

Revising: Part 2, Cohesion, Coherence, and Emphasis

Our classes on writing are taken from the online Scientific Writing Resource at Duke University (<http://cgi.duke.edu/web/sciwriting/>). In turn, they credit these two references for most of the main ideas:

- The Science of Scientific Writing, by George Gopen and Judith Swan. American Scientist, November–December 1990.
<http://www.americanscientist.org/issues/pub/the-science-of-scientific-writing>
- Style: Ten Lessons in Clarity and Grace, by Joseph Williams.

If you structure your sentences carefully, you encourage readers to interpret your meaning correctly. Structure has several other important uses:

- First, you can structure sentences for emphasis, drawing attention to the most important part of the sentence.
- Second, you can structure your sentences and paragraphs to flow — that's what cohesion and coherence are all about.

Principle 1: Put new information last.

Most readers will find your writing more clear if you consistently begin sentences with familiar (old) information and conclude sentences with unfamiliar (new) information.

What happens when you begin a sentence with new information? Your reader gets a new idea without any context. He or she may try (incorrectly) to link this information to the previous sentence. After reading the rest of the sentence, the reader may have to revise his or her understanding.

Imagine these sentences in an article about farming. In sentences two and three, circle the familiar (old) and underline the unfamiliar (new) information. Where does this information fall in the sentence?

Farmers try to provide optimal growing conditions for crops by using soil additives to adjust soil pH. Garden lime, or agricultural limestone, is made from pulverized chalk, and can be used to raise the pH of the soil. Clay soil, which is naturally acidic, often requires addition of agricultural lime.

Try rewriting this paragraph. Make sure your sentences begin with an appropriate backwards link, and not with an unfamiliar concept.

Principle 2: Use passive voice judiciously

Sentences are in passive voice when the subject in the sentence is the object of the action. For example:

Active: The dog chased the ball.

Passive: The ball was chased by the dog.

Passive: The ball was chased.

In each sentence above, find the verb (the action), the “doer” of the action (not necessarily the subject), and the object of the action.

In each sentence, what’s the order of these three elements?

Using passive can have two important consequences: the order can change, and the “doer” can be omitted.

Passive voice isn’t inherently bad. It can actually be quite useful. The problem is that some writers incorrectly think passive voice is inherently scientific. In fact, some students are taught that passive voice is more objective. Really, the way you write doesn’t make your experiments any more objective; instead, your results should speak for themselves.

Major scientific journals prefer active voice:

- Nature journals like authors to write in the active voice... —Nature
- Choose the active voice more often than you choose the passive... —Science

Why avoid passive voice?

- **Ambiguous characters.** Who might have sequenced the DNA in the following sentence?

The DNA was sequenced using the n-terminus method (Smith et al. 2004).

- **Dangling modifiers.** This is a word or phrase that modifies a word not stated in the sentence. This is a problem because readers will (consciously or not) look in the sentence for what is being modified.

A modifier describes, clarifies, or gives more detail about a concept. In this sentence, the modifier (in italics) gives us more information about Jill. “*Having finished the assignment*, Jill turned on the TV.” Here’s a version with a dangling modifier. “Having finished the assignment, the TV was turned on.” Jill is not in the sentence; only the TV is. But the TV didn’t finish the assignment!

In this sentence, what does “after reading the original study” modify? How might you fix it? “After reading the original study, the article remains unconvincing.”

- **Wordiness.** Passive voice tends to increase length.

Why use passive voice?

The key use of passive voice is that it switches the order of a sentence. This is hugely important in light of principle 1 in this lesson. Use passive voice when it moves the old information to the front and new information to the back.

Principle 3: Make sure the first and last sentences of a paragraph match

Readers usually expect thoughts to be expressed in paragraph units. A single paragraph corresponds to a single thought. Each sentence in the paragraph should support that main point.

Just because your sentences stick together by including appropriate backwards links, it doesn't mean your writing is coherent. Read the following paragraph and identify the familiar and unfamiliar information.

My favorite animal is the domestic cat. Cats were domesticated almost 10,000 years ago in ancient Mesopotamia. Mesopotamia is a name that literally means "the land between two rivers," taken from Greek. The Greek language is one of the oldest written languages, and its alphabet forms the basis of many other writing systems, including Latin.

What's the topic of this paragraph (if there is one)?

This paragraph has great cohesion (one sentence leads to another), but it wanders through topics.

Revision Technique: Test for coherence: Read the first and last parts of each paragraph. Do the topics match? To be more thorough, make sure each sentence in a paragraph supports the main point of that paragraph.

Name: _____

Which principle do you think you struggle the most with? How will you try to improve your writing?
