

Book Review

On the Surface of Things, by Felice Frankel and George M. Whitesides

Reviewed by

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On the Surface of Things by Felice Frankel and George M. Whitesides. Chronicle Books, San Francisco, 1997. 160 pages. 10 x 9-5/8 in. \$22.95 ISBN 0-8118-1394-0 (pb) \$35.00 0-8118-1371-1 (hb).

On the Surface of Things is a real rarity - a science book for everyone, including those who hate science.

Felice Frankel, who is artist-in-residence at MIT, has joined forces with George Whitesides, Professor of Chemistry at Harvard, to prepare this exceptional book. It is a collection of several dozen high-magnification images of diverse objects, ranging from lichen and rust, to pearls, water droplets, and compact discs. Many of the images are of extraordinary beauty, and in this sense this is a "coffee-table book" - one that can be picked up to admire for a few moments at a time.

But *On the Surface of Things* is altogether more valuable than this. Each full-page color photograph is complemented by a page of description. It might have been tempting for the authors to have dodged the science, and merely sketched the story behind each picture. To their credit they chose to bring science into every brief discussion. An image of prismatic bubbles leads to a consideration of butterfly wings, an explanation of rusting brings in microelectronic devices, and an image of wallpaper-like strings of nucleation points is used to introduce colloids.

The science is pitched at such a level, and introduced with sufficient skill, that most explanations should be comprehensible for the average nonscientist. Indeed my experience is that the nonscientist finds the text not merely understandable, but fascinating.

On the Surface of Things is subtitled "Images of the Extraordinary in Science," but this is a little misleading - it could as well be "Extraordinary Images of the Ordinary in Science," as many of the photographs show unfamiliar views of quite ordinary objects. The images are by turns beautiful, fascinating, and unexpected. Soap bubbles, migrating bacteria, tears of wine, yeast, ferrofluid, opal, ice, and even Shakespeare's signature reveal wonderful detail under magnification. Brief details are provided on the photographic conditions for each picture, which will be of interest to amateur photographers. The production of the book too is commendable; both design and printing are excellent.

This is a book that should inspire scientists and nonscientists, and teachers and students alike, with the beauty of the photographs and the fascination of its text. Even if it were expensive, it would be worth hunting out; at only \$22.95 it is a bargain.
