# **Comparisons and Descriptions**

There are a variety of techniques that can be used to describe and compare, but selecting an appropriate one is especially important when communicating science. We often need to describe experiments, phenomena and/or situations of which our audiences have no experience (Taylor and Dewsbury, 2018).

More generally, using comparisons and descriptions selectively in your writing will also make it easier and more interesting to read. When done effectively, it will provide an extra level of engagement with your readers, which is useful if you have to use a certain amount of jargon or if you simply want to make your article more accessible. For example, if you have to explain how cell receptors work to an audience without specialist knowledge, it might be useful to describe them as "mini sorting machines," that "ensure only the right deliveries are made to specific cells."

Whenever you use a description or comparison in your writing, try to make sure that it is succinct, simple to understand/visualize, appropriate for your audience, and – most importantly – an accurate description of the more complex relationship you are trying to explain. For example, "winning that science scholarship" is **not** "like winning the lottery," because there was no skill involved in the latter. Instead, it is more "like getting your dream job."

**Similes** actively explain a comparison for a reader (e.g. "smaller rivers branch into bigger ones like blood vessels branching into major veins and arteries"), whereas **metaphors** turn one object into another, thereby leaving the reader to make the connection (e.g. the typical student’s study area is a disaster zone). Importantly, as Taylor and Dewsbury (2018) note, while these features of academic writing offer many descriptive possibilities, they also have limitations particularly in their potential to oversimplify scientific phenomena.These subtle differences are more important than you might think: **Similes**, if chosen appropriately for the audience at which they are aimed, should always be understood, whereas **metaphors** can "**open the door**" to personal interpretations.

**Some examples**

Notice the subtle difference in the following *similes* and **metaphors**:

*1S) These elements react as fast as lightning.*

**1M) This reaction is a lightning bolt.**

*2S) Sitting through that lecture was like watching paint dry.*

**2M) That lecture was a snorefest.**

*3S) The two species are as different as night and day.*

**3M) The two species are black and white.**

Note how the metaphors could be interpreted differently to how they are intended (especially 3M, which is supposed to imply the two species are very different from one another, but you could see how people might think the two species are coloured black and white instead).

**Choosing When to Use Similes and Metaphors**

It is very important to **gauge your audience** when using comparisons and descriptions; a simile or metaphor might be technically great, but if it means nothing to the people reading your article, it will only confuse and frustrate. For example, there is no point in telling the general public in Canada that: Students trudging to their 9:00 am lectures are “as sleepy as brown bats.” It is true that brown bats are among the sleepiest creatures in the animal kingdom, but it is highly unlikely that most people know this.

**Things to Avoid**

Firstly, the **overuse** of descriptions and comparisons typically makes things more confusing and (almost certainly) less concise, so try not to use too many in your writing.

Secondly, "**dead**" descriptions and comparisons are of little use because they have become so common in our language (and thus, they have lost their impact), and because their original meaning has been lost. For example, telling the audience that the alpha male gorilla in your study is "*as bold as brass*," could be problematic. Scholars believe that the simile comes from the 18th century, and that it was used then to describe people that had been executed publicly after being found guilty of serious crimes; brass was deemed to be a cheap, vulgar metal, so the simile was used to suggest the executions had happened cheaply, and violently. This is almost certainly not what you want to say about your confident gorilla looking after his tribe in the beautiful misty mountains.

Thirdly, comparisons can be **inappropriate** for a whole variety of reasons. For example, they might be offensive in some way (too graphic, rude, racist, and/or sexist). Misleading comparisons can be "exploited to further social and political agendas" (Taylor and Dewsbury 2018, 3). Taylor and Dewsbury (2018, 3) note, for example that: “war on invasive species is another example that demonstrates how certain sociopolitical ideologies become entangled with scientific discourse.

Finally, **mixed** comparisons should be avoided at all costs. These include two or more unlinked descriptors in the same sentence, which makes the meaning very difficult to interpret. For example, it is difficult to understand the statement "*time flies when the weight is lifted off your shoulders*" because it contains two unrelated descriptors.

**References**

Taylor, Cynthia. and Dewbury, B.M. “On The Problem and Promise of Metaphor Use in Science and Science Communication.” *Journal of Microbiology & Biology Education* 19 no. 1, March 2018): 1-5. https://doi.org/10.1128/jmbe.v19i1.1538

**Further reading:**

* [BC Campus’ Technical Writing Essentials: Writing Comparisons (Appendix G)](https://pressbooks.bccampus.ca/technicalwriting/chapter/appendix-g-writing-comparisons/)
* [Purdue Online Writing Lab’s guide on Using Metaphors in Creative Writing](https://owl.purdue.edu/owl/teacher_and_tutor_resources/writing_tutors/tutoring_creative_writing_students/metaphors_in_creative_writing.html)