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““Snowflake” Bentley and Ukichiro Nakaya: Science and Aesthetics in Snow Crystal
Photomicrography”

Abstract:

The study of snow crystals, the tiny geometric formations that combine to make up snowflakes, has a long history that involves changing ideas about the relationship of beauty to scientific truths, and between scientific representations and the phenomena they help us study. When photography becomes viable as a tool for observation and communication in the study of snow crystals beginning in the late 19th century, it brings to the fore key questions about what kind of images are needed for understanding nature.

This project situates photography of snow crystals in a longer history of representation in order to bring out the broader philosophical issues that are undeniably at play: the ideal as opposed to the particular, and the empirical as opposed to the theoretical. I focus on two prominent figures in the history of research on snow crystals: Wilson “Snowflake” Bentley, an American snow crystal enthusiast who is very famous for being the first to use photomicrography to make thousands of snowflake images starting in 1885, and Ukichiro Nakaya, a early 20th century Japanese physicist who spent his career studying and analyzing snow crystals and meteorology. Nakaya was a thoughtful image-maker, and refers often to Bentley’s work, in spite of the different, arguably less scientific context in which it was made. Both men’s images have reached a wide audience based on their tendency to prompt philosophical reflection on beauty and rationality in nature. I argue that an art historical analysis can offer insights about the role of picturing here, something that is often excluded from work in the history of science. A comparison of the visual relationship between the work of Bentley and Nakaya highlights key questions about representation in science, and the relationship between aesthetics and systems of knowledge.