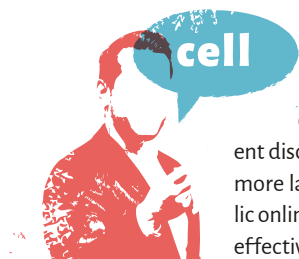


Language and simplification



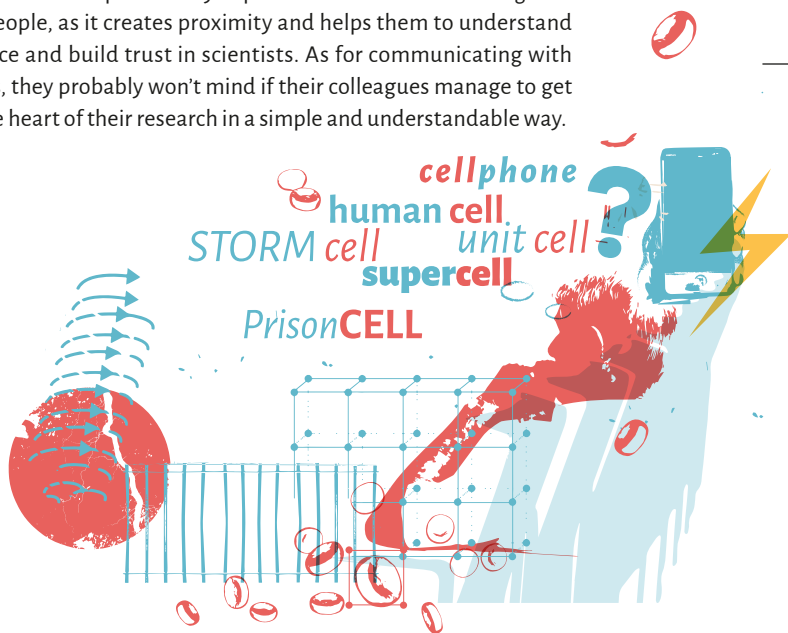
Language is a flexible tool with a wide range of functions, the most important of which is the transmission of information. A survey among 205 scientists from different disciplines around the world showed that almost half use two or more languages when communicating science to the general public online ^[25]. This trend helps to disseminate scientific findings more effectively – and more widely.

Besides using different languages (e.g. Spanish, English), the language of science is filled with technical terms that can vary so much from one discipline to another that even researchers working on interdisciplinary projects sometimes find it difficult to understand each other. Imagine how hard it must be for people outside the scientific community to follow a talk at a conference. If scientists want to communicate successfully with lay audiences they must use clear and concise language and adapt it to the target groups. They must simplify their communication, but not to the point that it is no longer scientifically correct. This is a real intellectual challenge and a skill that requires thought and time to develop.

Consider the following four key points. (i) *Avoid scientific jargon*. Or at the very least explain jargon in simpler terms when first using it. Research suggests that a text becomes difficult for a lay audience to understand if more than 2 percent of the words in it are jargon ^[26]. But sometimes it's difficult to know which words are scientific jargon. When communicating to an adult lay audience, imagine you are talking to a 14-year-old child, to whom even the word 'molecule' may need to be explained. If you communicate to children, you need to simplify your language even more. Reducing jargon can even be beneficial when communicating with peers in other fields. An analysis of 20,000 research papers indicates that scientists are more likely to open and read a paper if the title and abstract contain little or no jargon ^[27]. (ii) *Be aware of what the same word can mean to different audiences*. For example, when scientists use the word "theory", they usually mean an established, accepted

principle that explains a scientific phenomenon (e.g. Darwin's theory of evolution) and is backed up by scientific evidence. However, the general public often uses the word to describe what scientists call a hypothesis: an idea, opinion or abstract thought (He has a theory about why he caught a cold) that is mere speculation. Certain words can also be interpreted differently by people from different backgrounds, such as the word "cell". (iii) People may also *interpret what you say differently* because of their experiences or culture. Avoid language that might be alienating and take care to minimise value judgements. (iv) *Be aware of your language style.* Use short sentences. Choose simple words: use, instead of utilise; show, instead of demonstrate. And use the active voice, instead of the passive voice: we ran an experiment, instead of an experiment was conducted.

In summary, scientists should not be afraid to simplify their language and think carefully about how to adapt it to their target audience. This is particularly important when communicating with lay people, as it creates proximity and helps them to understand science and build trust in scientists. As for communicating with peers, they probably won't mind if their colleagues manage to get to the heart of their research in a simple and understandable way.



Recommended reads:

- ♦ *Engagement And Journalism Innovation For Outstanding Open Science Communication:* <https://enjoiscicomm.eu/spis/>
- ♦ *De-Jargonizer*, an online jargon detection tool [28]: <http://scienceandpublic.com/>
- ♦ *Wissenschaftskommunikation.de, Schwerpunkt: Sprache und Wissenschaftskommunikation* – <https://www.wissenschaftskommunikation.de/schwerpunkt-sprache-und-wissenschaftskommunikation/>