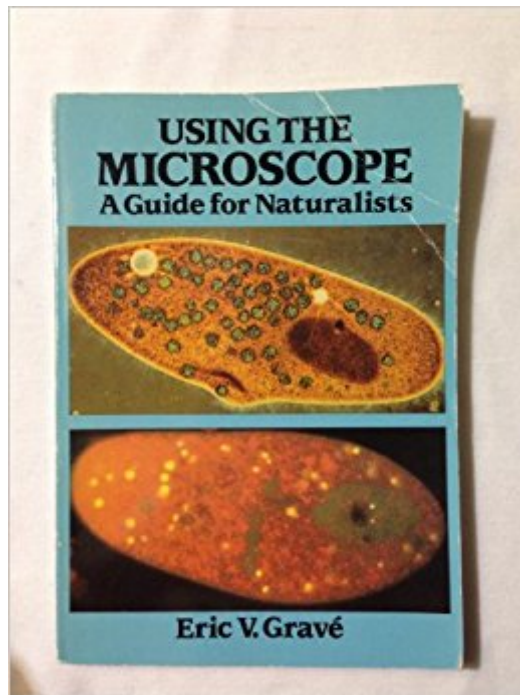




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Using The Microscope: A Guide For Naturalists



Synopsis

Using the Microscope: A Guide for Naturalists [Dec 01, 1991] Grave, Eric V.

Book Information

Paperback: 224 pages

Publisher: Dover Pubns; Reprint Edition edition (December 1991)

Language: English

ISBN-10: 0486269167

ISBN-13: 978-0486269160

Product Dimensions: 0.8 x 7 x 9.8 inches

Shipping Weight: 10.4 ounces

Average Customer Review: 4.2 out of 5 stars 6 customer reviews

Best Sellers Rank: #949,564 in Books (See Top 100 in Books) #72 in [Books > Science & Math > Experiments, Instruments & Measurement > Microscopes & Microscopy](#) #7879 in [Books > Science & Math > Biological Sciences > Biology](#) #11365 in [Books > Science & Math > Physics](#)

Customer Reviews

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Having constructed my own basement "lab" as a child of seven in a long ago world of do-it-your-self, I was fortunate enough to get my hands on a Guyer and Bean copy of zoological micro-techniques (all the rage at the time) and later an F. Weesner version of the same as well as a discarded professional grade Nikon Microscope at Washington University, just down the street from my home. From then on, it was hands-on for me. The great deprivation of academia has been the lazy provision of pre-prepared slides (and pre-prepared everything, for that matter). It may be difficult to believe but the majority of our learning is derived through the hands. The most unfortunate advent of "virtual learning," so-called, has led, I have woefully discovered in practice, to a virtual superficial absorption of information (mostly incorrect). Even in Med. School, I made every conceivable effort to prepare my own microbiological, histological and embryological materials, cultures and slides whenever I was able. This was a given as far as I was concerned. The knowledge obtained by direct observation of one's own self-prepared specimens and the performance of one's own dissection is embedded in the brain in a far different manner than if one merely looks at a one-dimensional photo or pre-preparation or even the current fashion of computer image manipulation (which is fine only AFTER having had the tactile experience). Galen got it so awfully wrong because, rather than

having performed his own dissections, he counted on the observations of unskilled laymen to perform autopsies under his rather remote supervision. This was among the many unfortunate consequences of the Christian dominated dynamics of the time. Students continued this ritual of second hand observation (or observation by proxy) for centuries so that nothing changed and no correction was ever at hand to address the accumulation of gross mis-information until the Renaissance when experiential observation became quintessential to the informed, at least for the time. Using The Microscope by Grave ranks right up there with Guyer and Weesner. The most practical chapter is Chapter 4. The most informative and delightful is Section Two. Chapters 1 through 3 is theoretical but highly instructive in the theory behind the variable uses of depicting the image under the scope and how one may garner different types of information via different methods of illumination. This is also a great compendium to Nachtigall's Exploring With The Microscope. I absolutely recommend this wonderful little manual for curious folks of all ages who are willing to do the exploring and the preparation necessary for the purpose of learning and discovering as well as learning how to learn and how to discover!

The first chapter of Using the Microscope: A Guide for Naturalists gave me the special pleasure produced only by authors who write with clarity and grace. The book is a 1991 Dover reissue of Eric Grave's 1984 Prentice Hall title, Discover the Invisible. The main changes are an update of the supply sources listed in the last short chapter, "Resources," and a repositioning of color photographs from within the text to the front cover and the insides of back and front covers. At the back of the book are notes and a short (and now out-of-date) bibliography for each chapter, glossaries of microscopical and of biological terms, and a good index. At its price, this book is a bargain. The organization of Using the Microscope: A Guide for Naturalists is simple, a "Part One" that begins with a pleasant, informative history of microscopy and continues with chapters on choosing a microscope, the various kinds of illumination for microscopy, how to get started in photomicrography, and in general just what the title says, using the microscope. "Part Two" consists of matters more appealing to the naturalist, chapters comprised of short, specific and excellently illustrated essays --on how microscopic creatures eat, multiply, compete with and make use of one another, two little bits on microbial behavior, and two chapters on what visits to Yellowstone and the Petrified Forest can mean to (what the title says) the naturalist-microscopist. Now, if only the volume were organized differently! If you want truly to enjoy this book, begin at the beginning and read about the early microscopists, and then hurry on to "Part Two" to find out why the rest of "Part One" is worth reading, maybe not today, but when you want to see for yourself what Grave's photographs

show (different kinds of illumination permit one to see different structures and processes) or when you want to photograph the whole process of a paramecium becoming two paramecia or a water flea becoming a hydra's dinner (and have your photomicrographs repay the time you spend making the pictures). I do not want to get into photomicrography, but I learned from Grave's images of a Colpoda that I'd been looking at separate, individual stages of this organism's reproductive process. Learning that--from a chapter in "Part Two"--almost surely influenced my decision to equip my microscope for Dark Field illumination, and I did that by going back to Grave's technical instructions in "Part One." In words of one syllable: Buy this book, but read "Part Two" first.

A bit dated, in that it still talks about film cameras, but 99% of the information here is as useful as the day it was published. The section on the function and proper use of the condenser stage is worth the price of the book. As the title says, it's directed at amateur naturalist (a group I count myself a member of) but it's a superb introduction for anyone interested in acquiring and using a microscope.

A very good publication with a lot of references on different microscopes.

no comment

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