VRA Bulletin

Volume 51
Issue 1 *Spring/Summer*

Article 10

June 2024

Review of *The Visual Elements – Photography: A Handbook for Communicating Science and Engineering*

Ann Bell
bell.arthistory@gmail.com

Review of *The Visual Elements – Photography: A Handbook for Communicating Science and Engineering*

Abstract
This review provides an overview of The Visual Elements – Photography: A Handbook for Communicating Science and Engineering by Felice C. Frankel. A research scientist at the Massachusetts Institute of Technology, Frankel highlights four easily accessible tools – scanner, phone, camera, and microscope – and imparts practical and innovative advice for those who want to enhance their scientific research with captivating photos. Although intended for scientists and engineers, anyone interested in the technical aspects of photography and improving their compositional skills will benefit from Frankel's instruction in this easy-to-use guide.

Keywords
Book review, photography, photographers, photographer's guide, photographs, communication, pictures, imagery, how-to.

Author Bio
Ann Bell is an art historian who holds an MA from the Bard Graduate Center and will complete an MLIS at Pratt Institute in Spring 2025. She was the director of the prestigious Morgan Book Project at the Morgan Library & Museum and has held faculty positions at Parson's School of Design, the New York School of Interior Design, Pratt Institute, and Sotheby's Institute of Art. She recently shifted to curatorial work with research concentrations in rare books and artist archives and is also pursuing a professional certificate in digital photography at the New School.

As a budding photographer, even outside of the field of science and engineering, I found Felice C. Frankel's *The Visual Elements – Photography: A Handbook for Communicating Science and Engineering* (Chicago: University of Chicago Press, 2024) a compelling read, because at its core it is about artistic practice. Part of the *Visual Elements* series, Frankel describes these books as "primers for readers who are new to visual communication and quick guides for those with more experience."[1] Loaded with stunning visuals, mostly photographs taken by Frankel herself, the book easily lends itself to flipping through and will pull the reader in with vivid colors, unique subject matter, and inventive close-ups that beg for a closer look.

The author is a photographer and research scientist in the Department of Chemical Engineering at the Massachusetts Institute of Technology. Her images have appeared in publications such as *Nature* and *National Geographic* and, as is evident from *The Visual Elements – Photography,* has spent a great deal of time experimenting in search of the best toolkit for communicating visually.

The book presents six well-organized and succinct chapters. The first four cover imaging tools that are familiar in everyday life – scanner, phone, camera, and microscope – and which most people would be able to use with a fair amount of ease. The last two chapters deal with how to put it together and consider image integrity.

Chapter one discusses how to use a scanner to capture detailed images. Frankel proposes purchasing a scanner that functions in both reflective and transparent modes. This allows for more options in terms of light source; reflective mode will light the subject from below while transparent mode shines light from above.

Chapter two moves on to the phone and examines scenarios when it may be a useful option. There is a very interesting section on using a phone with an adapter to capture images through a microscope, and the results are astounding. This chapter also delves more deeply into photo editing like color adjustment, cropping, and altering backgrounds.

Chapter three focuses on the basics for getting started with a DLSR camera. It takes a quick look at software and presents the settings necessary to achieve the most optimal exposure (ISO, aperture, and shutter speed).

Chapter four returns to photography using a microscope but with a more detailed approach. This chapter will most likely appeal to those in the fields of science and engineering and is one of the more all-encompassing sections. Although still an accessible tool for non-scientists, microscopic photography is the most involved method discussed in the book.

Chapter five puts it all together and looks at structure and conveying abstract ideas or theories through photography. How and which images are arranged with each other and can be enhanced aesthetically can create a narrative that provides clarification or helps explain complex concepts.

Chapter six invites the reader to consider how editing affects photography. Frankel discusses where the line might be drawn between accurately portraying subject matter and going too far in enhancing the image. She argues that in science especially, it is important not to compromise the aspect of documentation and offers advice on using histograms and adjusting sharpness.

The Visual Elements – Photography: A Handbook for Communicating Science and Engineering is exactly what the title suggests. It is a useful and accessible guide that gives a holistic view into what it takes to make a good image fit for publication. Frankel writes clearly and provides plenty of suggestions for practicing the techniques she discusses. Anyone working in the field of science or

[1] Felice C. Frankel, *The Visual Elements – Photography: A Handbook for Communicating Science and Engineering* (Chicago: University of Chicago Press, 2024), vii.

engineering could certainly benefit from the wisdom within this well-illustrated book. Even if you are simply a budding photographer like me, this is an invaluable tool to refine your skills.