Appendix: Ambiguity

European Association of Science Editors

Empty words and sentences

Many English words are empty – they do not add information but require the reader to fill in information or context to be understood. The reader is forced to supply his or her own interpretation, which could be different from what you, the writer, mean.

Empty words seem to give information and uncritical readers do not notice them – that is why they work so well for marketing texts. However, empty words do not belong in articles reporting scientific research. Empty words require the reader to supply the meaning – very dangerous. Concise and clear communication requires words that convey specific meaning.

Examples

It is important that patients take their medicine.
- Note that to a physician the meaning is probably entirely different than to the sales manager of a pharmaceutical company. "Important" is one of our best-loved, but empty, words – it fits every situation.

The patient was treated for XXX.
- "Treated" is empty; we do not know what was done. One reader could assume that the patient was given a certain medicine, while another reader could assume that the patient was given a different medicine. Perhaps the patient was operated on, or sent to Switzerland for a rest cure.

The patient reacted well to the medicine.
- "Reacted well" gives us a positive piece of information, but otherwise it is empty; we do not know how the patient reacted.

The patient's blood pressure was low.
- We interpret "high/low blood pressure" to mean "higher/lower than normal", but we, the readers, have to supply that reference standard. A more concise statement is: *The patient's blood pressure was 90/60.*

Empty words and phrases not only require the reader to supply the meaning, they also contribute to a wordy blah-blah text. In scientific articles they destroy credibility. Here are some examples.

It has been found that the secondary effects of this drug include…
- Better: *The secondary effects of this drug include…(ref.).* Or, if these are your new results: *Our results show that the secondary effects of this drug include…*

We performed a retrospective evaluation study on XXX.
- "Performed a study" is a much overused and rather empty phrase. Better: *We retrospectively evaluated XXX.*

More examples that require the reader to supply information if it is not evident from the context:
- *quality*
- *good/bad*
- *high/low*
- *large/small*
- *long/short*
- *proper/properly* (eg "…a proper question on the questionnaire…")
- *As soon as possible…*

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Incorrect use of scientific terms

Scientific language should be exact and based on unequivocal terms. However, some terms are not always used properly. For example, *trimester* means 3 months (usually with reference to 1/3 of human pregnancy) but is often wrongly used to describe 1/3 of mostly shorter pregnancy in many animal species (Baranyiová 2013). Another nowadays frequently misused word in both human and veterinary medicine is *gender* (eg "examined dogs of both genders"), as it is not equivalent to biological sex. The word *gender* applies primarily to social and linguistic contexts. By contrast, in medicine and biology, the term *sex* is usually correct, because biological sex (not gender) is linked with major physiological differences (Marušić 2014). Wrong use of scientific terms can lead not only to confusion but also to serious consequences, so special care should be taken to avoid it.

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