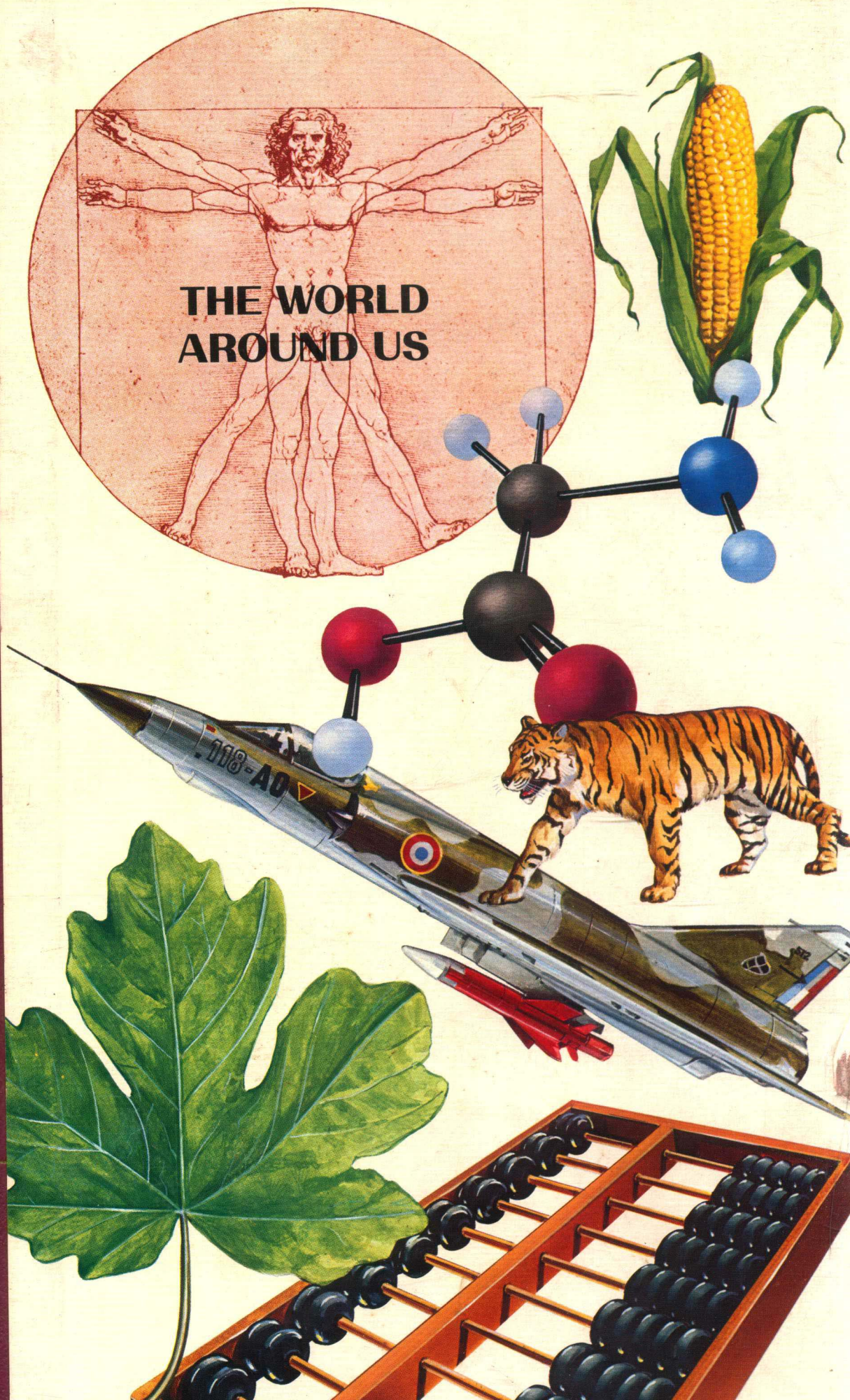
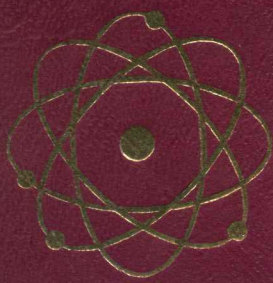


SCIENCE AND TECHNOLOGY ILLUSTRATED





# Science Technology

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*The World Around Us*

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Library of Congress Catalog Card Number: 84-80129

International Standard Book Number: 0-852229-425-5

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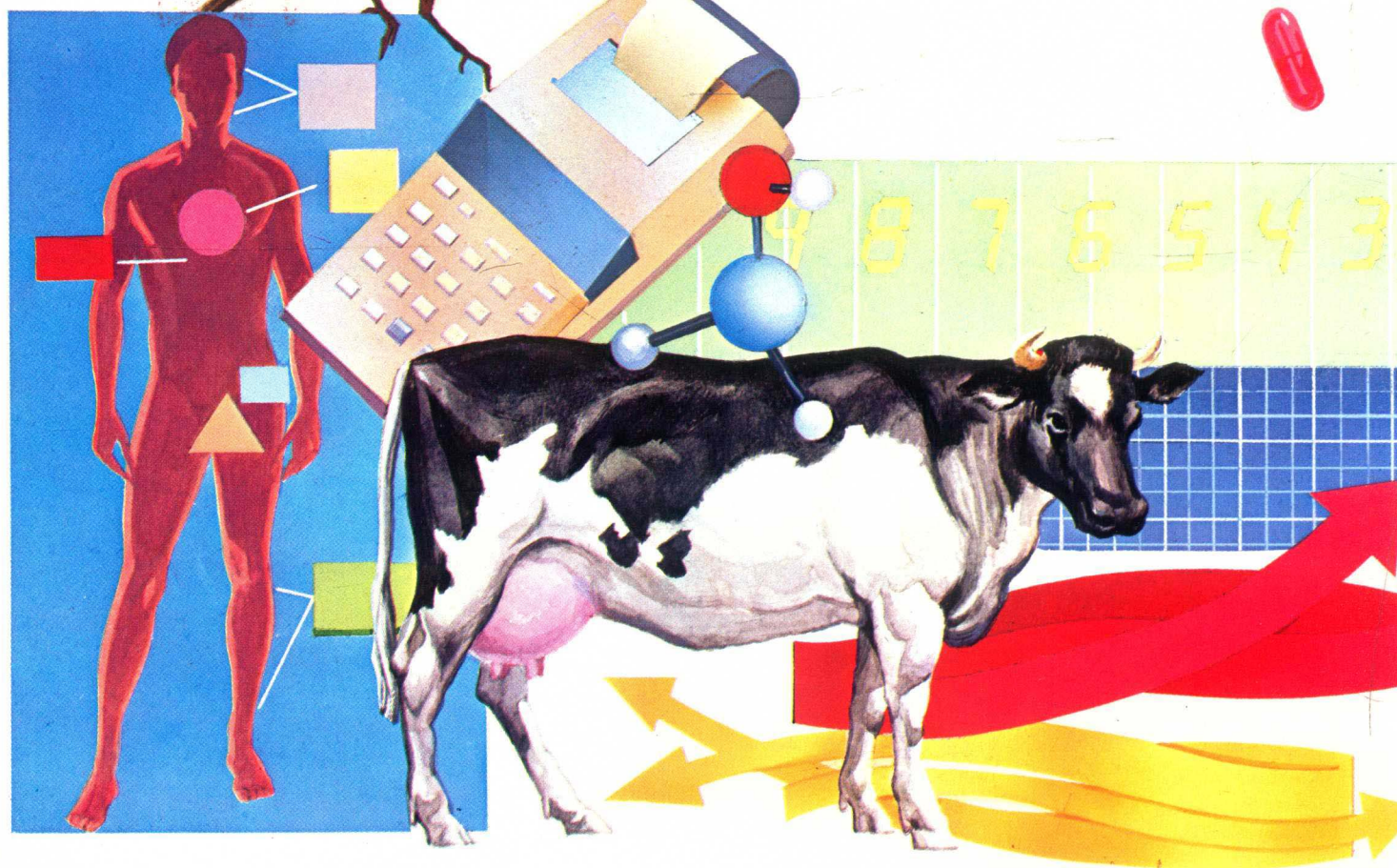
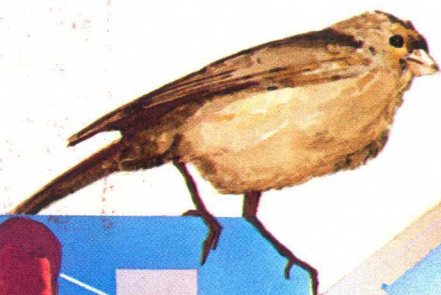
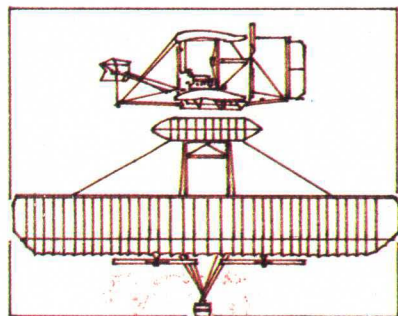
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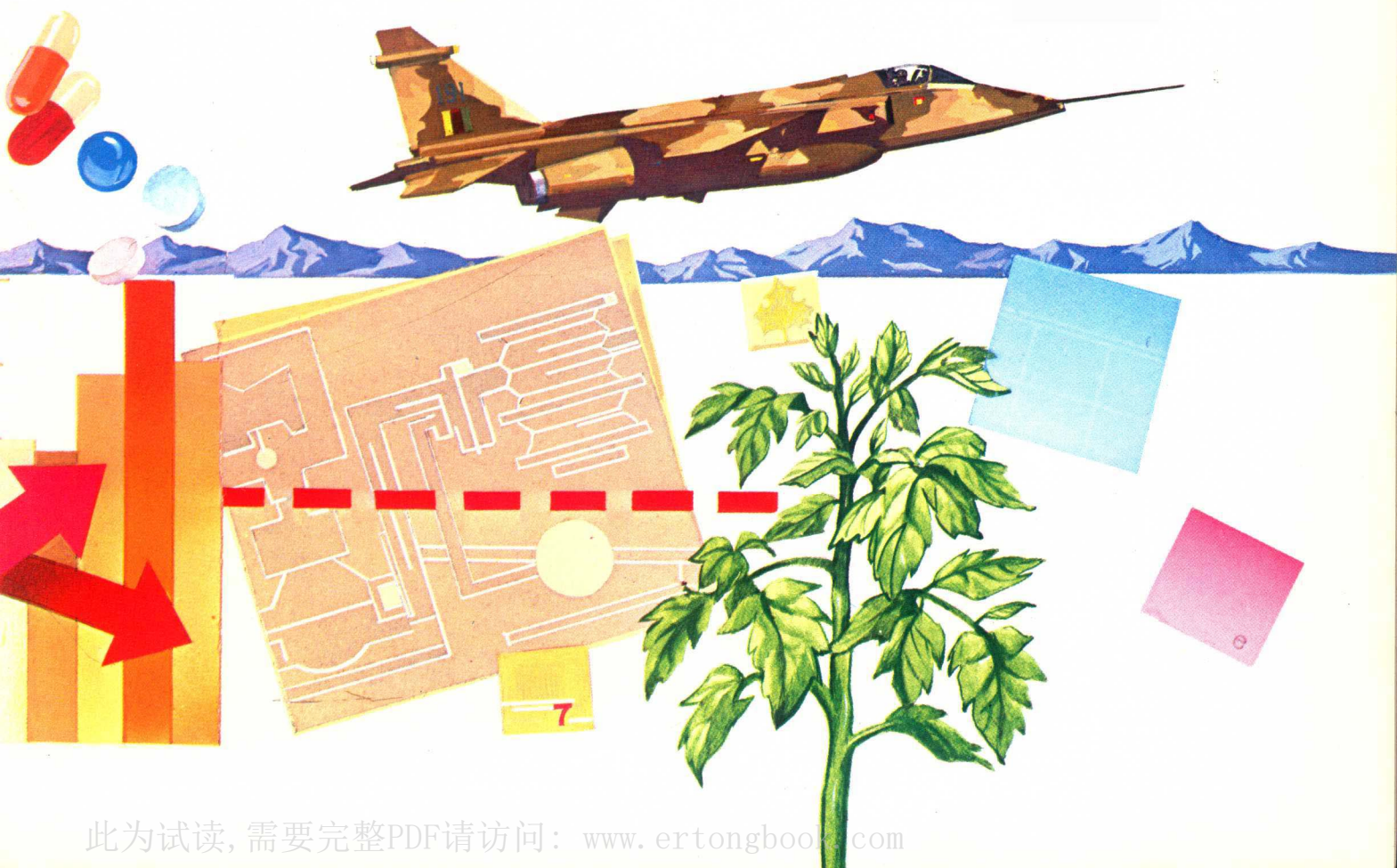
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# Science and Technology Illustrated

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*The World Around Us*



# Science Technology

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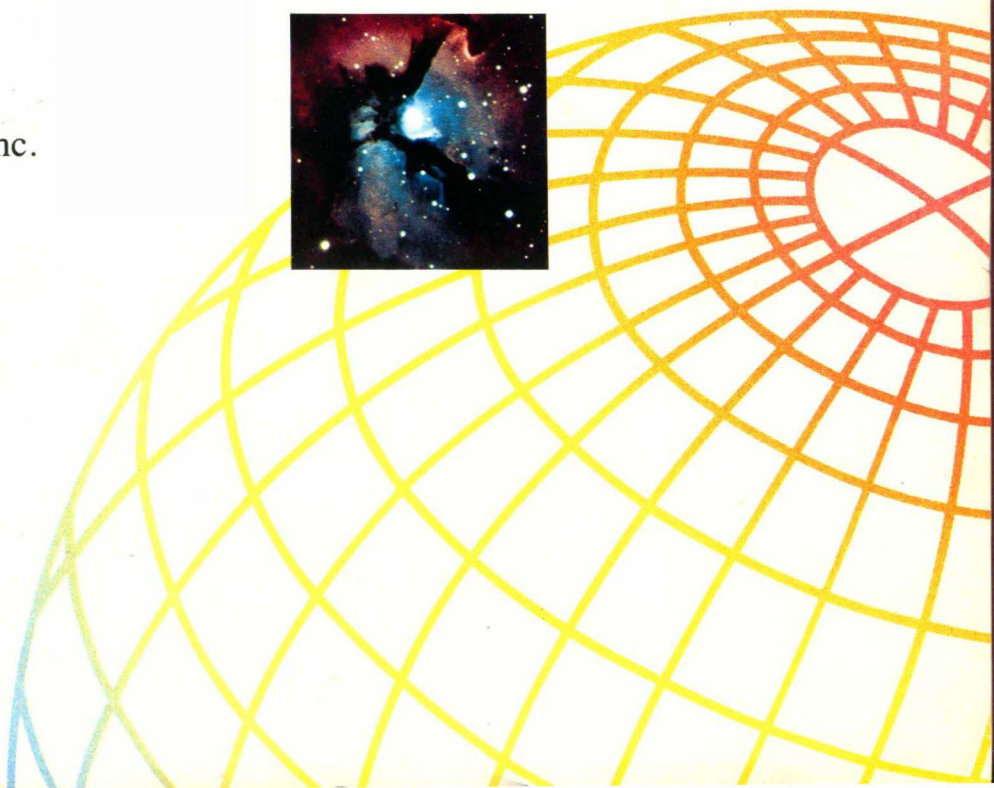
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# Preface

*Science and Technology Illustrated: The World Around Us* is an entirely new publication on an entirely new plan.

Encyclopedists employ various metaphors, or pictures, to suggest and sum up their work. The editors of *Encyclopaedia Britannica* speak of a Great Circle of Knowledge, which their encyclopaedia both describes and reports. The editors of *Science and Technology Illustrated* have built this set of books on the idea of the universe as a great organism that works and works well.

That the universe works cannot be questioned. We are a part of it, it operates upon us, and we operate within it. The ways in which it works are often puzzling, and sometimes still unknown.

Yet a great deal is known about how the world works—the world as a whole, and the thousands and thousands of separate parts of it that have independent life and being. Every article in *Science and Technology Illustrated* attempts to answer questions about how the world, or some part of the world, works. These parts may be inanimate: stars or electrical forces or elements or mathematical relations. Or they may be animate: species of plants or animals, or individual living things—a man or a woman or a child, or a single living cell.

Everything that exists operates or works, in some sense of the words, within the great system that is the world. If it did not work it would not be; if it had no reason to be it could not continue long in existence. But things work in very different ways, as the distinction between inanimate and animate beings suggests. And therefore the answers to questions about how things work are not always the same.

To view the world or universe as a living, operating system or organism is but one way to view it. The universe can also be viewed as something dead, like a butterfly pinned to a sheet of white paper. The first way of looking at things is intellectually more exciting, and in many ways much more fun. And the editors of *Science and Technology Illustrated* had fun in mind when they made this set of books. They had fun creating it, and they hope all its readers have fun using it. If that happens, then their effort will have been amply rewarded.

THE EDITORS



# Editorial Staff

*Science & Technology Illustrated* is a thoroughly modern work which involved the efforts of two major publishers on two continents. The text, commissioned by Encyclopaedia Britannica, Inc. in the U.S.A., was written by professional science writers with the advice and assistance of American scientific consultants. The illustrations were created by

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# How to Use This Set

*Science and Technology Illustrated* contains 3,584 pages of colorfully illustrated, factually packed encyclopedic material. But the basic unit of the set is not the page but the article. There are 1,242 articles in this work.

The articles are arranged in alphabetical order, from ABACUS to ZIRCONIUM. An alphabetical arrangement has many advantages, and readers of encyclopedias generally prefer it.

The article ABACUS explains how to use this ancient calculating device that the Chinese and Japanese and some other peoples have employed for centuries. The article ZIRCONIUM explains the part that element plays in the great organization of matter that is described in the Table of Elements. It also tells what man knows about zirconium, and how he uses it.

In between are many, many other articles of the same kind, which explain how to use things, or what role things play in the overall structure of the universe, or what kind of a more general thing—a special animal, for instance—a particular thing is.

*Science and Technology Illustrated* also contains articles that deal with aspects of the world or things within the world, most notably with aspects of man. Human beings are unique in being able to communicate in spoken and written language; there is a wonderful article on LANGUAGE, what it is and how it works. Human beings are also unique in creating an organized system of knowledge with which they are able to investigate the world around them; there are also fine articles on many individual sciences.

Usually the best way to use *Science and Technology Illustrated* is to look at the Index first. The Index begins on page 3,552 in Volume 28. Look up the word or term in which you are especially interested, and then go to the article in the set to which the Index sends you.

Often, however, if what you are interested in is a particular species of plant or animal, or an element, or a tool or other device, or a scientific instrument, or a science or other means of knowing, you can save time by turning directly to the volume in which the article dealing with your subject falls, in alphabetical order. The choice of article titles has been carefully made to assist the reader who desires to use the set in this way.

Many articles end with cross references to other articles. These send you to articles that cover similar subjects, or that deal with subjects that you should first understand before trying to understand the article you are reading. Usually it is a good plan to follow up these cross references.

The best way of all to use *Science and Technology Illustrated* is to read it and have fun with it, and let it stretch your mind and your imagination!



# Science and Technology Illustrated

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 Accounting, Computerized  
 Acids and Bases  
 Acoustics  
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 Adrenal Glands  
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