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On the Cover

"Ceci n'est pas une protéine," or "This is not a protein," pays tribute to René Magritte (1898–1967), an artist who explored the relationship among an object, its identification, and its representation. One of his best-known works, which served as a source of inspiration for this cover, is "La trahison des images" (1929), or "The treachery of images." It depicts a pipe accompanied by a legend that says, "Ceci n'est pas une pipe" ("this is not a pipe;" see: http://en.wikipedia.org/wiki/File:MagrittePipe.jpg). The image is deceiving in that, however realistic it may appear, the object is not a pipe but a representation of it. Similarly, molecular science involves depictions of molecular objects, which are necessarily representational and thus highly abstract. For example, proteins are identified through complicated experimental procedures such as functional tests or X-ray crystallography. This presents a challenge for educators and students alike. Although images are abundant in instructional materials, how students make meaning of them, including how the images represent biological molecules and phenomena, remains largely unstudied. The study by Kramer and colleagues in this issue provides new insights into this subject. Returning to the cover image, indeed, the object is not a protein. It is a computer-generated surface representation of the scaffold section of ubiquitine ligase (*pdb:1ldk*), combined with Magritte's representation of a mouthpiece of a pipe. What do you suppose it means?