randomly selected writers—93% compared with 73%—reported engaging in the recursive behavior of revising as they wrote; however, the difference was not significant. Likewise, more good writers than randomly selected writers—93% compared with 53%—reported revising after they had finished writing, a difference that was significant at the .05 level. 57

And finally, of the researchers who have conducted experiments involving high school students, only Beach and Liner have gathered any information about the detachment issue. Beach, who earlier found in his case study of upperclass college students that they often did not revise because they did not have the ability "to effectively evaluate their own writing"—an ability which involves the willingness "to describe
one's writing from a detached, non-egocentric perspective and to trust one's own criteria for revising as valid"—found in his experimental study of high school students that teacher evaluation of rough drafts resulted in more revising than either self evaluation or no evaluation. That finding suggests, according to Beach, that teacher evaluation gave students an "external perspective" on "whether or how well" the intended meaning had been communicated. Students were unable to gain such a perspective through self evaluation for three possible reasons, one of which is that they were "not accustomed to critically detaching themselves from their writing." In addition, they had "difficulty in knowing how to employ certain self-assessing strategies," and they may have had "little incentive . . . to critically self-assess their drafts."

The conclusion that Beach draws from both of his studies is that detachment is a concomitant of revision. Thus, he agrees with the composition teachers. Liner found, in an "informal check" of the papers written for his study, that there were "no real differences" between those which had been revised one class period after being written and those which had been revised "much later." In this respect, Liner concludes, his student writers were different from professional writers, who often allow a manuscript "time to 'cool off'" before revising it. Liner seems to be saying that although the passage of time allows professional writers to achieve the detachment they need to revise effectively, it does not, as the composition teachers suggest, do the same for high school students. 
At least four experimental studies of college students have been conducted. E. W. Buxton, in order to determine "what kind of regular weekly practice in writing will result in significant improvement in the skill of students receiving the practice," randomly divided 257 freshmen into three groups: Group C (control), Group W (writing), and Group R (writing and revision). All three groups followed the regular program of studies. In addition, the students in Group W wrote one paper of approximately 500 words every week for sixteen weeks. Their papers were evaluated by means of paragraph commentaries which were as "commendatory as possible." The students in Group R, like those in Group W, wrote one paper every week. Their papers were evaluated by two means: paragraph commentaries which were as "critical as necessary," and separate numerical grades for content and mechanics. Also, "every effort" was made "to mark all papers thoroughly, indicating . . . all errors." When their papers were returned each week, the students in Group R discussed and revised them. Both before and after the study, all of the students were given two standardized tests—one on the mechanics of expression and one on the effectiveness of expression—and wrote essays, thus allowing any improvement made by the three groups to be measured.

Barbara Hansen studied forty-nine freshmen enrolled in two composition classes in order to determine whether those who revised and rewrote essays "achieved greater skill in later composition performance" than those who only corrected mechanical and grammatical errors. The students in the two classes were comparable in terms of educational background,
age, race, sex, class standing, future occupational goals, and English ability. Hansen treated them all alike during thirty-two of forty class sessions. During the remaining sessions, the students in the control group wrote eight essays, which they later corrected for "errors in punctuation, grammar, sentence structure, and mechanics." The students in the experimental group, on the other hand, wrote and revised four essays—a total of eight writing assignments—during the remaining sessions. Hansen "marked and graded" the essays before the students revised them, and graded them again afterwards. She taught them that revision is "a process of editing and improving the essay's thesis, examples, and paragraph and sentence structure, as well as proofreading for errors." In order to determine whether either or both of the groups achieved gains in proofreading skills, editing skills, and proofreading and editing skills combined, Hansen had all of the students write impromptu essays both at the beginning and end of the term.

Sharon Pianko, in order "to characterize the composing processes of college freshman writers" and "to discover differences for particular categories of college freshman writers," randomly selected twenty-four students enrolled in freshman composition who could be categorized according to class status (traditional vs. remedial), age (typical college age vs. adult), and sex (male vs. female). Although originally there was an equal number of students in each of the six categories, by the conclusion of the study, seven of the students were no longer participating. Each student wrote five 400-word essays "under fairly usual classroom conditions." However, they were observed and videotaped
during at least one of the writing sessions, and afterwards were questioned about the behaviors they exhibited and about their general attitudes and feelings. Furthermore, they were interviewed about other writing experiences. Based on the information that she gathered, Pianko identified seven dimensions of the composing process—prewriting, planning, composing, rereading, stopping, contemplating the finished product, and handing in of the product—and used them, as well as "the time spent for certain behaviors and the number of times certain behaviors occurred," to draw up a list of twenty-two dependent variables. She then used those variables to study "similarities and differences among the different types of students."

And finally, John Clifford, who states that the composing process "can no longer be thought of as linear since writers do not proceed in orderly, discrete stages with, for example, a revision stage neatly following the writing of a good draft," at the same time argues that composition instruction "needs to unfold in orderly stages." The hypothesis of his study, then, was that "an instructional method that divides the composing process into discrete stages in a collaborative environment will help college freshmen improve their writing performance more than a traditional method," a collaborative environment being one in which students help each other rather than work alone or with a teacher. He randomly assigned 108 systematically selected students to six classes, 16 of whom transferred or dropped. Three instructors taught two classes each, one control and one experimental. The control classes were instructor-centered, and the experimental classes, student-
centered. Students in the control treatment, for example, sat in rows, discussed the assigned reading, and received final grades that were determined by the instructor, whereas students in the experimental treatment sat in groups of six, discussed their own writing, and received final grades that were determined by a committee comprised of their fellow students. Both before and after the study, measures were taken of the students' grammatical knowledge, grammatical performance, and writing performance so that the two instructional methods could be compared.  

None of the four experimental studies of college students provides any information about the detachment issue. None provides much about the error detection and correction issue, although the researchers clearly have opinions about it. Unlike the composition teachers, Buxton maintains that revision primarily involves errors, as suggested by the fact that the students in Group R were given thirty-five minutes to discuss and revise their essays each week with careful attention to the errors they had made in "spelling, capitalization, punctuation, usage, grammar, sentence structure and paragraphing." Like the composition teachers, Pianko and Clifford maintain that revision can and should involve more than errors. Pianko says that her remedial students had an "over-concern for mechanics and usage and correct wording during composing," and not enough concern for "getting their ideas across." Similarly, Clifford says that "inexperienced or unskilled writers" in general "do not realize the benefits of postponing attention to surface correctness," and that collaborative composing can help students learn
"when to focus on mechanics, spelling, and proofreading." Hansen argues that since there were no significant differences between the students in her control group and those in her experimental group on mean gains in proofreading skills, editing skills, and proofreading and editing skills combined, it is irrelevant whether students proofread or edit their papers. Yet she suggests that revision be taught as a process of both proofreading and editing.60

And finally, three of the experimental studies of college students were not conducted for the purpose of gathering information about the linear/recursive issue. Buxton's, Hansen's, and Clifford's, which are similar in design—students in a control group and students in one or more experimental groups were compared before and after receiving different kinds of composition instruction—are not studies of the process of writing as it unfolds over time, and hence cannot provide any information about when revision occurs. In fact, Buxton and Hansen presuppose the validity of the linear model; for students in Buxton's Group R and Hansen's experimental and control groups were asked to revise only after their papers had been evaluated and returned to them. The fourth study, Pianko's, provides evidence that is in support of the model that most of the composition teachers oppose: the recursive model. Two of the seven dimensions of the composing process that Pianko identifies—composing (which includes the "crucial" behaviors of pausing and rescanning) and rereading—are recursive. Rereading occurs when "writers reread the entire script," sometimes for the purpose of revising and proofreading. The traditional writers and remedial writers did not
differ significantly in the length of time spent rereading or the number of revisions per 100 words. Pausing consists of "a break in the actual writing" and is of two types: filled and unfilled. Filled pauses were characteristic of the traditional writers (during them, they were usually "specifically planning what to write next") and unfilled pauses, of the remedial writers (during them, they were usually "glancing around the room or staring into mid-air"). The two groups differed in the number as well as the quality of pauses: on the average, the traditional writers paused twice as often as the remedial writers, a difference that was significant at the .01 level. Rescanning consists of "a rereading of a few words, or sentences, or a paragraph." On the average, the traditional writers rescanned three times as often as the remedial writers, a difference that was significant at the .01 level. Pianko concludes that teachers need to encourage students to engage in the recursive behaviors of rescanning and pausing.

Summary

The information gathered by case-study and experimental researchers studying children, high school students, college students, and adults indicates that the composition teachers may be incorrect in one of their views on revision and correct in two of them. The teachers who support the linear model seem to be incorrect. Of the researchers who examined the linear/recursive issue (Beach, Liner, Buxton, Hansen, and Clifford, as well as those who conducted the NAEP study, did not), all but one, Mischel, found that revision occurred intermittently throughout the writing process. On the other hand, the teachers seem to be correct in
maintaining that revision can involve more than the detection and correction of errors, since all of the researchers except Buxton, who did not actually examine the error detection and correction issue, maintain the same thing. The teachers also seem to be correct in favoring the two hypotheses about psychological detachment: that detachment is a concomitant of revision, and that detachment is associated in some way with the reading that occurs during revision. Yet much less information has been gathered about this issue than the other two issues. Graves supports both hypotheses, and Perl, Beach, and Faigley and Witte support the first. Only two researchers—Emig and Liner—seem to have considered the question of whether the composition teachers are warranted in offering advice about achieving detachment with the passage of time, and they did so very briefly. The other researchers did not examine the detachment issue at all.
CHAPTER IV. STUDY OF PSYCHOLOGICAL
DETACHMENT AND REVISION

Of the three major theoretical issues discussed by both teachers and researchers--error detection and correction, linear/recursive, and detachment--only the detachment issue has not been studied objectively by either case-study or experimental researchers. For although researchers have taken measures of what revision is and when it occurs, the construct of "detachment" has not been quantified by those doing work on the writing process. I conducted this study of college freshmen to quantify both "revision" and "detachment" and to examine three hypotheses: (1) that revision is more than just the detection and correction of errors; (2) that revision occurs intermittently throughout the writing process; and (3) that detachment is a concomitant of revision. (Not examined was the hypothesis that detachment is associated in some way with the reading that occurs during revision.) I used a standardized test to quantify "detachment." In quantifying "revision," I tested a method by which the students themselves made a record of their revisions as they occur. This method enabled me to count the total number of revisions the students made, as well as to categorize each revision in at least three ways: by juncture (first juncture: made while writing the first draft; second juncture: made after completing the first draft; and third juncture: made while writing and after completing the second draft); by level (Bridwell's levels are surface, lexical, phrase, clause, sentence,
multi-sentence, and text); and by operation (Sommers' operations are deletion, substitution, addition, and reordering). As a result of quantifying "detachment" and "revision," I was able to develop specific research questions that correspond with the three hypotheses.

1. Do college freshmen revise just at the surface level? Or do they also revise at the lexical, phrase, clause, sentence, multisentence, and text levels? These questions correspond to the first hypothesis.

2. Do college freshmen revise just during the first juncture (at the end of the writing process)? Or do they also revise during the second juncture (intermittently throughout the writing process)? (Third-juncture revisions can occur either at the end or intermittently throughout the writing process.) Also, during the junctures that college freshmen do revise, which operations and levels are involved? These questions correspond to the second hypothesis.

3. Is degree of detachment in college freshmen positively correlated with the total number of revisions they make? In other words, is a high degree of detachment associated with a large number of revisions, and is a low degree of detachment associated with a small number of revisions? (Not examined was quality of revisions. According to Della-Piana, one of the recursive model theorists, researchers studying the writing process may largely ignore the "criterion problem," that of the lack of an agreed-upon definition of "good writing." Further, is degree of detachment in college freshmen positively correlated with the number of revisions they make in some categories but not in others? (Again, not examined was quality of revisions.) Three subgroups of questions are implicated here.

3a. Is degree of detachment positively correlated with the number of revisions made during the first juncture (while writing the first draft)? During the second juncture (after completing the first draft)? During the third juncture (while writing and after completing the second draft)?

3c. Is degree of detachment positively correlated with the number of delegations? Substitutions? Additions? Reorderings?

These questions correspond to the third hypothesis.

Because all three hypotheses have been confirmed by past researchers, at least in part, I had reason to expect that they would be confirmed by the present study.

Method

Subjects

The study reports on nineteen students, eleven male and eight female, who were enrolled in my first-semester Freshman Composition class at Iowa State University during the fall semester of 1981. There was no reason to suspect that the students in my section were different from those in other sections, since students were assigned to the various sections of Freshman Composition by computer. In addition to the nineteen, an additional five students participated in the study but were not included in the tabulation of the results: two foreign students, two students who reported at the conclusion of the study that they had not made an accurate record of their revisions, and one student who misplaced part of a draft needed for the counting and categorizing of revisions. Furthermore, one student chose not to participate in the study for an unspecified reason. It was hoped that conducting the study with a first-semester Freshman Composition class would greatly reduce the possibility that any differences among the students had been caused by their having
previously taken college or university English classes.

Quantifying "revision": materials and procedure

The students wrote eight papers during the semester, using three of the four conventional modes of discourse: description, narration, and exposition. They did not specifically use argument. For the third through the seventh papers, all of which were expository and focused on various patterns of development (process, definition, classification/division, and comparison/contrast, with classification/division being used twice), they used a procedure developed by the Russian experimental psychologist A. K. Markova. She calls it the "multicolored correction procedure" and describes it in The Teaching and Mastery of Language, originally published in 1974: while writing their first drafts, the students make all "corrections" (meaning "revisions") with a pencil or pen of one color; after completing their first drafts, they make all revisions with a pen of another color; and while writing and after completing their second drafts, they make all revisions with a pen of yet another color. Markova's procedure, then, has neither the expense nor the inconvenience of other procedures that have been used to study the writing process, such as videotaping students as they write. Each student need only purchase, or be provided with, four pens: three with which to make revisions and one with which to write the first draft and the second draft. And, because students can use the procedure wherever and at whatever time they are accustomed to doing their writing, it keeps at a minimum the interference that occurs when a researcher studies the writing process or any other phenomenon—termed the
"Uncertainty Principle." Furthermore, Markova's procedure is similar, but not identical, to one described by Bridwell in 1980 and Faigley and Witte in 1981. Theirs is simpler, since it involves only two pens, but may also be less accurate.

In explaining Markova's procedure to the students during class with the help of handouts, I called it the "multicolored pen procedure" rather than the "multicolored correction procedure," Markova's name for it, in order to avoid giving them the impression that they were to use it just to correct errors of grammar, punctuation, and spelling. The handouts detailed not only how they were to use the procedure, but also why, so as to foster positive attitudes on their part towards the procedure. As Markova points out, the teacher must ensure that the procedure does not "impair... spontaneity or create a negative attitude" on the students' parts. I introduced them to the procedure as follows:

As you know, writing is both a product and a process. Usually the product (an essay, a short story, a poem, a play, a novel) is given more attention than the process (jotting, free-writing, the writing of one or more rough drafts). There are many reasons for this, one of which is that the evidence of the writing process (the jottings, free-writings, one or more rough drafts) is usually crumpled up and thrown into a wastebasket once the product is completed.

One of my jobs as your teacher, though, is to understand your writing processes as well as to evaluate your writing products. I've found that once I do understand my students' writing processes, I am better able to make constructive suggestions on their papers and during conferences. Therefore, when you write your next paper, I want you to follow a procedure that will allow me to understand your writing process. I will call this procedure "the multicolored pen procedure."

Thus, rather than telling the students that their papers were to provide
data on revision for a study that I was conducting—for to do so might have invalidated my results—I emphasized the value that the procedure could have for them. Furthermore, I neither told them to revise, nor told them how to revise. The procedure itself was explained as follows:

1. Obtain four pens of different colors (black, green, red, and blue).

2. When you write your first draft, use the black pen. If you make any changes to the first draft while writing it, make them with the green pen.

3. If you make any changes to the first draft after completing it, make them with the red pen.

4. When you write your second draft, use the black pen. If you make any changes to the second draft while writing or after completing it, make them with the blue pen.

Thus, you will hand in two drafts of your paper that will contain a record of the changes, if any, that you made to your paper as you were writing it.

"Any changes" was defined as changes made to the material, organization, expression, and mechanics of their papers. The procedure was explained again later in a slightly different way:

1. All drafts are to be written in black ink.

2. All changes are to be made in either green, red, or blue ink.

3. Green is used for all changes made while you are still writing the first draft.

4. Red is used for all changes made after you have entirely completed the first draft.

5. Blue is used for all changes made while you are writing the second draft and after you have completed the second draft.
Later, in order to account for two types of students—those who feel uncomfortable turning in as the final draft a "messy-looking" second draft that has changes made to it, and those who write more than two drafts—I told the students that they had two options: that of recopying the second draft, and that of writing more than two drafts. No student exercised the first option and only one exercised the second. And finally, so that the students would be dissuaded from altering or falsifying their writing processes in order to "give the teacher what she wants"—for, in reality, I wanted nothing more than an accurate record of their writing processes—I made the following suggestion:

Since I won't be evaluating your paper in terms of the number or kinds of changes you made, don't alter your writing process while using the multicolored pen procedure. Simply write as you usually do. Remember, there are probably as many writing processes as their are writers.

After the students had practiced the procedure once while writing an out-of-class paper, we discussed the problems that they were having with it. The two most common were that they sometimes forgot to make changes with the appropriate pen, and sometimes were distracted by the necessity of picking up and setting down their pens. The most common complaint was that using the procedure made writing their papers more time-consuming. I was certain that these difficulties would resolve themselves with further practice of the procedure, since they were balanced by general reactions that were neutral to positive. After the students had practiced the procedure again while writing an out-of-class paper, I met with each student individually for a fifteen-minute conference,
during which we discussed, among other things, the procedure. By this time, they appeared to be using it correctly, but in order to make certain, I offered to demonstrate it during class on the blackboard with colored chalk. When they turned down my offer, I decided that they were ready to use it for the two papers that were to provide the data on revision needed for the study.

The two papers were a part of the regular work required for the class and together constituted one-fourth of the students' grades. According to researchers Sanders and Littlefield, that is an important consideration: "in many research projects," they point out, "students not only receive no credit . . .; frequently they receive no response to the essays at all. Surely the student cannot be expected to produce his best work on a paper which, from his point of view, simply disappears after he has written it, never to be heard from again." The first paper written was written in class, and the second was written outside of class, so as to obtain a sample of revisions made under the two conditions typical of college writing. For the writing of the in-class paper I allowed the students two class periods of seventy-five minutes each so that they would have sufficient time to use the procedure. Both papers were to be approximately five hundred words long, written for an audience of college students, and developed by classification. Furthermore, the topics for the papers were very similar. The in-class paper topic was this:

We like to think that we are consistent, that our behavior and language are pretty much the same regardless of where we are or whom we are with. But, in fact, both
our behavior and our language change as we naturally assume various roles. For example, "Jane Doe assumes all of the following roles in the course of her life: daughter of the stodgy Mr. Doe and the protective Mrs. Doe; sister of high-school dropout John Doe; girlfriend of the athletic Joe Blow; student of the School of Business Administration; waitress for the Hamburger Palace; and avid supporter of the Iowa State Cyclones.

For this assignment, you are to classify three or more roles that you assume—for example, daughter or son, brother or sister, student, girlfriend or boyfriend, employee, sports enthusiast, customer, lawbreaker, church-goer, political activist—as you interact with different people in different environments. Remember to use specific examples with which to support the general statements that you make about your roles.

The out-of-class paper topic was this:

Although no two people are exactly alike, almost every day we sort people out according to the features that they share and place them into categories and subcategories. For example, when we first meet John Doe, we may think of him only as "a young man." But after he tells us that he hunts, we may classify him as "a young hunter," and after he tells us that he hunts deer, as a "young deer hunter." If he then tells us that he hunts only for sport, we may classify him further as "a young deer hunter who kills for the fun of it." When we meet him again, the way we treat him may depend more on how we feel about people of the category that we have placed him into--Young-Deer-Hunters-Who-Kill-for-the-Fun-of-It--than on how we feel about him personally.

For this assignment, you are to classify people. You should choose a limited group of people about whom you know a great deal—for example, store clerks, doctors, mothers, drill sergeants, bosses, cab drivers, grocery shoppers, folk singers—and then classify the members of this group into three or more categories. Remember to use specific examples with which to support the general statements that you make about the people.

The topics for both papers, then, allowed the students considerable latitude. "Giving students a choice of a personal topic within the
controlled writing assignment," according to Bridwell, can be important.

About the in-class paper, which the students wrote before the out-of-class paper, I had two concerns. The first was that they have a chance to become committed to it by knowing the topic in advance. According to Bridwell, many researchers report that "student involvement with the writing assignment influences writing behaviors," and in her own study, allowing students "to engage in prewriting preparations seemed to increase engagement with the task." My second concern was that the students actually write the paper in class. These concerns were in conflict, however, for I have found that some students, if they know the topic for an in-class paper in advance, will, for various reasons, write the paper outside of class. To resolve that conflict, I gave the students both topics with the instruction that they were to make notes about them on two 5 x 7 cards. I also advised them of the following: that at the beginning of the first class period of the writing of the in-class paper, I would select the topic on which they were to write with the assistance of their notecards; that at the end of the first class period, I would collect their notecards and papers; and that at the beginning of the second class period of the writing of the in-class paper, I would return their notecards and papers. Furthermore, the students did not know until after they had written their in-class paper on the one topic that they would write their out-of-class paper on the other topic. These precautions, I thought, would encourage all of the students to become committed to the in-class paper, yet would discourage any one of them from
writing it outside of class. After the students had used the multicolored pen procedure for the two classification papers, they used it once more.

After the semester was over, I counted the revisions made to the classification papers and categorized each according to juncture, Bridwell's levels, and Sommers' operations, as well as juncture x level and juncture x operation. I combined two of Bridwell's levels, phrase and clause, and, like Bridwell herself, did not need another, text. 70

Revisions were categorized by juncture x level as follows: by determining the number of surface revisions made while writing the first draft; the number of surface revisions made after completing the first draft; the number of surface revisions made while writing and after completing the second draft; and so forth, determining the number of lexical, phrase and clause, sentence, multi-sentence, and text revisions made at each of the three junctures—a total of eighteen categories. Similarly, revisions were categorized by juncture x operation as follows: by determining the number of deletions made while writing the first draft; the number of deletions made after completing the first draft; the number of deletions made while writing and after completing the second draft; and so forth, determining the number of substitutions, additions, and reorderings made at each of the three junctures—a total of twelve categories.

For two reasons, it was not always an easy task to categorize the students' revisions. First, before beginning to categorize revisions, I needed to make certain judgments. For example, which of the four operations best describes spelling changes? Which best describes
sentence coordination and sentence de-coordination? Which best describes indentation and de-indentation? "Substitution" seemed to be the best answer to all three questions. Second, in the actual categorization of revisions, certain problems arose: revisions that were illegible, and revisions that could be categorized in more than one way. The most common example of the second problem was that it was not always possible to determine whether a student had performed a substitution, or performed a deletion followed by an addition. Given these problems, it seemed advisable to have a second rater also categorize the students' revisions. However, I did not do so for two reasons: first, my study is exploratory rather than definitive; and second, as Sanders and Littlefield point out, "ultimate proof" depends on validity rather than reliability—in other words, it is more important that the revisions are indicative of the students' writing behaviors than that they were categorized accurately. Yet, given the relatively objective nature of the categories, it is likely that if raters were given some practice categorizing students' revisions, high inter-rater reliability coefficients could be obtained.

Quantifying "detachment": materials and procedure

Needing to quantify the construct of "detachment," I had two options: that of designing my own instrument for measuring detachment, or that of locating a standardized instrument that includes such a scale. The limitations of the first option for all but experts in the field of testing led me to choose the second. Upon investigation, I discovered that the most widely used personality test that includes a "detachment"
scale is Raymond B. Cattell's paper-and-pencil Sixteen Personality Factor Questionnaire, known as the 16 PF. (See Appendix B for a list of the items in the 16 PF that measure psychological detachment.) Buros' Eighth Mental Measurements Yearbook lists over fifteen hundred references for the 16 PF, most of which are studies in which the 16 PF was used. Two of the five forms of the 16 PF--A and B--are designed for research with university students. Since Cattell emphasizes the importance of having each subject complete at least two forms for all important testing, including research, I had my students complete both A and B, using the most recent edition (1967-68 Edition R). I introduced them to the 16 PF approximately one week after they had written the two classification papers that provided the data on revision needed for the study. The handout that I gave them read as follows:

As I mentioned early this semester, I am interested in learning more about the factors which have an effect on the papers of college freshmen. Among these factors are personality factors.

I will be giving two personality questionnaires in class to those students who volunteer to complete them. The results of the questionnaires will not be tabulated until after the semester is over. Furthermore, the results will be confidential—that is, your name will not be used in any oral presentations or written documents.

The results of the questionnaires will be looked at in relation to your papers. Any references to or quotations from your papers, either in oral presentations or written documents, will be confidential—that is, your name will not be used.

If you volunteer to complete the questionnaires and want to have the results interpreted to you, contact me at the beginning of next semester.

The handout neither mentioned revision nor drew a connection between the
personality questionnaires and the multicolored pen procedure. Furthermore, no student asked whether there was such a connection. I gave the students the option of having the results interpreted to them in order to enlist their cooperation because the 16 PF, like all questionnaires, is vulnerable to deliberate distortion. However, according to Cattell, such distortion is rare in a research setting since the subjects "are volunteers and are certain of the confidentiality of results." I nevertheless emphasized the importance of being "frank and honest," which Cattell says is essential in fostering a "favorable test-taking attitude," and then administered Form A during one seventy-five minute class period and Form B during another. The "order in which the forms are used is unimportant," according to Cattell, "no order effects having been found." Although the forms are each intended to take approximately forty-five to sixty-minutes to complete, the 16 PF is untimed. Hence, I gave my students as much time as they needed. I hand-scored each questionnaire twice to ensure accuracy.

Background Information on the Instrument Used to Measure Detachment

According to Cattell, the 16 PF measures the most significant personality factors that occur in normal individuals. These factors have been distilled from the "total personality sphere," the only practicable source for which, Cattell argues, is language, for "if there is no name for something it is difficult to say that it exists." English contains some three or four thousand words that describe personality or
behavior related to personality. These words constitute the "language personality sphere," which Cattell reduced to manageable proportions in several steps: first by eliminating synonyms, which resulted in 171 trait elements; then by determining that there were clusters of correlations among the 171 trait elements, which resulted in 36 surface traits; then by adding 10 other surface traits, which resulted in the "standard reduced personality sphere" of 46 total surface traits. Using a statistical procedure known as "factor analysis," Cattell then determined that there are some twenty source traits, the sixteen most significant of which he included in the 16 PF. In his work on the 16 PF, Cattell relied on three sources of data: life record data (L-data), gathered from observations or ratings of everyday behavior; questionnaire or self-evaluative data (Q-data), gathered from introspective replies; and objective test data (T-data), gathered from behavioral responses.  

Each of the factors that the 16 PF is designed to measure is identified with a letter, descriptive terms, and, for psychologists, technical terms. The sixteen factors are A (reserved vs. warmhearted); B (less intelligent vs. more intelligent)—actually an ability rather than a personality factor; C (affected by feelings vs. emotionally stable); E (humble vs. assertive); F (sober vs. happy-go-lucky); G (expedient vs. conscientious); H (shy vs. venturesome); I (tough-minded vs. tender-minded); L (trusting vs. suspicious); M (practical vs. imaginative); N (forthright vs. shrewd); O (unperturbed vs. apprehensive); Q₁ (conservative vs. experimenting); Q₂ (group-oriented vs. 

self-sufficient); Q3 (undiisdined self-conflict vs. controlled); and
Q4 (relaxed vs. tense). Four factors, D, J, K, and P, are not included
in the 16 PF because Cattell found them in L-Data but not in Q-Data;
likewise, the 16 PF includes four Q factors because Cattell found them
in Q-Data but not in L-Data. More recently, however, Cattell has com-
pleted a supplement to the 16 PF that includes D, J, K, and P, as well
as three additional Q factors. Factor A is the one of interest in
the present study.

The order of the factors measured by the 16 PF is based on "evidence
of diminishing contribution to behavioral variance." In other words,
A is the most significant of the sixteen factors, and Q4 is the least
significant. Furthermore, Factor A is one of the most reliable and
valid of the sixteen factors. In other words, there is a high corre1a-
tion between test-retest scores over both short and long intervals, and
the items are good measures of the personality factor "reserved vs. warm-
hearted." Factor A is also one of the six of the sixteen factors that
Cattell has found in children and adolescents as well as adults, and
includes in all five versions of the 16 PF: the adult 16 PF Question-
aire; the High School Personality Questionnaire (HSPQ) for twelve- to
fifteen-year-olds; the Child's Personality Questionnaire (CPQ) for eight-
to twelve-year-olds; the Early School Personality Quiz (ESPQ) for six- to
eight-year-olds; and the Preschool Personality Quiz (PSPQ) for four- to
six-year-olds.

The descriptive terms for those who score low on Factor A (those
who are A-) are "reserved, detached, critical, cool, impersonal"; the
technical term is "sizothymia." The descriptive terms for those who
score high on Factor A (those who are A+) are "warmhearted, outgoing, easygoing, participating"; the technical term is "affectothymia." In the following comparison of A- and A+ individuals, the kinds of behaviors that are more strongly characteristic of them are given first, and the kinds less strongly characteristic are given last: critical vs. good natured, easygoing; stands by his own ideas vs. ready to cooperate, likes to participate; cool, aloof vs. attentive to people; precise, objective vs. softhearted, casual; distrustful, skeptical vs. trustful; rigid vs. adaptable, careless, "goes along"; cold vs. warmhearted; prone to sulk vs. laughs readily.  

Although A- is negatively loaded and A+ is positively loaded, Cattell points out that to equate A- with maladjustment and A+ with adjustment is to make an interpretation that is both "naive" and "value-confused." For according to Cattell, in the "total effectiveness of society, A- individuals serve as upholders of principles, cantankerous opposers of expediency . . . , debunkers of social pretentiousness, and bulwarks against fashions and bluffs." Cattell goes on to say that A- individuals are as highly esteemed in other countries as they are suspect in our own. But even in ours, A- and A+ are associated with success in an equal number of occupations. According to Cattell's profiles of seventy-three occupations, those who score highest on Factor A tend to be successful at dealing with people; they are social workers (mean score of 8.0), followed by business executives (7.8), travelling salesmen (also 7.8), sales managers (7.2), employment counselors (7.1), Roman Catholic Brothers (7.0), school counselors (6.9), and supermarket managers
(also 6.9). On the other hand, those who score lowest on Factor A tend to be successful at dealing with things, ideas, or words, and are often creative; they are physicists (2.8), followed by artists (3.1), aircraft engineering apprentices (3.4), biologists (also 3.4), research scientists (also 3.4), student artists (3.7), junior high teachers (also 3.7), British artists (4.1), and writers (also 4.1). The eighty-nine writers whom Cattell studied—thirty-one general writers and fifty-eight science fiction writers—had published extensively and their books had sold well. It is extremely interesting that professional writers, who are often said to revise their work extensively, scored low on Factor A; for one of the hypotheses of the present study is that college freshmen who score low on Factor A make more revisions than those who score high on Factor A.

Like all personality tests constructed by factor analysis, the 16 PF is designed to measure personality traits rather than states. Basically, a trait is a "characteristic of a person by means of which he can be distinguished from another; that about a person which is consistently manifested, despite variation within a considerable range of circumstances." In other words, "trait" refers to "inter-individual differences at any one time," as opposed to "state," which refers to "intra-individual change" over time.

Results

The in-class revision data and the out-of-class revision data were combined to form a sample of revisions made under the two conditions
typical of college writing. Likewise, the scores on Form A and Form B of the 16 PF were combined to form one detachment measure. Using SPSS, the statistics used to test the three hypotheses were all done by computer.

The research questions corresponding with the first hypothesis, that revision is not just the detection and correction of errors, were answered by computing means and standard deviations for the revisions categorized by level (see Table 1). Revisions were made at all five levels. The level with the greatest mean number of revisions was lexical, followed by surface, phrase/clause, sentence, and multisentence. To determine whether the differences between the means were significant, I performed two-tailed t-tests (degrees of freedom = 18). All were significant except the ones involving surface and lexical ($t = -1.09$, $p = 0.290$) and surface and phrase/clause ($t = 1.41$, $p = 0.177$). Thus, there were not significant differences between the mean number of surface revisions and lexical revisions, and between the mean number of surface revisions and phrase/clause revisions. The significant differences were these: surface and sentence, $t = 7.30$, $p = 0.000$; surface and multisentence, $t = 10.62$, $p = 0.000$; lexical and phrase/clause, $t = 2.84$, $p = 0.011$; lexical and sentence, $t = 8.38$, $p = 0.000$; lexical and multisentence, $t = 10.37$, $p = 0.000$; phrase/clause and sentence, $t = 7.80$, $p = 0.000$; phrase/clause and multisentence, $t = 7.52$, $p = 0.000$; and sentence and multisentence, $t = 2.57$, $p = 0.019$.

The research questions corresponding with the second hypothesis, that revision occurs intermittently throughout the writing process, were answered by computing means and standard deviations for the
revisions categorized by juncture (see Table 1). Approximately the same mean number of revisions was made during each of the three junctures. To determine whether the differences between the means were significant, I performed two-tailed t-tests (degrees of freedom = 18). The differences were not significant: for the first juncture and second juncture means, $t = 0.27$, $p = 0.793$; for the first juncture and third juncture means, $t = 0.07$, $p = 0.948$; and for the second juncture and third juncture means, $t = -0.23$, $p = 0.817$.

Means and standard deviations were also computed for the revisions categorized by operation (see Table 1). Revisions were made with all four operations. The operation with the greatest mean number of revisions was substitution, followed by addition, deletion, and reordering. To determine whether the differences between the means were significant, I performed two-tailed t-tests (degrees of freedom = 18). All were significant except the one involving deletion and addition ($t = -1.59$, $p = 0.129$). Thus, there was not a significant difference between the mean number of deletions and additions. The significant differences were these: deletion and substitution, $t = -7.25$, $p = 0.000$; deletion and reordering, $t = 6.85$, $p = 0.000$; substitution and addition, $t = 4.17$, $p = 0.001$; substitution and reordering, $t = 12.02$, $p = 0.000$; and addition and reordering, $t = 7.05$, $p = 0.000$.

Finally, means and standard deviations were also computed for the revisions categorized by juncture x level and juncture x operation (see Table 2). A perusal of Table 2 reveals certain trends. Three involve juncture x level: the greatest number of lexical revisions was made
during the first juncture; the greatest number of sentence revisions was made during the second juncture; and the greatest number of surface revisions was made during the third juncture. To determine whether the differences between the mean number of revisions across junctures at each of the five levels were significant—that is, first-juncture surface and second-juncture surface, first-juncture surface and third-juncture surface, second-juncture surface and third-juncture surface, and so forth with the remaining four levels—I performed two-tailed \( t \)-tests (degrees of freedom = 18). Two were significant: the one involving first-juncture surface revisions and third-juncture surface revisions, \( t = -2.83, p = 0.011 \); and the one involving second-juncture surface revisions and third-juncture surface revisions, \( t = -2.21, p = 0.040 \). Thus, significantly more surface revisions were made during the third juncture than during the first juncture and during the second juncture. Two trends involve juncture x operation: the number of deletions decreased from the first juncture to the second and from the second to the third, whereas the number of additions increased from the first juncture to the second and from the second to the third. To determine whether the differences between the mean number of revisions across junctures with each of the four operations were significant—that is, first-juncture deletions and second-juncture deletions, first-juncture deletions and third-juncture deletions, second-juncture deletions and third-juncture deletions, and so forth with the remaining three operations—I performed two-tailed \( t \)-tests (degrees of freedom = 18). Two were significant: the one involving first-juncture deletions and third-juncture deletions,
\( t = 2.20, p = 0.041 \); and the one involving first-juncture additions and third-juncture additions, \( t = -2.36, p = 0.030 \). Thus, significantly more deletions were performed during the first juncture than during the third juncture, and significantly more additions were performed during the third juncture than during the first juncture. That there was much individual variation in the number of revisions made during the three junctures, at the five levels, with the four operations, and in the twenty-seven categories generated by juncture \( x \) level and juncture \( x \) operation is indicated by the generally large standard deviations.

The research questions corresponding with the third hypothesis, that detachment is a concomitant of revision, were answered by computing Pearson product moment correlation coefficients between the detachment scores and the percent total number of revisions, as well as the percent total number of revisions in the following categories: first juncture, second juncture, third juncture; surface, lexical, phrase/clause, sentence, multisentence; deletion, substitution, addition, reordering. Percent total number of revisions was computed by dividing the total number of revisions made by the total number of words written, and was used rather than total number of revisions in order to hold constant the number of words written by each student. I predicted positive conceptual correlations—in other words, predicted that a high degree of detachment would be associated with a large number of revisions, and a low degree with a small number—and at the same time predicted negative empirical correlations because of the way that the 16 PF is coded: a high score on the detachment scale of the 16 PF corresponds to a low degree of detachment,
Table 1

Means and standard deviations for revisions categorized by juncture, level, and operation

<table>
<thead>
<tr>
<th>Juncture</th>
<th>Revisions</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>59.21</td>
<td>36.40</td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td>55.63</td>
<td>43.85</td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td>58.47</td>
<td>38.26</td>
</tr>
<tr>
<td>Surface</td>
<td></td>
<td>55.00</td>
<td>22.32</td>
</tr>
<tr>
<td>Lexical</td>
<td></td>
<td>58.95</td>
<td>26.64</td>
</tr>
<tr>
<td>Phrase/Clause</td>
<td></td>
<td>45.68</td>
<td>26.30</td>
</tr>
<tr>
<td>Sentence</td>
<td></td>
<td>12.00</td>
<td>18.44</td>
</tr>
<tr>
<td>Multi-sentence</td>
<td></td>
<td>1.74</td>
<td>2.21</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Operation</th>
<th>Revisions</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deletion</td>
<td></td>
<td>43.47</td>
<td>25.74</td>
</tr>
<tr>
<td>Substitution</td>
<td></td>
<td>74.37</td>
<td>26.38</td>
</tr>
<tr>
<td>Addition</td>
<td></td>
<td>49.89</td>
<td>29.12</td>
</tr>
<tr>
<td>Reordering</td>
<td></td>
<td>5.58</td>
<td>3.08</td>
</tr>
</tbody>
</table>

<sup>a</sup> While writing the first draft.
<sup>b</sup> After writing the first draft.
<sup>c</sup> While writing and after completing the second draft.
Table 2
Means and standard deviations for revisions categorized by juncture x level and juncture x operation

<table>
<thead>
<tr>
<th>Juncture</th>
<th>Revisions</th>
<th>Operation</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>reorder</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td></td>
<td>addition</td>
<td></td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>substitution</td>
<td></td>
</tr>
<tr>
<td>c</td>
<td></td>
<td>deletion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>multi-sentence</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>sentence</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>phrase/clause</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>lexical</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>surface</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1a</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2b</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3c</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>While writing the first draft.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>After writing the first draft.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>While writing and after completing the second draft.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Revisions</th>
<th>Juncture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>x = 14.53 s = 9.55</td>
</tr>
<tr>
<td>2b</td>
<td>x = 25.79 s = 15.95</td>
</tr>
<tr>
<td>3c</td>
<td>x = 16.00 s = 10.00</td>
</tr>
</tbody>
</table>
Table 3

Correlations between detachment scores and percent total number of revisions categorized by juncture, level, and operation

<table>
<thead>
<tr>
<th>Juncture</th>
<th>Percent Total Number of Revisions</th>
<th>Detachment Scores&lt;sup&gt;d&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td>( r = -0.17 )</td>
</tr>
<tr>
<td>2&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td>( r = -0.50^* )</td>
</tr>
<tr>
<td>3&lt;sup&gt;c&lt;/sup&gt;</td>
<td></td>
<td>( r = -0.18 )</td>
</tr>
<tr>
<td>surface</td>
<td></td>
<td>( r = -0.37 )</td>
</tr>
<tr>
<td>lexical</td>
<td></td>
<td>( r = -0.43^* )</td>
</tr>
<tr>
<td>phrase/clause</td>
<td></td>
<td>( r = -0.36 )</td>
</tr>
<tr>
<td>sentence</td>
<td></td>
<td>( r = -0.35 )</td>
</tr>
<tr>
<td>multisentence</td>
<td></td>
<td>( r = +0.19 )</td>
</tr>
<tr>
<td>deletion</td>
<td></td>
<td>( r = -0.46^* )</td>
</tr>
<tr>
<td>substitution</td>
<td></td>
<td>( r = -0.36 )</td>
</tr>
<tr>
<td>addition</td>
<td></td>
<td>( r = -0.46^* )</td>
</tr>
<tr>
<td>reordering</td>
<td></td>
<td>( r = -0.20 )</td>
</tr>
</tbody>
</table>

<sup>a</sup> While writing the first draft.
<sup>b</sup> After writing the first draft.
<sup>c</sup> While writing and after completing the second draft.
<sup>d</sup> A high detachment score corresponds to a low degree of detachment.

* \( P < .05 \).
and a low score corresponds to a high degree. One-tailed tests were used to assess the significance of the correlation coefficients. All of the significant correlations were in the predicted direction. The correlation between the detachment scores and the percent total number of revisions was -0.47, which was significant, $p = 0.022$. The remainder of the correlations are listed in Table 3. Four of them were significant at the .05 level: detachment scores and percent total number of second-juncture revisions, detachment scores and percent total number of lexical revisions, detachment scores and percent total number of deletions, and detachment scores and percent total number of additions. The only correlation not in the predicted direction was the one between detachment scores and percent total number of multisentence revisions, and it was not significant.

Another purpose of my study was to test Markova's multicolored pen procedure. I had my students complete an evaluation form about the procedure at the end of the semester. Of the nineteen students who were included in the tabulation of the results, fifteen, or 79%, indicated that the procedure was easy to understand and to use, and four, or 21%, indicated that it was difficult. Those four also reported that, as far as they knew, they had used the procedure correctly. Likewise, 79% recommended that I ask future Freshman Composition classes to use the procedure, and 21% recommended that I not do so. When the students rated the value of the procedure for a composition course on a scale of one to ten, one being low and ten being high, 6.4 was the mean rating. The comment that the students made most consistently was that
the procedure was a valuable one, but that it should not be required for as many as five formal papers, as it was in their class: "I feel that the procedure could be used, but for maybe only two or three papers"; "You should make it mandatory on two or three papers and optional but strongly encouraged on the others"; "I feel that the pen procedure was good to use for two or three papers"; "Not on so many assignments. Maybe two or three"; "In fewer papers, say, two papers."

Incidentally, the two students who were not included in the tabulation of results because they reported that they had used the multicolored pen procedure incorrectly also indicated that it was easy for them to understand and to use.

Discussion

I conducted the study of college freshmen--specifically, college freshmen enrolled in first-semester composition at a large Midwestern university--to examine three hypotheses: (1) that revision is more than just the detection and correction of errors; (2) that revision occurs intermittently throughout the writing process; and (3) that detachment is a concomitant of revision. The data support the first hypothesis. Although the number of surface revisions was large, the number of lexical, phrase/clause, sentence, and multisentence revisions combined was more than twice the number of surface revisions. Thus, like all of the past researchers who examined the issue, I found that revision was not just the detection and correction of errors. The data also support the second hypothesis. Revision occurred during each of the three junctures: while writing the first draft; after completing the first
draft; and while writing and after completing the second draft. Thus, like all past researchers who examined the issue but Mischel, I found that the recursive model rather than the linear model described the writing process. Furthermore, revision did not only occur during each of the three junctures, but also occurred with almost the same frequency. That is, there were no significant differences in the number of revisions made during the three junctures. My students, then, were somewhat unlike Bridwell's, who made over half of their revisions at Stage C (in-process second draft).90

There were, however, some significant differences in the number of revisions made at the five levels, with the four operations, and in the twenty-seven categories generated by juncture x level and juncture x operation. It is useful to ask what some of the significant differences suggest. Specifically, what is suggested by the fact that the students made the greatest number of surface revisions during the third juncture? By the fact that they made more revisions at the lexical level than at the phrase/clause, sentence, and multisentence levels? By the fact that they made many more substitutions than reorderings? And finally, by the fact that they performed more additions at the end than at the beginning of the writing process, and more deletions at the beginning than at the end? Speculation leads to various answers.

At least three answers appear reasonable for the question about third-juncture surface revisions. First, perhaps the students themselves were not much concerned with such matters as spelling, punctuation, and
grammar, but, believing that I would be, attempted to correct their errors shortly before their papers were due. Second, perhaps their teachers have taught them to associate surface concerns with proofreading, an activity that generally occurs at the end of the writing process. And third, perhaps the demands on their attention were so great while writing and after completing the first draft that either consciously or unconsciously they relegated surface concerns to the second draft. I support all three answers, but particularly the first, since the policy of the department in which I taught was that "a paper containing more than one major error for every hundred words does not meet the minimum requirement for correctness." That policy caused students to engage in error detection and correction in anticipation of having their papers evaluated.

The question about lexical revisions is one which has been examined by Sommers, a researcher and recursive model theorist, who similarly found that the college students in her case study made most of their revisions at the "word" level. Their definitions of "revision," a term which the students did not use, preferring instead such functional terms as "scratch out and do over again," "marking out," and "reviewing," attest to the emphasis that they placed on rewording: "I read what I have written and I cross out a word and put another word in; a more decent word or a better word"; "The changes that I make are usually just marking out words and putting different ones in"; "Reviewing means just using better words and eliminating words that are not needed. I go over and change words around"; "I just review every word and make
sure everything is worded right. I see if I am rambling; I see if I can put a better word in or leave one out. Usually when I read what I have written, I say to myself, 'that word is so bland or so trite,' and then I go and get my thesaurus." Sommers explains that the students understood revision to be a rewording activity because they perceived words "as the unit of written discourse." And she suggests that composition teachers are at least partly to blame for the understanding that students have of revision: "it is not that students are unwilling to revise, but rather that they do what they have been taught to do in a consistently narrow and predictable way. On every occasion when I asked students why they hadn't made any more changes, they essentially replied, 'I knew something larger was wrong, but I didn't think it would help to move words around.'" Importantly, Stallard and Bridwell reach conclusions that are identical to Sommers': for Stallard's students, "the major emphasis during revision was on word choice"; and for Bridwell's, "the word level proved to be the most frequently occurring kind of revision."92

The remaining two questions are both about the operations. The fact that there was an unequal number of revisions performed with the four operations suggests that the operations may vary in complexity: substitution may be the least complex and reordering the most. Furthermore, deletion and addition may be about equal in complexity, since there was about the same number of revisions made with these operations. The fact that the number of deletions was greatest at the beginning of the writing process and the number of additions was greatest at the
end suggests that the students did not follow the suggestion of many composition teachers: that of, in Peter Elbow’s words, first writing "freely and uncritically so that you can generate as many words and ideas as possible without worrying whether they are good"; and then "taking what's good and discarding what isn't and shaping what's left into something strong." 93

Finally, the data partially support the third hypothesis. Psychological detachment was associated with revision, and more strongly with some categories of revision than with others. Detachment was more strongly associated with the making of lexical revisions than the making of surface, phrase/clause, sentence, and multisentence revisions; detachment was more strongly associated with deletions and additions than substitutions and reorderings; and finally, detachment was more strongly associated with second-juncture revisions than first-juncture and third-juncture revisions. Associations between degree of psychological detachment and number of revisions in certain categories—lexical, deletion, addition, and second-juncture—are simply that: associations or correlations between two measures that reached what happens to be a commonly accepted level of statistical significance. They do not prove that a causal relationship exists between detachment and revision.94

Why detachment would be associated with the making of revisions at one of the levels—lexical—but not at the other three can perhaps be explained by noting that when writers are said to be detached from their work, the implication is that they are able to make disinterested,
as opposed to uninterested, conscious decisions concerning the alternatives involved in revision. If my students were like Sommers', they were more conscious of the words they chose than of anything else—except, perhaps, than of grammar, punctuation and spelling, since the number of surface revisions and the number of lexical revisions did not differ significantly. Why detachment would be associated with the making of deletions and additions but not substitutions and reorderings is less clear. Perhaps the decisions that my students made when performing deletions and additions were, for some reason, more disinterested and conscious than those they made when performing substitutions and reorderings. The finding that detachment was associated with second-juncture revisions—those made after completing the first draft—is potentially the most interesting one of the entire study. For revision was separated from writing by time during the second juncture, and the advice given by composition teachers is to achieve detachment by allowing time to intervene between revision and writing. However, since the instrument that I used to measure "detachment" is based on trait theory, my study did not examine the advice given by composition teachers. For if students can achieve detachment with time, it must be something that varies within, rather than across, individuals. In other words, it must be a state rather than a trait.

The question of whether detachment, or any other noncognitive dimension of personality, is a trait or a state or both, is one which personality theorists have debated for years. Furthermore, the answer would have implications for the teaching of composition. If detachment
is a trait—the position that Cattell takes—the suggestion is that a person cannot learn to achieve it. Rather, to a greater or lesser degree, one has the trait or does not. Using Cattell's terms, one is a schizothyme or a cyclothyme, and further, can do little to change, since, according to Cattell, "there is a substantial hereditary determination" to the trait. If Cattell is right, the implications for teaching are gloomy: teachers must simply accept the fact that some students have more, and others less, of the trait of detachment that my study indicated is associated with revision, particularly certain categories of revision. Those who have more of the trait will be able to make a greater number of revisions than those who have less. Compared with Cattell, other prominent personality theorists are not so narrowly deterministic. Walter Mischel, for example, argues in an article entitled "Continuity and Change in Personality" that although continuity—which is what Cattell stresses—"does exist in personality development," change is at least of equal importance. Change can occur within a given person both longitudinally over time, and, "even more dramatically," cross-sectionally as a result of the interaction of that person with the environment. Mischel's position provides more than a ray of hope for composition teachers. It suggests that although some students have a general tendency to be more detached than others, as my study indicated, certain environmental conditions may allow students to alter their general tendencies. Specifically, for example, I found that students who had a tendency to be more detached made a greater number of revisions to their completed first drafts during the second
juncture than students who had a tendency to be less detached. Perhaps students can best exploit their general tendency for detachment, whatever it may be, by doing what the composition teachers advise: allowing time to intervene between writing the first draft and revising it. Of course, it is possible that students vary in their susceptibility to the environmental condition of time, or even that time is irrelevant and something else is needed to facilitate detachment. Clearly, the question "What is the nature of detachment—is it a trait or a state or both?" has implications for the teaching of composition, and therefore must be studied carefully.

In summary, the present study was the first to assess, and to assess objectively, the relationship between degree of psychological detachment and number of revisions categorized by juncture, level, and operation. Detachment was most strongly associated with revisions in four categories: lexical, deletion, addition, and second juncture. Furthermore, the study verified two findings of many past researchers: that revision is more than just the detection and correction of errors, and that revision occurs intermittently throughout the writing process. Specifically, the students made the greatest number of revisions at the lexical level, followed by the surface, phrase/clause, sentence, and multi-sentence levels; and they made approximately the same number of revisions during each of the three junctures. Other findings involved the number of revisions made with the four operations and in the twenty-seven categories generated by juncture x level and juncture x operation. Markova's "multicolored correction procedure," which the students used
to make a record of their revisions, proved satisfactory, although some of the students evidently became antipathetic towards it after using it two or three times. The study was limited to a small number of college freshmen who wrote only in the expository mode. However, unlike students in most other studies, they wrote outside of class as well as in class. Finally, although every attempt was made to categorize the students' revisions carefully, only one rater was employed.

Many possibilities exist for future research into the topic of psychological detachment and revision. Improvements on my study and expansions of it might include the following: categorizing revisions by level x operation and by level x operation x juncture; dividing the third juncture into two, revisions made while writing the second draft and revisions made after completing the second draft; examining the relationship between detachment and quality of revisions; examining the relationship between detachment and revision using as subjects individuals of various ages and writing abilities; examining the relationship between detachment and the revision of descriptive essays, narrative essays, fiction, and poetry; and examining the issue of whether detachment is associated in some way with the reading that occurs during revision. But most importantly, any researcher who studies the topic of psychological detachment and revision must first decide what position to take on the question of continuity and change in personality.
"Cumulative" rather than "revolutionary" is the adjective to use in describing this thesis. In it, I reviewed nine theories and sixteen studies, as well as approximately fifty pedagogical sources, to establish the rationale for three hypotheses about revision: that revision occurs intermittently throughout the composing process, that revision is more than just the detection and correction of errors, and that psychological detachment is a concomitant of revision. Then I reported on a study of college freshmen that I conducted to test those hypotheses. The first two hypotheses, which have been confirmed by many past studies, were likewise confirmed by mine. The hypothesis about psychological detachment is one which, until my study, had never been tested objectively. It was partially confirmed by mine: significant positive correlations between degree of psychological detachment and revisions in four categories were obtained. Psychological detachment is one of the few dimensions of personality that has been examined at all by researchers studying the composing process. Yet I believe with Janet Emig that the question "What psychological factors affect or accompany portions of the writing process?" is both "major and interesting." This thesis, which comes twelve years after Emig posed her question, is one of the first major attempts to answer it.
In the research and writing of this thesis, I was most fortunate to be able to work with Dr. Barry M. Kroll, whose assistance with the study of psychological detachment and advice concerning several chapters of the manuscript were invaluable. In addition, Dr. Richard J. Zbaracki, Dr. Will C. Jumper, and Dr. Motoko Y. Lee read the entire manuscript and made many suggestions for its improvement. Also helpful was Dr. Gary D. Phye, who directed my attention to the Sixteen Personality Factor Questionnaire. My typist, Sheryl Kamps, was indispensable. Several Iowa State University organizations were essential to my conducting the study on psychological detachment: the Human Subjects Committee, which granted approval for the study on 16 October 1981; the Student Counseling Service, which ordered the questionnaires and related materials for me; and the Graduate College, which awarded me several research minigrants. For the unpublished manuscripts on revision that I received, I am indebted to the University of Georgia, the University of New Hampshire, the University of California at Riverside, and Stanford University. I am particularly grateful to Dr. Frank E. Haggard, Chairman of the Department of English, for his continuing support of me as a Teaching Assistant. Finally, special thanks go to Dr. Robert N. Burrows and Dr. I-Ning Huang, both of the University of Wisconsin-Whitewater, and to Dr. Russell J. Canute.
NOTES


6 The term "linear model," as well as the term "recursive model" (which is introduced two paragraphs later), is not used here in the statistical sense.


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19 Nold, "Revising," p. 2; Emig, The Composing Processes, pp. 34-
35; Somers, "Revision Strategies," p. 380; Della-Piana, p. 108; Perl,
"Understanding," p. 364; Tomlinson, p. 6; and Bridwell, p. 220.

20 Somers, "Revision Strategies," p. 379; Emig, "Writing as a

21 Della-Piana, p. 108; Nold, "The Process," p. 54; and Tomlinson,
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23 Perl, "Understanding," pp. 368-69; Emig, The Composing Processes,
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39 Donald H. Graves, "Research Doesn't Have to Be Boring," 
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Donald H. Graves, "An Examination of the Writing Processes of Seven 
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Language Arts, 56, No. 3 (March 1979), 312, 313, 314-16, 318-19; 
Lucy McCormick Calkins, "Andrea Learns to Make Writing Hard," Language 
Arts, 56, No. 5 (May 1979), 570-74; Lucy McCormick Calkins, "Case 
Study of a Nine Year Old Writer," unpublished manuscript, 1979 (avail-
able from Writing Process Lab, Morrill Hall, Univ. of New Hampshire, 
Durham, New Hampshire), pp. 5-9, 12, 17; Calkins, "Learning," p. 747; 
Sowers, p. 835; Barbara Kamler, "One Child, One Teacher, One Classroom: 
The Story of One Piece of Writing," Language Arts, 57, No. 6 (Sept. 

41 Sowers, pp. 831, 834; Calkins, "Andrea Learns," pp. 570-71, 
572-73, 574, 575; Calkins, "Case Study," p. 8; Graves, "What Children 

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43 Emig, The Composing Processes, pp. 29-30; and Terry Mischel, 
"A Case Study of a Twelfth-Grade Writer," Research in the Teaching of 
English, 8, No. 3 (Winter 1974), 303-04.

44 Emig, The Composing Processes, pp. 3-4, 35, 43, 68, 73, 88, 
91, 93, 99; and Mischel, pp. 310, 313.

45 Emig, The Composing Processes, pp. 40, 56-59, 61-62, 67; and 


54 National Assessment, pp. 9-11, 13, 22-23, 27.

56 Beach, "Self-Evaluation Strategies," pp. 161-64; Beach, "Effects," pp. 116-17; Liner, pp. 21, 23, 31; Stallard, pp. 210-14; 216-17; and Bridwell, pp. 207-08, 210-12, 217-18.

57 Beach, "Effects," pp. 111-13; Liner, pp. 21, 34, 37; Bridwell, pp. 205, 207-08, 212; and Stallard, pp. 210-11, 215-18.


60 Buxton, p. 94; Pianko, "Description," p. 13; Clifford, pp. 40, 50; and Hansen, pp. 958-60.

61 Pianko, "Description," pp. 7-8, 12-14, 16, 20-21; and Pianko, "Reflection," pp. 276-78.


63 Della-Piana, pp. 112-13.


66 Markova, p. 154.


70 Sommers, "Revision Strategies," p. 380; and Bridwell, pp. 203-04.

71 Sanders and Littlefield, p. 147.


76 IPAT Staff, p. 14.

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81 Cattell and Kline, pp. 46-48.

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85 Cattell, Eber, and Tatsuoka, p. 80.


87 Cattell and Butcher, p. 59; Cattell, Eber, and Tatsuoka, pp. 81, 175-81, 225-26, 239-43.


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Haley-James, Shirley M. "Revising Writing in the Upper Grades." Language Arts, 58, No. 5 (May 1981), 562-66.


Thompson, George J. "Revision: Nine Ways to Achieve a Disinterested Perspective." *College Composition and Communication*, 29, No. 2 (May 1978), 200-02.


APPENDIX A. ANNOTATED BIBLIOGRAPHY OF ARTICLES ON THE TEACHING OF REVISION

Balaban, John. "South of Pompeii the Helmsman Balked." College English, 39, No. 4 (Dec. 1977), 437-41. Argues that there are two reasons that students fail to revise their poems: their feeling that to change "sincere and passionate creations" is "fake, cold-blooded, and hypocritical," and their "touchiness . . . in response to criticism." Describes five arbitrary revision exercises that, for the very reason that they are arbitrary, circumvent "the arguments against false emotion . . . [and] vanity," and therefore can help students learn to revise their poetry.

Bernstein, Abraham. "Revision--A Dual Process." The Clearing House, 53, No. 9 (May 1980), 424-27. Discusses, with an emphasis upon error detection and correction, eight teaching methods by which the pressure of the dual process of revision--"students writing, teachers correcting"--can be reduced. The methods are designed for middle school, junior high school, and senior high school students.

Beyer, Barry K. "Pre-writing and Rewriting to Learn." Social Education, 43, No. 3 (March 1979), 187-89, 197. Contends that students are inadequate writers because they neither prewrite nor rewrite. Rewriting consists of three operations: evaluation (either self-evaluation, done by means of checklists, or peer evaluation); revision to improve content; and editing to "repair . . . errors in sentence structure, word usage, punctation and spelling." Of the three operations, evaluation and revision "are by far the most important." Supports the linear model: "students must evaluate and revise their writing after it has been drafted." 

Birdsall, Eric R. "Avoiding Whadjaget With No-Grade, Graded Papers." College Composition and Communication, 30, No. 2 (May 1979), 220-22. Describes a paper evaluation method that functions to encourage students to revise their papers. The teacher records paper grades in the grade-book, but not on the papers themselves. Each student receives an evaluation that consists of a check sheet and additional commentary. Each then has two options: to ask what grade the paper has received, or to revise the paper and submit it for new evaluation. There is no limit to the number of times that the students can revise their papers. The students' paper grades are averaged to determine their final grades.
Boiarsky, Carolyn. "Cut-and-Paste and other Revision Activities."  
English Journal, 69, No. 8 (Nov. 1980), 44-48. Argues that revision encompasses ten activities in addition to "the minor activity of proofreading": altering form, reorganizing material, creating transitions, deleting material, expanding information, emphasizing ideas, subordinating ideas, creating immediacy, improving syntactic structures, and improving language use. Defines these revision activities and matches them with eleven specific writing problems. Says that these activities occur after a writer has completed a draft, and thus supports the linear model.

Brand, Alice Glarden. "The Hodgepodge, Cut-and-Staple Style of Revising."  
English Journal, 70, No. 5 (Sept. 1981), 33-35. Says that revising by cutting and stapling has a number of advantages. For example, it decreases "the drudgery of recopying," permits "the order of the material to evolve naturally," and, most importantly, "promotes a recurring process." Thoroughly explains how to teach students to use this technique.

Copeland, Ann. "The Pleasures of Revision."  
English Journal, 69, No. 7 (Oct. 1980), 79-81. Describes a fiction-writing course in which the teacher tried to help her students learn that although the words on the page are immutable for readers, they are not for writers. The teacher continued doing her own writing while she was teaching and casually talked about that writing with her students, showing them, for example, "the kinds of revisions" she was considering. She recorded her evolving responses to their stories on 9 x 7 cards and was available for half-hour conferences. At the beginning of the term, she made "no comments on spelling, grammar, punctuation." Later she spent one class period reviewing the most common grammatical errors.

Craven, Gerald A. "Reworking the Foul Copy: An Exercise in Revision."  
The Technical Writing Teacher, 4, No. 3 (Spring 1977), 105-06. Says that adequate practice with a revision checklist will teach students a "procedure for revision." Suggests that students use a checklist to criticize their classmates' papers, a paper by a student in another class, and their own papers. Provides a five-part checklist designed for technical writing students that de-emphasizes spelling and punctuation.

Cunningham, Donald W., and G. Ronald Dobler. "Teaching by the Numbers: An Exercise in Organization and Revision."  
Exercise Exchange, 22, No. 1 (Fall 1977), 36-40. Describes an exercise that combines theory and practice by allowing students to "receive advice" about organization "while working with . . . writing." Students read two papers, one of which is better organized than the other. They then decide which paper is "more successful in transmitting information," and discuss why and how it is more logical and orderly.
Includes the two papers and suggests a further use for them: determining "whether the information provided is true, false, sufficient, insufficient, clear, or unclear."

Doherty, Matthew F. "The Missing Link: Rewriting." English Journal, 54, No. 9 (Dec. 1965), 848-50. Argues that the "simple truth" is that good writing is produced by rewriting, and that most current and proposed composition teaching methods circumvent that truth. For example, some teachers accept first drafts from students as though they were finished papers, and others "make weak gestures toward rewriting" by having their students engage in error detection and correction. Suggests that such methods are less burdensome for the teacher than ones which actually promote rewriting. Changes that teachers who are unwilling to put the proper emphasis on rewriting are guilty of educational negligence.

Flanigan, Michael C., and Menendez, Diane S. "Perception and Change: Teaching Revision." College English, 42, No. 3 (Nov. 1980), 256-66. Argues that during revision, the detection and correction of errors is of secondary importance to other concerns. Also argues that "for purposes of ease," students may be taught the linear model since they eventually "learn that the writing process is recursive . . . by attempting it." Still, teachers need to understand themselves and explore with students the fact that the linear model does not describe "how recursive and overlapping" the seemingly discrete stages actually are. Says that "teaching the complexities" of revision demands that student writing be evaluated by peers, the teacher, and the self. Includes two revision guides that help to "shift the focus of instruction" from the reading of professional writing to the structured evaluation of student writing.

Gebhardt, Richard. "Imagination and Discipline in the Writing Class." English Journal, 66, No. 9 (Dec. 1977), 26-32. Says that "students should be taught that writing is a back-and-forth movement among several kinds of activities"—in other words, that it is recursive. Later they can be given "a clear and simple model of the writing process": generate, draft, revise. Lists four strategies by which to introduce the concept that writing is "dynamic" and four strategies by which to teach revision. Also includes a revision checklist that consists of sixteen questions, only one of which deals with error detection and correction.

Haley-James, Shirley M. "Revising Writing in the Upper Grades." Language Arts, 58, No. 5 (May 1981), 562-66. Says that whether, and when, a piece of writing should be revised is determined by the writer's purpose and audience. Teachers can help upper grade students learn to revise and learn how to revise. Students will revise only once they see themselves as writers with both meaning and purpose. Specifically, teachers can do the following:
explain that other people find writing difficult; provide scratch paper for drafts and half-sheets for notes; keep the focus on meaning; encourage their students to learn the conventions of writing; allow for "a time 'distancing'" between writing and revising; have students work in pairs or small groups; and bring into the classroom older students and local professional writers.

Hansen, Barbara. "Teaching Revision." Exercise Exchange, 23, No. 1 (Fall 1978), 10-15. Contends that discussing revision during class is more effective than having students revise their papers. Describes a method for teaching revision. The teacher first chooses one recurring problem area (for example, thesis statements, paragraph development, or topic sentences); second, makes dittoes of good and poor student writing; and third, asks guided questions about that writing.

Harris, Jeanette. "A Process-Oriented Approach to Basic Writing Instruction for the Beginning Writing Teacher." Journal of Developmental and Remedial Education, 4, No. 3 (Spring 1981), 13-15. Says that although the writing process "is not just linear . . . but is recursive as well," inexperienced and remedial students need to be taught the linear model because it is a "simplified version" that they can "readily grasp." Suggests that students be required to proceed through the stages of prewriting, writing, and revision during two class periods. During revision they usually "narrow their focus" and "eliminate many of their mechanical errors."

Harris, Muriel. "Evaluation: The Process for Revision." Journal of Basic Writing, 1, No. 4 (Spring-Summer 1978), 82-90. Supports the linear model: composing consists of the "prewriting, writing, and revision stages." Suggests that students read and criticize each others' papers in groups with the help of evaluation forms, and then, after also getting the teacher's reaction, spend several class periods revising their papers. As they do so, the teacher should act as their consultant, offering solutions to specific problems, grammatical and otherwise.

Hawkins, Thom. "Intimacy and Audience: The Relationship Between Revision and the Social Dimension of Peer Tutoring." College English, 42, No. 1 (Sept. 1980), 64-68. Describes a program in which juniors and seniors serve as peer tutors to freshmen and sophomores, teaching them how to write for an academic audience. Peer tutors are more effective than professors would be for a variety of reasons. Not only do they form an "intensely personal" relationship with their tutees, but they also have the time to guide them through the writing process, "from prewriting to revision to editing," teaching them by means of "oral language in discursive intellectual discourse" that "revision involves much more than mechanically correcting errors, that it is a recursive process."
Hicks, Joyce. "Structured Revision Tasks." Exercise Exchange, 23, No. 1 (Fall 1978), 15-17. Describes four structured revision tasks—three for small groups and one for individuals—that give students the experience they need in making changes to the tone, style, and focus of sample passages and their own writing. Small-group work has the advantage of fostering either cooperation or competition.

Karrfalt, David H. "Writing Teams: From Generating Composition to Generating Communication." College Composition and Communication, 22, No. 5 (Dec. 1971), 377-78. Describes a classroom strategy that requires students to revise each paper twice—once for "the larger problems of unity . . . organization, development, order, clarity, emphasis, rhythm," and once for "faults in spelling, grammar, punctuation, sentence style"—on the basis of oral and written suggestions made by two classmates. All three of the students on a writing team receive the same grade for each paper. Students also write papers individually.

Kirby, Dan R., and Liner, Tom. "Revision: Yes, They Do It; Yes, You Can Teach It." English Journal, 69, No. 3 (March 1980), 41-45. Discusses eight major points: revision consists of three activities—in-process revision, editing, and proofreading; revision should be taught as a part of the larger developmental process of learning to write; unless students have practiced a given mode of writing, they cannot effectively revise papers that employ it; students can sustain interest in revision only if their writing is important to them; individual conferences are indispensable for teaching revision; unless students know what good writing is, they cannot revise effectively; teachers should revise along with their students; and students all revise differently.

Kuhlmann, Sandra Muse. "A Positive Approach to Revision." College Student Journal, 14, No. 2 (Summer 1980), 183-89. Includes six tactics that teachers can use in teaching revision; a seven-part form that can help students analyze their rough drafts; a seven-part form that can help students revise their graded papers; and a four-part form that can help students ascertain their writing strengths and weaknesses. Assures that revision includes, but is not limited to, error detection and correction.

Leonard, Michael H. "Practice Makes Better: Notes on a Writing Program." English Journal, 65, No. 6 (Sept. 1976), 59-63. Argues that teachers cause students to view revision as error detection and correction. Differentiates between two kinds of revision: the revision of mechanical errors, which is "more a punishment than a creative endeavor" but is necessary nevertheless; and the revision of style and substance. Says that the second kind of revision can be taught by having students make radical changes to the tone, point of view, or attitude of their papers. Suggests that an opaque projector
be used to facilitate the discussion of revisions that students in the class might want to make.

Lyons, Bill. "The PQP Method of Responding to Writing." English Journal, 70, No. 3 (March 1981), 42-43. Suggests that students be encouraged to ask the following three questions about their papers of the teacher or class: "What do you like about my paper?" (Praise); What questions do you have about my paper?" (Question); and "What Kinds of polishing do you feel my paper needs ... ?" (Polish). The first question usually makes students "more receptive to the balanced criticism which follows"; the second promotes revision; and the third promotes proofreading. The teacher ought to introduce the three questions to the class one at a time over several class meetings or even several weeks.

Maimon, Elaine P. "Talking to Strangers." College Composition and Communication, 30, No. 4 (Dec. 1979), 364-69. Says that students can be taught "to behave like writers" if their teachers will coach them "through successive drafts and revisions," encouraging them not to check for errors until late in the process, and only grade finished products. Students, though, erect barriers to revision, barriers that teachers can break through by sharing "copies of manuscript pages written by famous writers" and duplicating their "own first drafts for class inspection." Contends that the composition classroom should be a workshop. Mentions the importance of giving students practice with sentence patterns that are unfamiliar to them.

Marshall, Max S. "Reviled Revisions." Journal of English Teaching Techniques, 4, No. 2 (Summer 1971), 12-15. Supports the linear model: a writer drafts "without pauses for obvious mistakes," after which he revises, first content and organization, and then expression. Characterizes revision as the "quintessence of composition," that which distinguishes writing from speech. Emphasizes that teachers must persuade students of the importance of revision and require them to revise the same paper many times.

McDonald, Jr., W. U. "The Revising Process and the Marking of Student Papers." College Composition and Communication, 29, No. 2 (May 1978), 167-70. Suggests that if teachers believe "that revisions are a normal part" of the composing process, they should have their students submit two preliminary drafts in addition to the final draft of each paper. Then teachers should read the drafts and comment on them, paying particular attention to the focus, content, clarity, and coherence of the first preliminary drafts (largely ignoring spelling, punctuation, and grammar), and the usage and sentence structure of the second preliminary drafts. The students revise their drafts on the basis of comments that they receive. Responds to three problems that this procedure could cause.
Murray, Donald M. "Teach the Motivating Force of Revision." English Journal, 67, No. 7 (Oct. 1978), 56-60. Emphasizes that revision, far from being a punishment, "the price you have to pay if you don't get it right the first time"--which is how most teachers feel about revision--is instead "the motivating force within most writers," particularly reluctant student writers, because through it they discover what they have to say. Teachers can encourage their students to experience the excitement of discovery, and later to understand the process which produced it--revision--if they are able to recognize the potential that exists "even in the most unlikely student." First, however, they must be writers themselves, not only of academic papers, but also of stories and poetry. They should also write with their students.

Murray, Donald M. "Teach Writing as a Process Not Product." The Leaflet, Nov. 1972, 11-14. Discusses ten implications for the composition curriculum that arise from teaching writing as a process of prewriting, writing, and rewriting: students examine their own writing and that of their classmates; students find their own subjects; students use their own language; students write as many drafts as necessary, and each draft counts as a new paper; students use the forms of writing that will allow them to communicate their discoveries; students are not concerned with mechanics until the end of the writing process; students must be given unpressured time to think, and must also be required to meet the deadline; students are graded on their final products, not on their preliminary drafts; students are individuals who must explore the writing process for themselves; and finally, students ought to be given alternatives rather than rules and absolutes.

Odell, Lee, and Cohick, Joanne. "You Mean, Write It Over in Ink?" English Journal, 64, No. 9 (Dec. 1975), 48-53. Argues that the reason students do not revise is that their teachers and textbooks have failed to teach them how. Describes a six-week unit comprised of three parts that teaches students how to revise. First, students raise as many questions as they can about newspaper and magazine advertisements and passages from a novel; second, they analyze the visual focus of television programs and the visual and grammatical focus of sentences; and third, they discuss various types of writing by using the concepts of "reference to time sequence," "reference to causal sequence," "reference to time sequence," "reference to change," "contrast," and "classification." At the conclusion of the unit, the students use what they have learned to revise their essays.

Palumbo, Roberta M. "Revise! More Than a Command." Exercise Exchange, 22, No. 1 (Fall 1977), 33-36. Argues that commanding students to revise and showing them the revisions of professional writers may give them "inspired desire," but that they also need "knowledgeable skill." Describes an exercise by which to teach students the skill
that they need to revise. The teacher reads aloud an essay written by a student in the class, and the class analyzes it three times: once for organization, once for content, and once for style (syntax, diction, and mechanics). Concern for errors, then, comes "at the end of the revision process." Includes a list of questions that the teacher may use in guiding the class.

Penfield, Elizabeth F. "Revision Revisited." Exercise Exchange, 22, No. 2 (Spring 1978), 19-22. Describes exercises that are designed to teach students that sentences are "worth wrestling with." First, the teacher makes copies of five to ten sentences that are syntactically interesting, as well as the same sentences in which most of the nouns, verbs, adverbs, and adjectives have been replaced by blanks. The students discuss possible variations during class and continue to work on the sentences outside of class. The best variations serve as the basis for another class discussion. Second, the students do the same with sentences of their own choosing. And finally, they revise at least one sentence in each paragraph of their rough drafts.

Popovich, Helen Houser. "From Tape to Type: An Approach to Composition." College Composition and Communication, 27, No. 3 (Oct. 1976), 283-85. Contends that having students tape record and then listen to their papers allows them to actually hear seven types of writing problems that they can eliminate through revision: stiltedness, particularly in dialogue; repetitiveness; clichés; inappropriate diction; ineffective sentence patterns; faulty punctuation; and defective organization.

Primeau, Ronald. "Film-Editing and the Revision Process: Student as Self-Editor." College Composition and Communication, 25, No. 5 (Dec. 1974), 405-10. Compares film-editing with revision: both activities involve "selecting and arranging details, structuring and pacing materials . . . , blending sequences together . . . , and establishing unity and continuity." First, however, both the film-maker and the writer must have enough material to work with. Students who write papers about assigned readings can develop material by recording their immediate reactions to their readings. Then later, after writing a first draft, they can refer to their marginal comments and rethink their own reactions in preparation for writing a second draft. In addition to "getting more involved in personal responses," students who revise must achieve," at the same time, a distance that is often mistakenly associated with non-involvement." In general, revision is an "integral part" of the composing process rather than "mere 'correction.'" However, both the "prewriting and drafting stages" must occur "before revision is profitable."
Rogalski, William. "Magazine Advertisement Analysis: A Group Approach to Rewriting." Exercise Exchange, 24, No. 1 (Fall 1979), 24-26. Describes a four-part exercise that is based upon an acceptance of the linear model: prewrite, write, rewrite, edit. "Rewriting" is the making of major changes in focus, content, and organization, and is emphasized by the exercise. "Editing" is the making of stylistic and grammatical changes. Students work both in class and out of class, both in groups of three and individually. Each group produces one finished paper.

Rutter, Russell. "Starting to Write by Rewriting: A Unit on Technical Editing and Revision." The Technical Writing Teacher, 8, No. 1 (Fall 1980), 22-26. Describes a short diagnostic unit that allows a technical writing teacher to ascertain students' strengths and weaknesses. The unit consists of three related activities: first, the students analyze a poor report together during class; second, each student revises the report's organization, style, diction, and grammar outside of class; and third, the students exchange and compare their revised reports during class. The teacher writes comments on the revised reports and duplicates some of them for the students.

Schwartz, Mimi. "Rewriting or Recopying: What Are We Teaching?" Language Arts, 54, No. 7 (Oct. 1977), 756-59. Argues for the linear model (rewriting is "a finishing, a polishing up") but against the view that revision is just error detection and correction ("in this context, rewriting is judgmental . . . and an implied punishment"). Says that students either rewrite or recopy, but rarely do both. They avoid rewriting because of the stigma attached to it: "If I did it right the first time, I wouldn't have to do it again." Describes a system that encourages rewriting by having the teacher respond to students' rough drafts by means of oral or written dialogues. Also describes the "Check Game," placing one check mark in the margin for each error in a line, which encourages students to make mechanical changes.

Shuman, R. Baird. "What About Revision?" English Journal, 64, No. 9 (Dec. 1975), 41-43. Argues that revision is not just error detection and correction: "proofreading is but one part of the process of revision." Says that it is not enough for teachers to simply tell students to revise; rather, teachers must organize activities that will engage students in the "true process of revision." Describes one such activity. Also says that having students revise their papers for various audiences will make them more aware of language.

Suhor, Charles. "Linda's Rewrite." Learning, 4, No. 1 (Aug./Sept. 1975), 20-25. Criticizes grade-school teachers who emphasize error detection and correction in their comments on students' papers, and who require students to revise until their papers are "sanitary" or even
"sterile." Says that such an emphasis teaches students three things about writing: that following rules is more important than expressing feelings and ideas; that unusual ideas are unacceptable; and that writing is a "tedious, demeaning, and hateful" task.

Thomas, Brook. "Re-reading, Re-writing." The CEA Forum, 11, No. 3 (Feb. 1981), 1-6. Emphasizes the "close connection between reading, writing, rewriting, and rereading": teachers should not separate the activities of reading and writing, and students must reread their papers before rewriting them. Suggests that composition teachers adopt the "reader response textual model," which emphasizes the "process leading to the construction of a text," rather than either the "expressionistic model," which emphasizes the discovery of a subject within the writer, or the "classical model," which emphasizes the contemplation of an autonomous text. Contends that "writing is a continual process of revision" and that rewriting is not just "a matter of correcting grammar, spelling, punctuation and of smoothing out the 'flow' of the prose."

Thompson, George J. "Revision: Nine Ways to Achieve a Disinterested Perspective." College Composition and Communication, 29, No. 2 (May 1978), 200-02. Describes nine ways in which a student can become disinterested or unbiased about his draft in preparation for revising it, eight of which involve reading: by reading it silently, then aloud; by reading it backwards; by reading only every other line; by reading to locate the thesis statement; by reading to locate the main idea of each paragraph; by expressing the main idea of each paragraph in a single sentence; by reading to identify the supporting evidence of each paragraph; by reading to evaluate the transitions between paragraphs; and by reading to evaluate the overall structure.

Weigl, Bruce. "Revision as a Creative Process." English Journal, 65, No. 6 (Sept. 1976), 67-68. Argues for the linear model: once "the first draft is finished," a writer "begins the most difficult and most important aspect of the writing process, revision." During revision, a writer must both "maintain a safe distance" and take "everything . . . into consideration: syntax, punctuation, word choice, tone, style, rhythm." Hence, does not define "revision" as error detection and correction. Includes five suggestions for revision: don't bind yourself to your original intention; keep in mind that nothing is sacred; look for the beginning, middle, and end anywhere; be aware of the mixed associations of words; and keep your usage and punctuation straight.
APPENDIX B. QUESTIONNAIRE ITEMS THAT MEASURE

PSYCHOLOGICAL DETACHMENT

Form A and Form B of the 16 PF each consists of 187 items, 10 of which are designed to measure Factor A, the detachment factor. Twenty items, then, measure Factor A. (The remaining items are designed to measure the fifteen other personality factors.) Listed below are the ten Factor A items from each form. The answers that correspond to a high degree of detachment are marked with three asterisks; the answers that correspond to a medium degree of detachment are marked with two asterisks; and the answers that correspond to a low degree of detachment are marked with one asterisk.

FORM A

I would rather have a house:

*a. in a sociable suburb,
**b. in between,
***c. alone in the deep woods.

With the same hours and pay, it would be more interesting to be:

***a. a carpenter or cook,
**b. uncertain,
*c. a waiter or waitress in a good restaurant.

I have been elected to:

***a. only a few offices,
**b. several,
*c. many offices.
If I had to choose, I would rather be:

***a. a forester,
**b. uncertain,
*c. a high school teacher.

For special holidays and birthdays, I:

*a. like to give personal presents,
**b. uncertain,
***c. feel that buying presents is a bit of a nuisance.

In starting a useful invention, I would prefer:

***a. working on it in the laboratory,
**b. uncertain,
*c. selling it to people.

It would be more interesting to work in a business:

*a. talking to customers,
**b. in between,
***c. keeping office accounts and records.

If the earnings were the same, I would rather be:

*a. a lawyer,
**b. uncertain,
***c. a navigator or pilot.

It would be more interesting to be:

***a. an artist,
**b. uncertain,
*c. a secretary running a club.

If asked to work with a charity drive, I would

*a. accept,
**b. uncertain,
***c. politely say I'm too busy.
FORM B

For a vacation I would rather go to:

*a. a busy holiday town,
**b. something in between a. and c.,
***c. a quiet cottage off the beaten track.

In a factory, it would be more interesting to be in charge of:

***a. mechanical matters,
**b. uncertain,
* c. interviewing and hiring people.

I would prefer to read a book on:

***a. travel in outer space,
**b. uncertain,
* c. education with the family.

With equal salary, I would enjoy more:

***a. being a research chemist,
**b. uncertain,
* c. managing a hotel.

Going around selling things, or asking for funds to help a cause I believe in, is, for me:

*a. quite enjoyable,
**b. in between,
***c. an unpleasant job.

When traveling, I would rather look at the scenery than talk to people.

***a. true,
**b. uncertain,
* c. false.

I'd enjoy more:

*a. managing a business office,
**b. uncertain,
***c. being an architect.
It would be more interesting to sell insurance than to farm.

*a. yes,
**b. in between,
***c. no.

For a pleasant hobby I would rather belong to:

***a. a photography club,
**b. uncertain,
*c. debating society.

I would enjoy better:

*a. being in charge of children's games,
**b. uncertain,
***c. helping a watchmaker.