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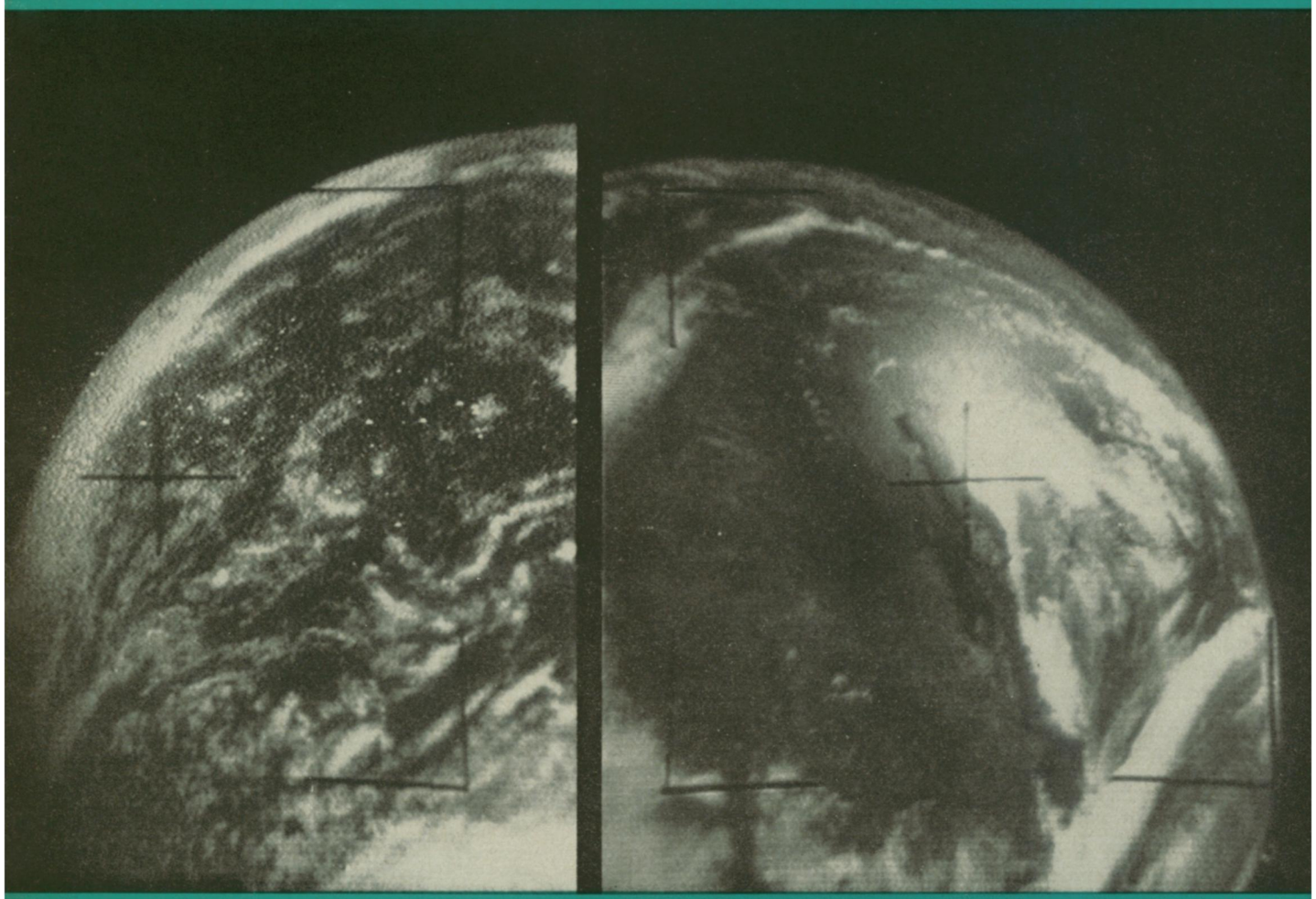
SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



NASA

Clouds From Space

See Page 88

A SCIENCE SERVICE PUBLICATION

ONE OF THE MANY FOOD CHAINS THAT FASCINATE ECOLOGISTS

1. A dragonfly seizes a butterfly and devours it in mid-air.
2. A bullfrog captures and eats the dragonfly.
3. A water snake surprises the frog and swallows it whole.
4. A hawk flies off with the snake . . . end of a food chain.

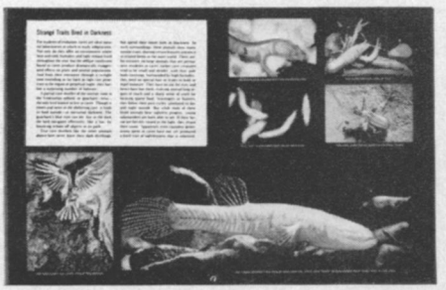
WHY doesn't the kangaroo rat of the southwestern deserts need to drink water?

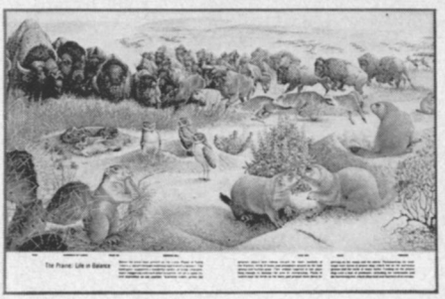
WHY do the frog, crocodile, and hippopotamus have strikingly similar profiles even though they are unrelated?

WHY is the koala bear found only where there are eucalyptus trees?

Now LIFE Nature Library invites you to explore the "whys" of Nature

See through the eyes of the Ecologist the intricate pattern that links life to life, and all living things to earth, water, and air.





Why did the introduction of the potato in Ireland lead to the great famine of 1845? Why does the number of foxes trapped in the Arctic tundra move up and down rhythmically every four years? Why did the introduction of European flora and fauna to New Zealand result in ravaged landscapes?

Tracking down the "why" of nature's seemingly incomprehensible ways . . . unlocking the secrets of cause and effect that link all life on earth . . . is the job of the ecologist. To most people, ecology is a strange new word. But it's a word you'll be hearing more and more in our time. For to scientists, ecology may hold the key to the whole future of life on this planet.

For the first time, this absorbing body of knowledge has been assembled into one volume —your introduction to the LIFE Nature Library. It is told in pictures and text as only the vast resources of TIME and LIFE could tell it.

You'll find the answers to many of nature's riddles. You'll discover how dependent all living things are on each other and on their environment. You'll learn what happens to "the balance of nature" when man changes or rearranges things to suit his needs and desires . . .

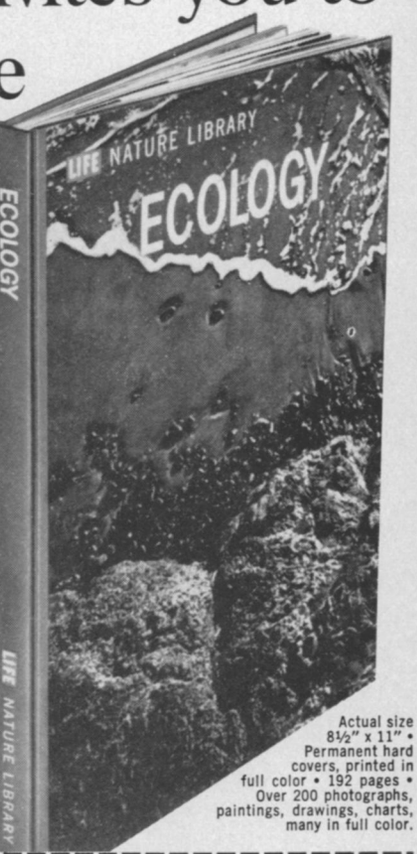
. . . how the killing of great bison herds started a chain reaction that transformed once-rich plains into deserts.

. . . how the showy water hyacinth, transported from Venezuela to New Orleans, brought river traffic to a standstill.

. . . how harmless rabbits, brought to Australia where they had no natural enemies, multiplied so rapidly and foraged so voraciously, they stripped grazing lands bare.

ECOLOGY is a hard cover book of 192 pages, aglow with 206 photographs, drawings, and paintings—many in full color. And, it will give you startling new insights into the mysteries and challenges posed by nature in 35,000 words of vivid, authoritative text by Peter Farb, Fellow of The American Association for the Advancement of Science and author of numerous popular nature books.

Just glancing through this book will give you some idea why Bernhard, Prince of The Netherlands and President of The World Wildlife Fund, says "Ecology may well become the most popular of sciences." That's why we invite you to borrow a copy for 10 days. Examine it. Then return it if you wish and you owe nothing. Or you may own it for far less than such expensively printed volumes ordinarily cost. Thanks to LIFE's vast facilities and large print orders you pay only $3.95 (plus shipping and handling). You are then entitled to receive another volume of the LIFE Nature Library for free examination every two months. But you make no commitments. And you may cancel this arrangement at any time. To examine your first volume, simple mail the coupon.



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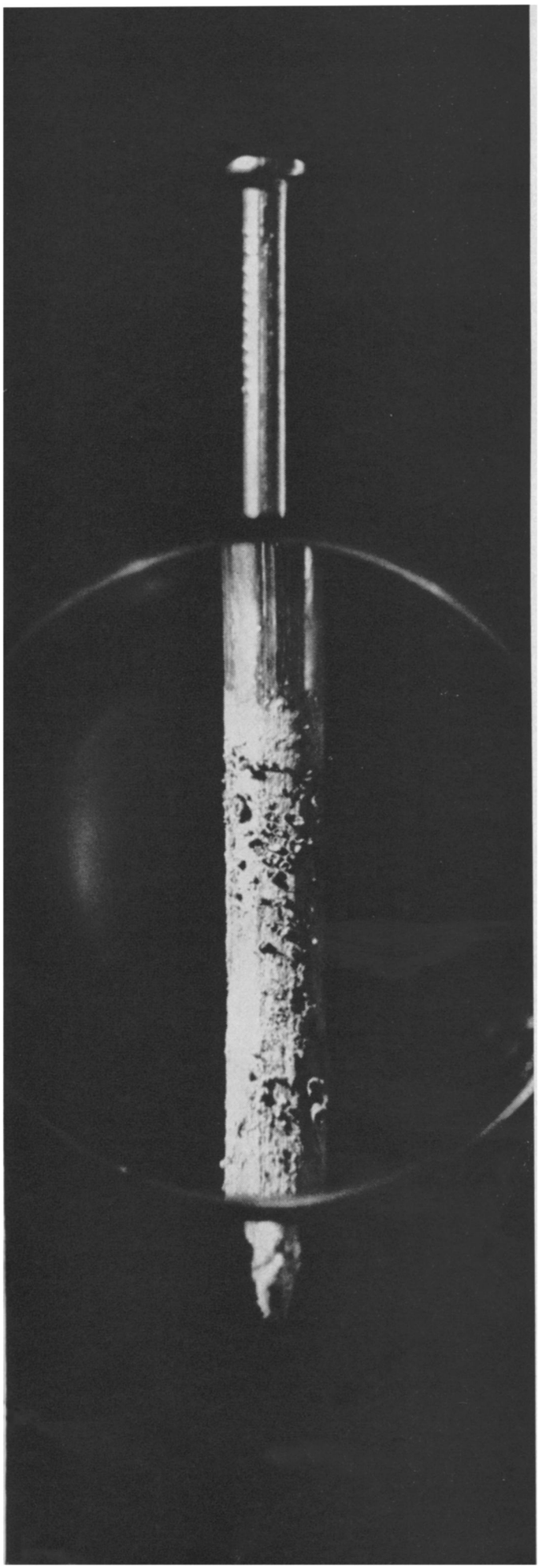


One of a series briefly describing GM's research in depth

A good close look at corrosion mechanisms

Most metals corrode when given the chance.

Why? How?

To help find out, General Motors Research chemists have developed a very rapid, but accurate, method of examining corrosion reactions.

These perplexities are probed by carefully controlling an electric current that is made to flow between a metal sample and a nearby auxiliary electrode—with both immersed in a corrosive aqueous solution. This polarizing current supplements some corrosion reaction currents, opposes others. Simultaneously measuring the polarizing current and the electrochemical potential near the sample's surface provides a continuous monitor of subtle changes in instantaneous corrosion rate.

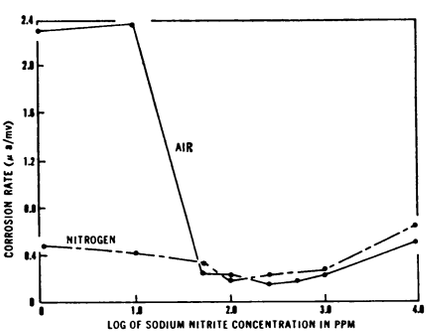
This continuous, dynamic information provides a rapid way to study the effects of a variety of corrosive ions, corrosion inhibitors, gases, and other environmental variables. It also helps in understanding the fundamental mechanisms of corrosion and protection processes.

For instance . . . results have reinforced the view that sodium nitrite inhibits the corrosion of steel, in chloride or sulfate solutions, by helping form a protective oxide film at the metal surface and maintaining it in dynamic equilibrium. They also indicate that the basic function of sodium nitrite is to help provide the current needed to form the protective oxide film.

This blending of everyday application with basic understanding is a frequent consequence of General Motors research in depth.

General Motors Research Laboratories

Warren, Michigan



Effect of gases on a mild steel sample in a corrosive solution containing inhibitor.