

A simple way to improve your scientific writing

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ABSTRACT: The scientific and technical literature is often poorly written, and one particular defect is the frequent stating of the obvious, which leads authors to use many unnecessary words, placing a burden on the reader's brain. Here I present a text before and after correction, showing that, whatever the subject may be, the reader's brain will assume that you are referring to that subject unless you write otherwise. Apply this principle to help you eliminate unnecessary words in every manuscript you write, and you will be a better writer.

KEYWORDS: communication, jargon, abbreviations, unnecessary, misunderstanding.



FIGURE 1. Baltasar Gracián (1601–1658), a Spanish Jesuit and Baroque prose writer and philosopher, realized that the human brain understands better when a sentence is cleaned of all unnecessary words. That is why the “father” of binomial nomenclature, Carl Linnaeus, adapted a telegraphic style in the descriptions of new species (Portrait: Wikimedia).

The scientific and technical literature is too often poorly written, and one particular defect is the frequent stating of the obvious. Consider this text about a bird, the Himalayan Goldenbacked Three-toed Woodpecker:

The Himalayan Goldenbacked Three-toed Woodpecker, although visually resembling the Greater Goldenback (*Chrysocolaptes lucidus*), is not closely related to it. The primary distinguishing factor lies in its smaller size and bill. To identify the Himalayan Goldenbacked Three-toed Woodpecker, look for the following characteristics: a black hind neck, a brownish center on the throat extending down to the breast in some individuals, accompanied by irregular black spotting. Additionally, the Himalayan Goldenbacked Three-toed Woodpecker possesses an indistinct divided moustachial stripe with a brownish or reddish center in males. Its breast is marked with irregular black streaks, occasionally appearing completely white. The wings of the Himalayan Goldenbacked Three-toed Woodpecker also exhibit a coppery brown to red coloration. Notably, males exhibit a yellowish-red forehead that transitions to a deeper red on the crest. In contrast, the females of the Himalayan Goldenbacked Three-toed Woodpecker have a crest is entirely black with white streaks. Both sexes showcase white and black bands bordering the crest on either side of the head.

Did you notice the main problem about it?

Yes, the unnecessary and constant repetition of the bird's name. That places a burden on the brain of the reader, which unconsciously wonders why there is a need to explain that the text is still referring to that particular bird. In technical and scientific writing, you must not state the obvious. This allows an economy of words that greatly helps the reader. One way of reducing the burden of constantly having to read the animal's name is to use abbreviations, but it still does not work; it makes the problem worse; try reading this new version:

The Himalayan Goldenbacked Three-toed Woodpecker (HGTW), although visually resembling the Greater Goldenback (*Chrysocolaptes lucidus*), is not closely related to it. The primary distinguishing factor lies in its smaller size and bill. To identify the HGTW, look for the following characteristics: a black hind neck, a brownish center on the throat extending down to the breast in some individuals, accompanied by irregular black spotting. Additionally, the HGTW possesses an indistinct divided moustachial stripe with a brownish or reddish center in males. Its breast is marked with irregular black streaks, occasionally appearing completely white. The wings of the HGTW also exhibits a coppery brown to red coloration. Notably, males exhibit a yellowish-red forehead that transitions to a deeper red on the crest. In contrast, the females of the HGTW have a crest is entirely black with white streaks. Both sexes showcase white and black bands bordering the crest on either side of the head.”

Instead, write a better text by assuming that the readers will know that you are referring to this bird unless you say otherwise, and generally, by making the text briefer:

The Himalayan Goldenbacked Three-toed Woodpecker, is not closely related to the similar Greater Goldenback (*Chrysocolaptes lucidus*) and can be identified by its smaller size and bill. Black hind neck, a brownish throat center extending to the breast, and irregular black spotting. Males with indistinct divided moustachial stripe, with brownish or reddish center. Breast white or white with irregular black streaks. Wings coppery brown to red. Males: yellowish-red forehead transitioning to deeper red on crest; females: black crest with white streaks; both sexes with white and black bands bordering the crest on sides of head.

The importance of not stating the obvious may not be dramatic in this paragraph that I wrote as example, but when it is done in a whole article, report or book, it becomes a tedious and unjustified burden to the reader's brain that has to process all that useless and misleading information. It is, however, easy to prevent by just applying what you just learned here. In the times of artificial intelligence that apparently writes better than most humans, you can use that technology to clean your drafts, but be careful to use a good prompt (like “re-write in briefer and clearer way, act as a professional scientific editor”) and always to fully read and correct the computer's output.

Briefly: If your article is about the Himalayan Goldenbacked Three-toed Woodpecker, or whatever the subject may be, the reader's brain will assume that you are referring to that subject throughout the article unless you say otherwise. Apply this principle to help you eliminate unnecessary words in every manuscript, and you will be a better writer. You can use artificial intelligence with the prompt “re-write in briefer and clearer way, act as a professional scientific editor”, but always read critically the result and edit it yourself before submitting.

References

[1] Gracián, B. (1647). *Oráculo manual y arte de prudencia*. Huesca, Spain: Juan Noguees Press (https://www.cervantesvirtual.com/obra-visor/oraculo-manual-y-arte-de-prudencia--/html/fedb3724-82b1-11df-acc7-002185ce6064_2.html).

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