TCDIDC is a heuristic model for students to use when revising compositions. The model's acronym is derived from the main terms of the revising heuristic: time (the pattern of tenses and other time markers), commitment (the pattern of such predicate modes as indicative, conditional, questioning, exhortative, emphatic), directness (the pattern of active voice, passive voice, and being-verbs), identification (the pattern of noun types—concrete vs. abstract, ordinary vs. technical), description (the pattern of adjective types—concrete vs. abstract, objective vs. impressionistic), and connection (the pattern of transitions and subordination). Two student writing samples demonstrate that systematic analyses in the TCDIDC manner can make sentences, paragraphs, and papers more effective, meaningful, and enjoyable.
TCDIDC, A Revising Heuristic; or On Beyond the Toadstool

Philip M. Keith

Working with heuristics always puts me in mind of a few "cranky sentences from Thoreau's Walden which should stand as a caveat for all writing teachers before they leap into the abyss of any new semester to purify the dialect of the tribe. Thoreau wrote, "It is a ridiculous demand which England and America make, that you shall speak so that they can understand you. Neither men nor toadstools grow so." Pre-writing heuristics have the capacity to encourage a kind of conceptual growth in the student, to tease him to an awareness of extended possibilities for writing without prescribing his choices. They offer him a wider sense of what he can say and force him beyond the common habit of taking the first idea that slides into his head and limiting himself to that.

But, of course, it is not a ridiculous demand that you speak or write so that they can understand you, and the toadstool is a limited metaphor for the writer, as Thoreau well knew. Effective writing may depend on the conceptual growth of the subject in the writer's mind, but conceptual growth is not writing. There are many problems in writing, especially in the revision process, that the pre-writing heuristic model will never touch. But if heuristics is applicable to any problem, as rhetoric was for Aristotle, it should apply to language conceptualization as well as to the simple discovery of ideas. It is an interesting question how heuristic modeling can be applied beyond the mushroom stage to help the student develop language possibilities.
as he moves from draft-to draft, and my aim in this paper is to offer one such model.

The TCDIDC model uses grammatical structure as a way of approaching rhetorical problems. You might say that it makes structures of surface syntax into conceptual metaphors for meaning. That is a rather grandiose way of describing a fairly common method, however. I am sure that a great many of you, at one time or another, when faced with a particularly amorphous student paper, have circled all of the nouns in a paragraph to show the student how vague he has been. You remember E. M. Forster's epigraph to *Howard's End*, "Only connect!" Translated into studentese it might become: "My way of getting an understanding of human problems involves making a point of the importance of mutually supporting relationships in family and community groups." And here is the list of nouns: "way, understanding, problems, making, point, importance, relationships, groups." In its total emptiness of content, the noun list becomes a metaphor for the style of the sentence.

But one can go beyond this list to do the same sort of thing with verbs, adjectives, and connectives, and when one does, one has the beginnings of a "structuralist" approach to revision, a heuristic. As a method of analysis, such lists fracture writing, but as I will show, they simplify revision. Furthermore, the list-making model is an analytical device, not a prescriptive one. It does not imply a model of correctness, but merely allows a writer or editor to see what happens in a piece of writing, and it gives such happenings a form that makes revision simpler than it would be when the writing is undifferentiated.
The label TCDIDC is an acronym for the main terms of the revising heuristic: Time, Commitment, Directness, Identification, Description and Connection.

**Time** refers to the pattern of tenses and other time markers.

**Commitment** refers to the pattern of such predicate modes as indicative, conditional, question, exhortative, emphatic, etc.

**Directness** refers to the pattern of active voice, passive voice and being-verbs.

**Identification** refers to the pattern of noun types—concrete vs. abstract, ordinary vs. technical—and may be extended to cover equivalence chains as well.

**Description** refers to the pattern of adjective types—concrete vs. abstract, objective vs. impressionistic (or interpretive).

**Connection** refers to the pattern of transitions and subordination.

This model can be reduced to a very simple form, for instance by limiting verb analysis to base verbs. Clotted writing often is the result of the student's tendency to embed his main ideas in subordinate clauses and phrases, leaving his main verbs as a sequence of being-verbs. On the other hand, a TCDIDC analysis can become extremely complex, as when under Identification or Description, one isolates not only nouns or adjectives, but also all noun or adjective phrases and clauses. There are also many methods by which the model can be applied. One can take a problem paragraph, circle the verbs, nouns, and so forth, and then make lists and charts that give a taxonomy of the paragraph. Or one can merely read through a paragraph, focusing first on verb, then noun, then adjective, etc., in order to get a survey of where difficulties
may lie. Used in this way, TCDIDC can be used for a reading drill to help the student to greater rhetorical sophistication by becoming more aware of the stylistic function of syntax. Even when used superficially, TCDIDC can bring a wide range of editorial problems into focus. Used in depth, it can bring to the surface of a passage fundamental characteristics and problems of conceptualization in the writer's composing process.

* * *

Now, let me demonstrate how the model works with two samples of student writing. The first sample is a paragraph from a paper by a student of mine addressed to the following assignment from William E. Coles' text, Composing, Writing as a Self-Creating Experience. The student is given a cartoon-caricature of a "perfect student" defined by various clichéd terms and images. He has his "feet on the ground," his eye is a camera that "records reality as it really is." Innate goodness and original sin balance each other on a scale; he has a "heart of gold" that controls the flesh. The composition student is asked what is wrong with this way of defining the perfect student, to what extent he is like the cartoon, or would want to be like it, whether he is better off than such a student, worse off, or just different. As you can see, the assignment invites the composition student to see through such clichés to particular experiences that define for him his own virtues and limitations as a student.
Here is the paragraph.

Man can not be a perfect student, for he is unable to do the things the Perfect Student does. Man does not take in reality as it really is but many times takes in things he wants to believe. If someone wants to find fault with Jimmy Carter, he most assuredly could. Another example is that in man conscience does not always win. Many times does one regret doing something that his conscience told him not to do prior. I also question the fact that innate goodness exists. Also how can a correlation between the two exist? Since man can not be diagrammed in such a simple manner, he can never attain the Perfect Student status.

This is a paragraph in search of a single subject which will generate a line of argument, so presumably a teacher would say something like, "you aren't developing your ideas enough; don't try to undertake so many topics in one paragraph." He might add that the parallelism between the second and sixth sentences needs to be sharpened with a phrase like "first . . . second," or "on one hand . . . on the other." Then, "also" in the sixth and seventh sentences should be deleted to avoid suggesting parallelism where there is none, and in the first and last sentences the logic is circular. There are other mechanical problems as well.

Such comments will probably create more confusion than help, however, since they offer no program for revision. But the TCDIDC model does offer a program in its examination of the patterns of verb, noun, adjective and transition usage. The verb list is as follows: "can be, is, to do, does take, is, takes, wants to believe, wants to find, could find, is, does win, does regret, doing, told, to do, question, exists, can exist, can be diagrammed, can attain." Characterized under time, the verbs are, with one exception in what I would call "timeless-assertion present tense"
as opposed to the "descriptive present tense." The list of unqualified assertions sounds like someone hammering endlessly on a dull nail; there is no shift of stance or perspective. As for commitment, the fairly high proportion of conditional and emphatic verbs reflects the writer's lack of faith in the objective truth of his statements, especially in the last two sentences. This sort of verb structure guarantees weak assertions. As for directness, the relatively high percentage of being-verbs rather than action-verbs, especially in the base of the sentences, further magnifies the lack of objectivity and concreteness, as does the fact that the verbs in the active voice are mostly general-purpose verbs that have a wide variety of meanings and uses, rather than concrete descriptive verbs.

Listen to the list again: "can, be, is, to do, does take, is, takes, wants to believe, wants to find, could (find), is, does win, does regret, doing, told, to do, question, exists, can exist, can be diagrammed, can attain." Compare the emptiness of that list with the suggestiveness of the verb pattern in a "mature" paragraph by the British poet John Wain on his Oxford teacher and colleague E. M. W. Meyerstein: "hear, question, express, occupies, think, is, was, could have stretched, believe, resulted, can be cured, is, cannot wish, had lived and been spared, had, might have been, may have been lacking, was, could have written, was, was, had not been invented, don't believe, were, had managed, could have straightened, remember, can grieve, should have been."
Here is the paragraph:

When I hear people question the usefulness of psychoanalysis, or express doubts about the central position it occupies in modern life, I think of Meyerstein. For the tragic thing about him is that help was available, if he could only have stretched out his hand to take it. Beethoven's deafness, I believe, resulted from a condition which can nowadays be cured; and no doubt the same thing is true of Chekhov's tuberculosis and even Milton's blindness. Still, one cannot simple-mindedly wish that they had lived today, and been spared the suffering and premature death. If they had, the pressures of modern life might have been harder on them than anything imposed by their physical ailments; the seventeenth century may have been lacking in good ophthalmic techniques, but it was the only century in which Milton could have written Paradise Lost. But in Meyerstein's case, the treatment was there—and yet, for one reason or another, it was as inaccessible to him as if it had not been invented. I don't believe Meyerstein's neuroses were particularly complicated: a competent analyst, if one had managed to win his confidence, could probably have straightened out the whole lot in twelve months; and when I remember his sufferings, I can only grieve that such a cure should have been impossible, inconceivable.

The shifting pattern of verbs reflects the way the discourse as a whole shifts back and forth between past and present, between indicative and conditional, active and being, allowing a free play of speculation always anchored in historical fact.

So let us work some verb transformations on the student paragraph. When tense shifts into the past are used to set off subordinated examples, and concrete-active verbs are substituted for the being and general-purpose verbs in the original, the paragraph is sharpened.

Man cannot be the perfect student, for he will never be able simply to see reality as it really is. Too often he has been taken in by things he wants to believe: anyone who wanted to find warts on Jimmy Carter could easily do so. Another example is that in man conscience does not
always win. Men have often wanted to kick themselves for doing something their consciences warned them against. I also question the fact that innate goodness exists. Since man doesn't fit the diagram, he can't be this sort of perfect student.

This brings us to Identification. Here is the list of nouns: "man, perfect student, things, perfect student, man, reality, times, things, someone, fault, Jimmy Carter, example, man, conscience, times; something, conscience, I, fact, goodness, correlation, two, man, manner, status." One would be hard-put to come up with a more abstracted set of terms. The most specific item here is Jimmy Carter. Clearly a major problem of the writing lies in the student's failure to give precise meaning to what he is talking about. Watch what happens, however, when I substitute "I" for "man," and specific examples for "things," "reality," "times," and so forth.

I could never be the perfect student since I have never been able to see a horse as it really is.

All of a sudden I have a real subject.

Here are the adjectives: "perfect, many, another, many, innate, simple, perfect." Again, the problem is abstraction, and one can play with substituting or adding concrete matter.

I could never be the perfect student since I have never been able to see brown or red hot dogs as they really are. Brown ones have always been associated with Herman my favorite pig, and red ones with Daisy our last cow who always used to wake me up in the morning by catching her horn in the honeysuckle on the side of the house and threatening to pull the wall down.

or, getting even further from the original:
Every summer I promise my conscience and father that I will not try to swim at night before the ocean temperature gets above 60°, but every summer the lure of the night-wind waves is too much and out I go as the lone surfer. I'm lucky to be alive.

Furthermore, we can substitute or add interpretive adjectives to get the writer's attitudes more directly into the passage, as in the second sentence above with "lucky," or again, below:

I could never be the perfect student since I have never been silly enough to see a horse as it really is.

Finally we can look at the transitions, the coherence relations that unify the paragraph and lead the reader through the argument. Notice how the paragraph becomes more coherent when I simply add transitions to make the implicit relations between sentences or T-units explicit:

Man cannot be the perfect student, for he will never be able simply to see reality as it really is. For example, too often he has been taken in by things he wants to believe: anyone who wanted to find warts on Jimmy Carter could easily do so. Furthermore, in man, conscience does not always win, and men have often wanted to kick themselves for doing something their consciences warned them against. And then I question the fact that innate goodness exists. So you can see that man can't be this sort of perfect student; he won't fit the diagram.

Now, making some choices among the possible revision transformations, let us see how the paragraph might come out, recognizing, of course, that some of the noun changes would lead the student out into a new paragraph. Nevertheless, I will stick fairly closely to the original sequence of sentences:

I could never be the perfect student, I suppose, because I will never be able to see my alarm clock and class schedule for what they are. Thus, it has always been too easy for me
to believe that the alarm had not really gone off before I whacked it off the table; I'll bet even Jimmy Carter could convince himself that the obscure letters E-X-A-M written on the wall calendar couldn't possibly apply to first period class today. I suppose I heard my conscience telling me to get my feet onto that cold floor, but I never could understand Latin. Sure, I wanted to kick my tail around the Episcopal church when my roommate came back and told me it was 10:30, but the desire was so weak I had to wonder whether I wasn't purposely wasting Dad's savings. One thing seems sure--they won't be introducing me as valedictorian!

This is contrived, of course, as any revision by a teacher would have to be, but it is fun, and playing like this has great educational value.

The second passage is a piece of technical writing that Young, Becker and Pike offer as a revision exercise in chapter 14 of their text, Rhetoric: Discovery and Change.

Our experience in municipal engineering has covered virtually all of the facilities necessary to operate and maintain a modern city. We have prepared preliminary reports as well as contract plans and specifications. Many of the reports have been the basis of revenue bond financing. Financing the construction of public projects through the sale of revenue bonds has come more and more into favor during recent years. Revenue bonds are sold mainly on the basis of preliminary engineering estimates of revenue, operating and maintenance expenses, and construction cost. Such surveys and reports have become an increasingly important phase of our activities. We have supervised construction of various types of water works and sewerage improvements, street paving and lighting, traffic control systems, municipal garbage and refuse incinerators, and a variety of municipal buildings. Since 1935, we have continuously served Cicero, Illinois (population 68,000) on nearly all of its engineering and architectural problems.

Since technical writing aims at the precise use of abstract terms, rather than the precision of metaphor we sought in the first student paper, our problem here is somewhat different. One of the
major problems of the technical writer is the need for making style convincing and persuasive to the particular audience or audiences he is addressing. In working on a project, he may be communicating with colleagues and supervisors who are familiar with the details and methodology, with public authorities who have limited expertise, and with mass audiences who have none. The TCDIDC model gives a systematic way to adjust style to audience.

Any composition teacher will notice the inertness of the writing in this paragraph, the lack of unity, coherence and emphasis. There is no summarizing sentence that focuses precisely on the subject, there are few transition cues relating the succession of sentences, and emphasis at sentence and paragraph level is generally flattened due to repetitive sentence structure. If we correct these rhetorical problems in standard ways, making the first sentence specify planning and operational aspects of municipal engineering, making explicit the transitions between sentences and between groups of sentences, and providing more effective emphasis through closure, we can produce something like this:

Our experience in municipal engineering has covered both planning and operational aspects of a modern city. On one hand, we have prepared preliminary reports as well as contract plans and specifications. Such reports have been the basis of revenue bond financing. Financing the construction of public projects through the sale of revenue bonds has come more and more into favor during recent years. Revenue bonds are sold mainly on the basis of preliminary engineering estimates of revenue, operating and maintenance expenses, and construction costs. Such surveys and reports have become an increasingly important phase of our activities. On the other hand, we have supervised the construction of various types of water works and sewerage improvements, garbage and refuse...
incinerators, and a variety of municipal buildings. We can take pride in the fact that our performance has led Cicero, Illinois (population 68,000) to request our services on nearly all of its engineering and architecture problems since 1965.

But it is clear that the paragraph is still inert, and that other stylistic changes are needed to make the writing more fluent and readable.

Using TCDIDC, we list the verbs: "has covered, have prepared, have been, has come, are sold, have become, have supervised, have served." The sameness of form shows how mechanical the writing is. The only variant from the past-active norm is an agentless present passive, "are sold." Here again we see a writer's inability to "move around" his subject. The writer is not predicing his thoughts, but listing features. Technical writing may, as Robert Hays suggests, retain the Subject-Verb-Object sequence "more consistently than the prose sculptured by the literary craftsman."1 and it may be more conservative in general, but it certainly doesn't call for the sort of ritualized primitivism we see in the passage. Listen, for instance, to the verb pattern in the following paragraph from a technical article in the magazine Science last December 24th: "is, have, have been determined, will not have, has been mapped, allow, is, reflect, have been made, does not yield, are not known, bombarded, are discussed." Here is the full paragraph:

One major goal in planetary science is to determine the chronology of development of the surfaces of the ter-

1 Cunningham and Estrin, The Teaching of Technical Writing (NCTE, 1975) p. 4.
restrial planets, especially our neighbor Mars. Whereas for the moon we have rock specimens whose ages have been determined radiometrically, we will not have any way to analyze the ages of martian rocks in the near future. Nevertheless, the surface of Mars has been mapped extensively by the Mariner 9 and recent Viking missions. These pictures allow some qualitative classification of old or young features according to their stratigraphic relations and apparent degree of erosion. Fortunately—for the purpose of age determination from photographs—Mars is impact-cratered. Differences in impact crater frequencies at different sites reflect differences in age. Recently, two attempts have been made to determine absolute ages for Mars from its measured crater frequencies, based on extrapolations from the cratering chronology of the lunar surface. Unfortunately, a straightforward comparison of martian and lunar crater frequencies does not necessarily yield true ages: relative impact rates and the time dependence of the martian cratering rate are not known; and it is not certain whether the same meteoroid population bombarded both planets. Some of these questions are discussed by Hartmann and Sonderblom et al.

Notice the vastly greater fluency of stance, shifting from active to passive, from present to past, from personal to impersonal constructions. Of course, it will be objected that such shifts are not the writer's goal, but they do reflect greater conceptual complexity in the journal passage; and the conceptual simplicity of the language operations in the student paragraph does reflect limitations in the writer's language control. In the revision process, conceptual enrichment of the argument should lead to greater syntactic fluency, and in turn, the attempt to get beyond syntactic lockstep should encourage greater richness in the student's conception of his subject. An initial verb-revision of our sample would hopefully move us away from the old drum-beat of "Our experience has covered ... We have prepared ... Financing has come ... Revenue bonds are sold ... Such surveys and reports have become ... We have supervised ... We have served ..."
Here is the first part of the noun list: "experience, engineering, facilities, city, reports, plans, specifications, reports, financing, construction, projects, sale, bonds, favor, years; etc."

Like the past-active verbs, the plural abstract nouns also tend to flatten the prose to a level of unreadability hardly needed in technical writing. One way of breaking down the mechanical character of the style would be to personalize the noun list to a limited degree, and perhaps to allow the writer and even the reader to be realized more fully in the language. Secondly, in the original version, the speaker or writer is always the subject, never the object.

Our experience has covered . . . . We have prepared preliminary reports . . . . We have supervised construction . . . . We have continuously served . . . .

Variation here can increase the flexibility of the prose.

As engineers, we are experienced . . . . Our preliminary reports and supervised construction have . . . . Cicero, Illinois, has used our services . . . .

Finally, the more general the audience, and the more rhetorical the purpose of the paragraph, the more specific the language can become. In the following revision, I have tried to get behind the generalized nouns "experience, facilities, reports, plans and specifications" in the first two sentences:

As municipal engineers, our specialists can plan and operate virtually all the water works, sewage plants, street and transportation systems that the modern city needs. The planning aspect is important, since funds for such developments are now increasingly raised through revenue bonds, and funding requirements must thus be determined in advance by competent and accurate engineering estimates.
Technical writing tends to use relatively few adjectives. Once we eliminate the adjectives that are part of technical nominal phrases like "revenue bond," the paragraph has only "necessary, many, recent, such, important, our, various, nearly, engineering, architectural." These are largely abstract, rather than concrete; and are objective rather than interpretive; even the normally interpretive adjectives "necessary" and "important" are used with a kind of impersonality. "Necessary" could easily be left out of the first sentence without changing its meaning: "Facilities necessary to operate a city" is for all intents and purposes synonymous with "facilities for the operation of a city." "Important" in the sixth sentence, is synonymous with "lar," and looser. But technical writing does not have to be this dead, and the passage could be enlivened, especially for the more general audience, by sprinkling it with concrete or impressionistic adjectives:

Our successful experience in the growing and important field of municipal engineering has involved us deeply in the intricate operations of the modern city.

In the original student paragraph, there were only two explicit connectives. The phrase "many of the reports" that introduces the third sentence, subordinates it to the second. The phrase "such surveys" correlates the sixth sentence with the fifth. But, as we have already seen in our first revision of the paragraph, it becomes much more coherent when we merely add transitional words and phrases. We can further tighten it by combining sentences. In the original, sentences three, four and five are:
Financing the construction of public projects through the sale of revenue bonds has come more and more into favor during recent years. Revenue bonds are sold mainly on the basis of preliminary engineering estimates of revenue, operating and maintenance expenses, and construction costs. Such surveys and reports have become an increasingly important phase of our activities.

They can be combined in a more logical but ponderous structure:

Since financing the construction of public projects through the sale of revenue bonds has come more and more into favor during recent years, and revenue bonds are sold mainly on the basis of preliminary engineering estimates of revenue, operating, maintenance and construction costs, such surveys and reports have become an increasingly important phase of our activities.

But it could be pruned even further:

Since public construction projects are increasingly financed in recent years through the sale of revenue bonds, and such bonds are sold mainly on the basis of preliminary engineering estimates of costs, making reports has become an increasingly important phase of our activities.

Having played with revision possibilities in this way, we can now try a few overall revisions. In the first, I keep the paragraph focused on a technical audience, but try to bring the engineering firm’s activities more into the foreground, vary tense and mode to emphasize possibilities, tighten the transitions, and give a unifying topic sentence.

As municipal engineers, we are experienced in covering virtually all of the facilities for operating and maintaining a modern city. We prepare the usual contract plans and specifications. Also, as an increasingly important phase of our activities, we prepare preliminary reports—engineering estimates of revenue, operating, maintenance and construction costs—since such reports are often the basis of revenue bond financing, and cities are now using the sale of such bonds with increasing frequency to finance the construction of public projects. At the operational level, we have supervised construction of various types of water works, sewerage systems, municipal garbage and refuse incinerators and a vari-
ety of municipal buildings. Since 1935, Cicero, Illinois (population 68,000) has used our services for nearly all of its engineering and architectural problems.

This is still written for the technical reader, but it is more supple, more readable and better focused. Even so, I have not tampered with the rather elaborate nominal constructions, since such constructions are often more precise: the phrase "all of the facilities necessary to operate and maintain a modern city" is more specific in terms of what the engineer needs to know than the phrase "the operations and management of the modern city."

In my second revision, however, I have done a good deal further, bringing the reader into the passage, trimming the technical phrases and allowing the transitions to be more overtly rhetorical.

We are municipal engineers experienced in the operations and management of the modern city, and, as we did in Cicero, Illinois, we can help you with your city planning problems. We can make sensible and accurate preliminary estimates for your revenue bond programs, and as you know, in recent years cities have turned more and more frequently to bond sales to finance such public projects as education, transportation and sewerage systems. Also, we have had a great deal of experience in supervising the operations of systems like these, and many others—water works, street paving and lighting, municipal garbage incinerators and municipal buildings of many kinds. Ask the city manager of Cicero; we have handled nearly all of his engineering problems since 1935.

I am manufacturing, by these manipulations, a tone appropriate to advertising, of a rather soft-sell variety. I could have gone farther and used a picture of Lorne Greene in white shirt, tie and hard-hat, under the four-inch headline, "WE CAN MANAGE YOUR CITY!"
But I mean this as more than an amusing trick: it would seem to me useful to make a translation system like this part of a technical writing course, since the basic problem for the technical writer is the translation of information in data or list form into writing suited to the intended reader. The main value of the TCDIDC model is that it makes clear and functional alternatives available to the writer for consciously framing his style, whether it be elaborating for the general reader, or pruning for the technical reader.

To summarize briefly, the TCDIDC model is a style game and a style machine. Systematic analyses in the TCDIDC manner can turn sentences into more effective sentences, paragraphs into more effective paragraphs, papers into more effective papers. Furthermore, once a student begins to work with the TCDIDC model as a way of knowing, he must become more aware of the importance of syntactical relations, of grammar functionally conceived, in the writing process. So here is a model that gets back to the basics, that turns grammar into a meaningful game, that encourages free stylistic play with prose and that offers an insight toward manipulating some of the more intransigent blocks and tangles of written language, in helping to control the ways and wiles of writing.

Philip Keith
St. Cloud State University