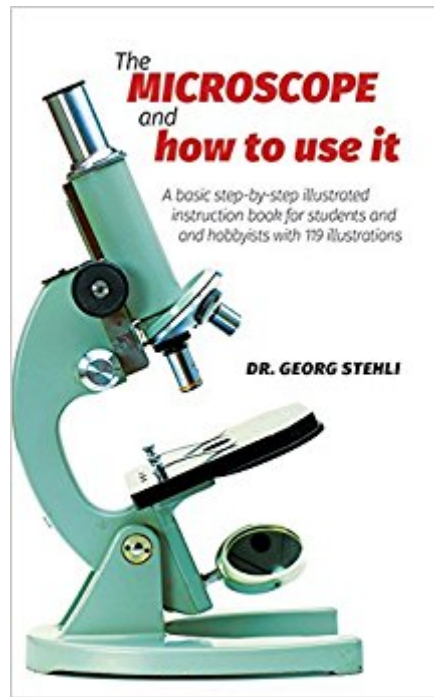


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# The Microscope And How To Use It



## Synopsis

A world of pleasure, excitement and new knowledge awaits one who learns to use the microscope – a world in which table salt crystals appear as jewels, a drop of water swarms with life, a butterfly's wings reveal a cascade of multicolored particles. This book is for anyone who would like to enter that world, whether or not he has ever used a microscope before. No special knowledge is required. In non-technical language and with generous use of illustration, the author explains how a microscope works and what kind to use; how to adjust the instrument and position the specimens to be viewed; examination of simple objects: a human hair, feathers, milk. At the same time, he shows how to prepare the objects, what to purchase for the purpose, how to care for it; one's every question is anticipated and clearly answered. The fundamentals understood, the reader is taken into further exploration viewing insect parts, diatoms, plankton, molds, leaves, ferns, fruit rinds, fish scales, animal parts. As we proceed, we learn step by step the techniques involved: use of chloroform, preparation of permanent slides, mounting in glycerine, preparing dye solutions, dissection, and blood smearing. We learn how to detect fat, find Vitamin C in food substances, prepare a frog for examination, view and distinguish bacteria, use the oil-immersion objective, dye bacilli spores, do microphotography, cut sections with the microtome. Following Dr. Stehli's careful instructions, we have entered and gone well into the fascinating world of microscopy. The invention of the microscope itself started science on new courses, entire fields of new knowledge. The use of a comparatively simple microscope today can start one on a lifetime interest, an absorbing hobby, a career in science, or a permanent addition to one's cultural background. This book provides all the help needed, whether one is adult or student, hobbyist or scientifically serious, seeking education or merely curious about the minute world that exists all about us. 119 photographs and drawings.

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## Customer Reviews

[Note that this is a review of the hardcover, seventh printing in 1969 distributed by Sterling Pub. Co., not the Dover edition that is selling -- to me! Rated at 8 only because I don't know whether more current information is available. Otherwise, call it a 10.] This is the only serious book on microscope technique that I could find in the Fairfax County VA public library system which is probably one of the best in the country. All the other books are superficial and aimed at kids. This one covers apparatus care and use, simple (temporary) preparations of various kinds of specimens, microphotography (though superficially), but the best part is the appendix on microtome technique which presents a full procedure for fixing, dehydration, and paraffin infiltration. Here are the chapter titles: 1. The Microscope and Essential Tools 2. How to Use the Microscope 3. Examining Simple Preparations 4. Insect Preparations 5. Exploring a Drop of Water 6. The Structure of Plants 7. The Structure of Animals 8. Bacteria 9. Microphotography Appendix. Microtome Technique with Index. Thank God for Dover Press and their willingness to keep these oldies but goodies available. With libraries catering to the bestseller crowd, our technical know-how would otherwise perish.

In its English translation, this book is a good introduction to microscopy and microtechnique but suffers from two problems: 1. The translation from the German is sometimes awkward and not always clear as to meaning (I have read the book in German as well); 2. The book makes reference to chemicals which cannot be obtained by private individuals in the US. Some chemical references are also no longer available: "wood vinegar", given by Dr. Stehli as a constituent of Pfeiffer's Fixative for algae, does not exist anywhere on this side of the Atlantic. Wood vinegar is actually a literal translation of the German "Holzessig" and is apparently an impure form of glacial acetic acid (which is available, but again not to individuals). Students who have access to a college laboratory or who can order chemicals through a third party will be very happy with this book. The information on basic setup of a microscope, hand-cutting sections and preparation of fresh (as opposed to fixed) specimens is excellent.

It's been so many years since I first learned to use a microscope I bought this concise book to refresh my memory. I'm now getting more use out of my laboratory microscope

Long way from a complete guide to a microscope. I thought it would be more comprehensive and detailed in its instruction.

I barely have enough reasonably new (under 15 years old), good microscopes for my students to use in groups of three. I was hoping that this book would help me figure out how to rebuild or repair enough of the 50 and 60 year old scopes I found mouldering in a storage closet so that I could get them down to groups of 2. Alas...This book has lots of good, if a bit outdated, information about how to prepare slides and view specimens, but in terms of telling me how to tear down, clean, repair and rebuild old microscopes, it's not much help. While I am pretty good at making repairs on everything from digital projectors to slide rules and triple beam balances, I find it saves an awful lot of head scratching time if I can look at a well prepared repair guide. I am keeping this book and I will use it, but it's not really what I needed.

This is a good book Lots of helpful info This information will not only improve your knowledge It will better your time with ur microscope

Good guide especially for those with limited microscope knowledge. Presented in an easy to understand format and is a good guide for my kids.

outstanding first microscope book. explains much in understandable ways. worked perfect for my needs. i am so glad i found it

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