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Putting it All Together: Real Editing

> These ten or twenty lines might readily represent a whole day's hard work in the way of concentrated, intense thinking and revision, polish of style, weighing of words.
>
> —Joseph Pulitzer

The greatest challenge in environmental toxicology is that contaminants rarely come one at a time—that oily sludge may also contain PCBs, mercury, and lead. Treatment that you would use for oil might not work on the mixture, or would leave you with a toxic residue that needs additional clean-up. Decontaminating the site requires a series of processes, each of which solves one problem but may create others.

Writing is the same. Rarely will you find a single problem by itself. Rather, they come in a convoluted mix. Broken story arcs travel with weak linkages; prepositional phrases with passive verbs; jargon with nominalizations. Disentangling such toxic writing (i.e., most of our first drafts) requires bringing all of our tools into use and requires multiple passes through a piece, each solving one or two problems and sometimes unmasking others in the process. Few of us are good enough editors to see all the way from clunky start to graceful end.

There are no simple rules for fixing multiple problems because each piece is unique, but there are some general approaches. I start with the big structural issues and then work down into finer and finer details of word use and style.

Get the story right, make sure the OCAR elements are in place, and then work on getting the language right. This leads to the sequence SCFL.

Structure: get the structure of the story into shape.
Clarity: ensure that your ideas are clear and concrete.
Flow: make the ideas flow, linking one thought to the next.
Language: make it sound good.

You won't, however, be able to revise a piece by doing just four passes, each dealing with one issue. They overlap, and solving one usually requires considering others. Even while focusing on structure, you can't ignore clarity and language. If the topic is unclear, it's hard to define the structure, and a lack of clarity often results from weak language. You may have to repeat the SCFL process several times. Clarifying your language may force you to rethink the structure of your arguments.

Here is a short example that is representative of a lot of first-draft writing and how a careful writer uses the SCFL approach to convert it into a polished final draft. This is the opening to a paper on how plants compete under varying light levels and how that affects community composition. You can see how this author revised the first draft into a strong finished piece by considering multiple aspects of their writing even while focusing on one of the SCFL elements.

Example 17.1
Plant behavior in response to dynamic resource availability, such as changing light regimes, has been well studied. Adjustments made at the organelle to canopy level to modify light interception exemplify how responsive plants are at a range of scales to their resource environment.

17.1. STRUCTURE

Because this a short opening to a paper, the most important structural issue is to ensure that it accurately frames the paper's direction. A secondary goal is to make the sentences fit together.

The first sentence defines a story arc about plant behavior, the sentence's subject. But the verb is "has been studied," a passive verb that doesn't appear until the end of the sentence and is badly separated from its subject. Worse, this verb makes the sentence's point unclear. Is it that plant behavior has been studied, so this is about the history of science? Or is the story about biology—what those studies revealed? To define the structure for the paper, the authors needed to clarify; then they could rewrite to capture either of those story lines.

A. History: *Many studies have examined plant responses to varying resource availability.*

B. Biology: *Plants use a range of approaches to respond to varying resource availability.*

Each of these options uses an active verb that directly follows its subject; they capture the directions this story could go. The author moved forward with B—the paper is about plant biology.

Note that they dropped the last clause, "such as changing light regimes," to tighten this sentence and leave the important idea of "varying resource availability" in the stress position. The point of this first sentence is to make the general statement introducing the story. This is a pawn push, positioning move.

17.2. CLARITY AND FLOW

Now look at the second sentence. It doesn't mesh well with the first, raising structural issues, but it also lacks both energy and clarity because of the language. Clarity is the biggest problem; the actions are that plants "adjust" and "respond" to varying resource levels, but those aren't expressed in verbs. Rather, the first is in the nominalization "adjustments" and the second in the adjective "responsive." The verb is "exemplify," which misses the real story. Because of the weak language, the sentence isn't concrete—what are the adjustments that occur at the organelle and canopy levels? The reader wants to know not just *where* the adjustments are but *what* they are.

A lesser clarity issue is that the grammatical subject ("Adjustments . . . interception") is 12 words long, so long that the verb is lost in the depths of the sentence. Technically, this isn't poor subject–verb connection because the verb actually does immediately follow the subject. But it feels disconnected because the subject is so long, and that is what matters to the reader.

In terms of structure and flow, look at the topic-stress–topic-stress linkage:

Plant behavior . . .	has been studied ←→	Adjustments . . . resource environment
Topic	*Stress*	*Topic* *Stress*

There is no connection between the stress of the first sentence and the topic of the second, even though the second is clearly supposed to illustrate the general point made in the first. These have to connect. In attacking the second sentence, therefore, the key issues to address were:

Clarity: Activate the verb and fix the subject–verb connection. Make the action concrete: what are the adjustments?
Flow: To connect to the opening sentence, make the topic relate to "a range of approaches to varying resource availability."

To do these, the author moved the ideas of "exemplify" and "varying resource availability" up front and connected the subject (plants) to a clear active verb (modify).

For example, as light varies, plants modify light interception by mechanisms that range from organelle-level physiological shifts to canopy-level changes in architecture.

Starting with "For example" makes it clear that this illustrates the first sentence's general argument. That allowed dropping the phrase "such as changing light regimes" from the first sentence, sharpening and shortening the passage.

This sentence then moves on to "as light varies," capturing the theme of "varying resource availability" that was the stress of the first sentence. The connection between the two is now solid, linking stress to topic.

The author made the sentence concrete by connecting the subject and verb—"plants modify" and briefly identifying the types of modifications at each level—physiology at the organelle and architecture at the canopy (how tall? how does it branch?). That isn't a lot of information, but it is enough to feel concrete.

17.3. LANGUAGE

At this point, the structure, clarity, and flow problems were fixed, but the language was still clumsy. The sentence repeats expressions and the prepositional phrase "changes in architecture" felt awkward. The author couldn't simply eliminate that phrase because then it would become "canopy-level architecture changes," which is a bad noun train. So the author tried another approach, one that took all the words that expressed change: "shifts" and "changes" and condensed them into one.

For example, as light varies, plants modify light interception by mechanisms that range from shifts in organelle-level physiology to canopy-level architecture.

This left an awkward phrase, "mechanisms that range from," the prepositional "shifts in," and repeated the words "light" and "level," all of which made the sentence clunky. One more round of editing fixed those issues.

For example, as light varies, plants modify its interception by mechanisms working at different scales, from organelle physiology to canopy architecture.

This eliminated a redundant "light" by using the possessive pronoun "its" and eliminated the awkward "mechanisms that range from" and the repeated "scale" by rewording it to "mechanisms working at different scales." This sentence is now concrete, identifying conceptually what the mechanisms are. It also has some music to it, ending with a nice parallelism in the stress position. The authors achieved these by packaging the overall story into three compact little arcs:

1. "For example, as light varies,"
2. "plants modify its interception by mechanisms working at different scales"
3. "[those scales range] from organelle physiology to canopy architecture."

Note that each phrase carries out a distinct OCAR function: the first opens, the second describes action, and the third resolves by telling you what the mechanisms are. Even within a sentence, getting structure right solves many problems and makes the rest much easier.

Through editing and attending to the SCFL and OCAR issues, this gained clarity and grace while losing words. What it kept, however, is professionalism. Clarity and grace didn't come from dumbing down, but from sharpening up, that is, good writing.

At this point, the sentences were strong and connected well, so it was time to cycle back to the beginning of the SCFL checklist to revisit structure. This raised a fresh question: if the paper is only about responses to varying light, why not kill the first sentence? It's just pushing a pawn, so skip it and launch a queen.

> *As light varies, plants modify its interception by mechanisms working at different scales, from organelle physiology to canopy architecture.*

Now this was ready to roll! This piece started with 42 words, and it ended up with only 19, not one of them wasted.

This multistep SCLF process should be the norm in your editing. You will always start with something rough that you have to polish, just as the authors of this piece did. They produced a terrific third draft; unfortunately, many people don't. Get used to how much work it can be to take even a short piece like this and polish it into powerful prose. You fix one set of problems and expose another. So edit it again. And again. Until it reads effectively and gracefully.

There is one final secret weapon in revising, but it is best done in privacy. Close the door to your office. Print a clean copy. Clear your mind. Now, stand up, step away from your desk, and *read it out loud*. Awkward expressions, breaks in flow, clunky words—your eyes may skip over them, but not your ears.

The need to take multiple passes through a piece, fixing problems as they emerge, explains a frustrating phenomenon I experienced with my advisor, my students have with me, and you probably have as well. You write a draft, someone edits it, and you make those changes. Then, they edit their edits. Sometimes back to the way you had originally written them! Why didn't they get it right the first time? Are they just changing things to change things? Probably not. Every time you come back to a piece, you need to look at it afresh. Sometimes the changes you scrawled on a sheet of paper or typed in seem okay but don't really work. You may only realize this when you see the whole new piece or when you read it aloud. Sometimes changes elsewhere in a paragraph mean that you need to rewrite a specific sentence to fit the new structure. Remember the section on "Writing versus Rewriting" in chapter 1. Writing is a process of experimentation and revision; there is no single "right answer." My last word of consolation on this is that the more you do it, the easier it becomes. It might even become fun.

EXERCISES

17.1. Write a short article

Take your short article (or some other project you're working on) and apply the SCFL approach to analyzing and revising it. Take one of your peer's short articles and apply the SCFL approach to editing it.