

Revising: Part 3, Conciseness and Simplicity

Length and complexity alone don't make a sentence difficult to understand: some long sentences are perfectly understandable, and specialized terms may be necessary to explain complex problems. However, scientific writers sometimes needlessly inflate their writing in length and complexity in an effort to "sound scientific" or convey intelligence. In truth, it takes a deeper understanding to explain a complex topic simply and succinctly. It was best put by Shakespeare: "Brevity is the soul of wit." The best scientists can communicate complicated results to intelligent readers outside their field. Long, complex writing doesn't imply good science. **Prefer simpler words. Omit needless ones.**

Ineffectual phrases

If you start to pay attention, you may be amazed at how often you read the words "it should be noted that." Think carefully about what they mean: nothing. See if you can find and cross out the ineffectual phrases in the following sentences.

- Note that in this situation, the difference is not meaningful.
- It is important to realize that this proof applies in other situations as well.
- This so-called difference is unimportant.
- It should be noted that the subject was on time.
- We tested for differences in order to ensure the groups were similar.
- The question as to whether the difference is meaningful is an important one.

Wordy phrases

Can you find a phrase in each of these sentences that can be replaced by a single word?

- This occurred in a large majority of subjects.
- The two tests are in agreement.
- This test has the capacity to distinguish the difference.
- The experiment failed due to the fact that subjects were unavailable.

Complex words

Use a complex word only when a simple one won't do.

- The methodologies that were utilized in this study included *t*-tests and regression.

Use adjectives/adverbs frugally

The repetition problem. Don't use two words when one suffices.

- “interesting and intriguing” finding.
- an “improved and modified” protocol
- or a “new and novel” drug.
- the “new invention”

Excessive hedging. It's good to be humble, but it's easy to go too far. A single hedge should satisfy your urge to cushion your claims. Excessive hedging erodes the confidence of your results. Find the hedges in this sentence.

- We estimated that as much as 12-18% (depending on the tissue) of inter-species differences in gene expression levels might be explained, at least in part, by changes in DNA methylation patterns.

Demaining adverbs. There is nothing more frustrating than reading a paper that alludes to something “obvious” that you are completely confused about.

- The relationship between X and Y can now clearly be seen.

Self-aggrandizement. Self-aggrandizement only reflects your methods negatively; good science should speak for itself.

- Here, we describe an exciting new groundbreaking method to...

Now read through and revise your draft with these ideas in mind. What words or phrases did you cross out or simplify?

Our classes on writing are taken from the online Scientific Writing Resource at Duke University (<http://cgi.duke.edu/web/sciwriting/>). They credit George Gopen, Judith Swan, and Joseph Williams for many of the ideas.

Name: _____

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

This is an example meant for editing, not as a “good” example...

Background and Goals

The recent storm in Minneapolis has offered a unique and special opportunity to study the factors that are associated with root failure of trees in the urban forest. This exciting study has the capacity to offer both scientific understanding about tree failure and guidance to city planners about how the costs of future storms could be alleviated. The primary goal of the study is to explore and understand the relationship between root failure and recent road and sidewalk work, as well as the width of the boulevard that the trees are planted on.

Study Design and Data

Researchers visited every block where two or more trees experienced root failure, and recorded measurements on every tree on those blocks. There were about 100 blocks, with an average of about 30 trees per block. For each tree, they measured whether or not a root failure occurred, whether or not sidewalk or road work had occurred within five years, and the width of the boulevard. The species of the tree and the DBH (diameter at breast height) were also recorded. It should be noted that a large majority of the trees with root damage had already been removed; the DBH for these trees was estimated from the stump size using standard formulas. Due to the fact that all of this data is from a single storm, it is obvious that results should not necessarily be extrapolated to future storms.