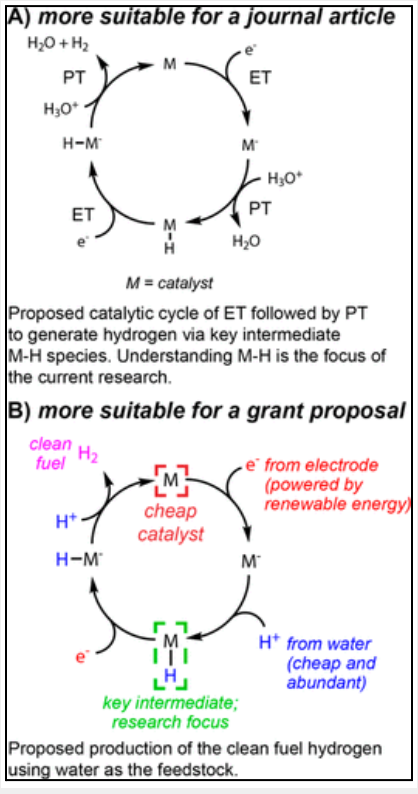
TRANSLATING YOUR SCIENTIFIC FIGURES FOR A PUBLIC AUDIENCE

As scientists and graduate students studying science, you know better than anyone else that science is complicated. You also know that the study and development of science is crucial and that it is imperative that the general public understand and embrace scientific principles and research if we want to create a productive future. Unfortunately, a large percentage of us do not possess the tools necessary to make sense of the complicated mechanisms of your research; therefore, a sizable chunk of the world is in need of your help to decipher your work and help unravel its mysteries.

By the time you are publishing your own scientific research, you are intimately familiar with using figures to explain complex information. For other scientists, these figures are crucial sources of clarity; those who can read and understand them glean from them crucial information that helps bring your research together. Non-industry audiences may look at your delicately crafted figures, turn their heads to the side in consternation, and give up on understanding you altogether. Since providing figures for your audience is an essential part of the science communication process, we want to help you find ways to tailor your figures and images for more generalized audiences. McCarthy & Dempsey (2017) provide us with an image that helps distinguish between figures meant to be shared in scientific journals and those meant to be shared with public audiences:



Consider the differences between these two figures. Figure A provides great detail in its caption and in its visual descriptors while Figure B simplifies the language so that audiences outside of the realm of its field of study can understand its contents. Imagine if a Figure C existed that was meant to explain this information to high school students, or a Figure D that tries to explain this concept to young children. How much information you give and to what lengths you go to explain it will vary based on your audience. For Three Minute Thesis, for example, you will be providing information to a group of college-educated people from various backgrounds. Think about the level of complexity that would be appropriate for that audience.

In general, remember to:

- Replace extremely technical language with language anyone in your target audience can understand.
- Simplify the visual image in the figure itself; too much clutter without context can lead to confusion!
- Take advantage of color, font, sizing, and other visual elements to create an easily navigable, attractive figure audiences can bounce off of, but not rely on. In public-facing work, a figure should help reinforce the text, not provide new information.

References

McCarthy, B.D., & Dempsey, J. L. (2017). Cultivating Advanced Technical Writing Skills through a Graduate-Level Course on Writing Research Proposals. *Journal of Chemical Education*, *94*(6), 696–702. https://doi.org/10.1021/acs.jchemed.6b00903