

15¢

\$5.50 A YEAR

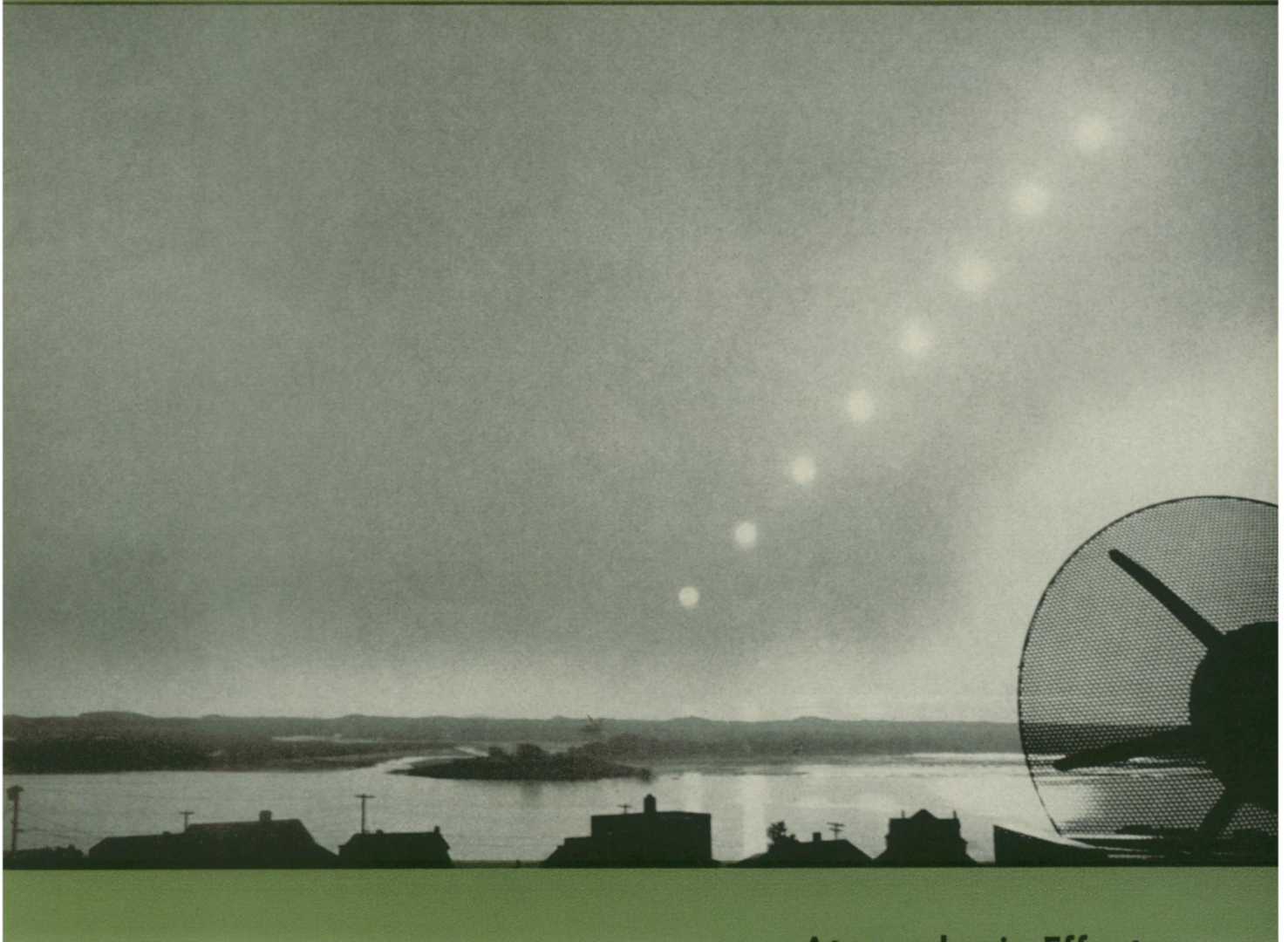
February 9, 1957

VOL. 71, NO. 6 PAGES 81-96

# SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Atmospheric Effects

See Page 93

A SCIENCE SERVICE PUBLICATION

## Kodak reports to laboratories on:

staying a trigger of corruption . . . how you, too, can measure small objects . . .  
new materials for electronically modulated photographic printing

### Against ozone

Ozone is a noxious gas. (When the man in the street hears that ozone is being used as an index of urban air pollution, he is confused, poor fellow—all the more if he is bright enough to remember from high school chemistry that ozone is O<sub>3</sub>, nothing but oxygen.)

A little ozone goes a long way. It triggers corruption. It attacks double bonds, the weak links in chains of carbon atoms. The "sun-cracking" that puts those growing fissures in GR-S (the vulcanizable butadiene-styrene copolymer that insulates us a little from winds that blow in southeast Asia) has been unequivocally pinned on ozone.

As a major producer of antioxidants, we have a clear duty to contribute arms to the fight on ozone. So we draw from our forges on the banks of the Holston in Tennessee the new *Tenamene 30 Antiozonant* (N,N'-di-2-octyl-p-phenylenediamine) and the new *Tenamene 31 Antiozonant* (N,N'-di-3-(5-methylheptyl)-p-phenylenediamine).

Here are no laboratory curiosities, coyly offered in little bottles without claims beyond identity. This is big business, for a recently tightened Army Ordnance specification tells in effect how much ozone exposure rubber goods must be able to stand under dynamic stress-and-relax conditions. Both the new *Tenamene* compounds help rubber weather and age more gracefully in non-dynamic use, too. *Tenamene 30*, in particular, survives heating of the GR-S very well, so as to be on hand to combat ozone.

These antiozonants may be purchased and introduced into rubber goods at the compounding stage even by manufacturers who have no Army Ordnance inspectors to get by.

*Isn't it nice that all your favorite rubber goods manufacturer has to do, if he wants to find out what would be involved in giving you longer-lasting satisfaction from your purchases, is to write for information about Tenamene 30 and Tenamene 31 to Eastman Chemical Products, Inc., Kingsport, Tenn. (Subsidiary of Eastman Kodak Company)?*

### If you had one



If you had a little *Kodak Contour Projector, Model 8*, like this around the lab, you would like it. If you have frequent occasion to measure dimensions, angles, or configurations of relatively small objects, "you" could mean you. You lay them down on the glass stage and get a magnified shadow image of their contours on the circular screen. Depending on the lens used, you have a choice of six magnifications from 10X to 100X. You can have a chart over the screen as a guide. Alternatively, you can use the measuring stage for two inches of crosswise movement or one inch of movement the other way and read both of these displacements against a reference line on the screen to  $\pm .0001''$ . With the rotatable protractor ring around the screen, angles can be read to 5'.

In factory inspection departments this projector is usually set up horizontally on a work bench, with a special fixture to hold the part being inspected. Now, the same micrometers that go on the \$9,250 model, the measuring stage, and the protractor ring generalize the instrument for the laboratory.

*This could use as little as \$835 of budget money (if you wanted no accessories and could snitch a Kodak Contour Projection Ektar Lens from some other department). On the other hand, if the man who drops in just to tell you about the mechanical and optical quality of this instrument signs you up for the full lineup of features and lenses, you could spend \$2,967.50. To summon him, write Eastman Kodak Company, Military and Special Products Sales, Rochester 4, N. Y.*

### Faster paper, artlessly dodged

We have doubled the maximum

speed available in photographic paper—the kind on which pictures can be printed from negatives.

Great as this news is, we must in candor admit that with the exception noted below there has been no strong demand for more paper speed than has been provided for many years now in *Kodabromide Paper*. Most photographers prefer a printing time long enough to permit a little artful dodging that compensates for local excesses or deficiencies in the density of the negative.

Actually the new paper is more than just muscle-flexing by our emulsion makers. It seems that there is some dodging now being done electronically. The faster paper is our contribution to certain recent developments that involve electronic scanning of the negative and modulation of the light source in accordance with the density of the particular portion of the negative being printed.

Among people who have a great many negatives from which to print a great many of the most informative possible positives, electronically modulated photographic printing is a very lively subject at the moment. This we can say without promising that the best and cheapest route from an uneven negative to a more even positive will forever remain electronic.

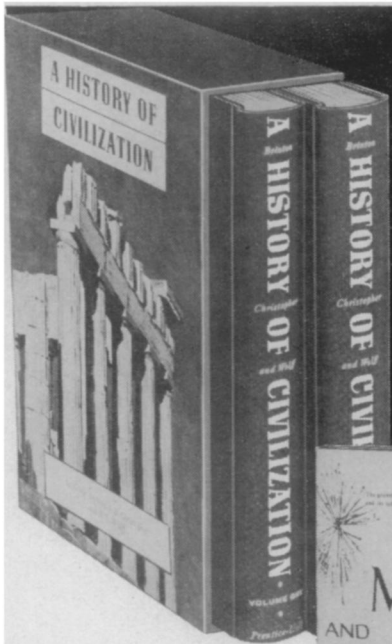
Nevertheless, finding we can bring out a paper that gives an electronically modulated print in 10 seconds where 20 would be required with papers that are plenty fast enough in conventional printers, we deem it a privilege to be of service, and let the future bring what it may.

*The new material is tentatively designated Kodak Photographic Paper, Grades 1370 and 1371, the former lying between Kodabromide Contrasts 1 and 2 and the latter approximately matching Contrast 3. For information about sizes, weights, surfaces, prices, etc., write Eastman Kodak Company, Professional Sensitized Goods Sales Division, Rochester 4, N. Y.*

*Prices quoted are subject to change without notice.*

**This is one of a series of reports on the many products and services with which the Eastman Kodak Company and its divisions are . . . serving laboratories everywhere**

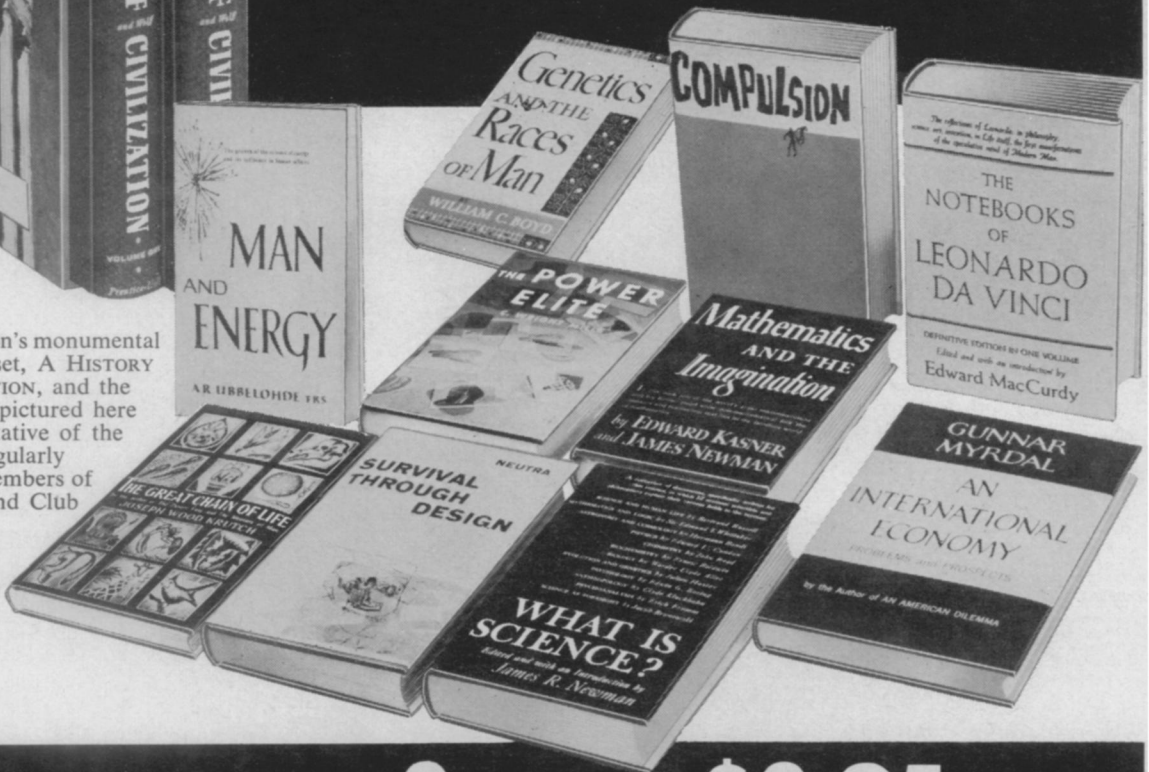
**Kodak**  
TRADE MARK



# Books of Permanent Importance ... at Savings up to 50%

No matter where your chief interests lie — science or literature, philosophy or religion, biography or history, you can always be assured of absorbing, informative reading in our monthly selections. And in addition, we would like to call your attention to the tremendous savings enjoyed by Book Find Club members.

Crane Brinton's monumental two-volume set, *A HISTORY OF CIVILIZATION*, and the other books pictured here are representative of the selections regularly offered to members of the Book Find Club at savings up to 50%.



## Choose any 3 for only \$3.95

Membership is easy and rewarding. Each month you receive *Free The Book Find News*. In it you will find a report of our forthcoming selection. If you like it, it will arrive automatically; if not, you return a form we provide saying, "Send me nothing." Or you may order from our list of over 100 other books, all current, all choice. And, you receive one *Free Bonus Book* for each four selections you purchase. Begin membership now with any three of the important books shown here—all three for only \$3.95!

**A HISTORY OF CIVILIZATION.** By Crane Brinton. 2 vols., boxed; 1400 pages; hundreds of illustrations; 50 maps. A brilliant survey of man's experience from pre-history to the present. Pub. at \$16.00.

**GENETICS AND THE RACES OF MAN.** By William C. Boyd. Physical anthropology in the light of contemporary scientific developments. Illustrated. Pub. at \$6.00.

**COMPULSION.** By Meyer Levin. One of the great psychological novels of our time... "a masterly achievement" says the *New York Times*. Pub. at \$5.00.

**THE NOTEBOOKS OF LEONARDO DA VINCI.** Ed. by Edward MacCurdy. A magnificent record of Leonardo's thought in many fields. 1248 pages; illustrated. Pub. at \$5.00.

(Retail value up to \$28.50)

**MAN AND ENERGY.** By A. R. Ubbelohde. A survey of the relationship between man and energy from the early years of the race to nuclear fission. Illus. Pub. at \$5.00.

**THE POWER ELITE.** By C. Wright Mills. A searching study of the men and women at the pinnacles of fortune and power in America's new "ruling class." Pub. at \$6.00.

**MATHEMATICS AND THE IMAGINATION.** By Edward Kasner and James Newman. An adventure into a fabulous and fascinating new world. Illustrated. Pub. at \$3.95.

**AN INTERNATIONAL ECONOMY.** By Gunnar Myrdal. The great Swedish social scientist presents his views on the economic future of the world. Pub. at \$6.50.

**THE GREAT CHAIN OF LIFE.** By Joseph Wood Krutch. An exciting discussion of the whole spectrum of life from one-celled animals to giant mammals. Pub. at \$3.75.

**SURVIVAL THROUGH DESIGN.** By Richard Neutra. A revolutionary masterwork by one of the world's foremost architects on design and human survival. Pub. at \$6.00.

**WHAT IS SCIENCE?** Ed. by James Newman. Twelve famous scientists present their various fields with emphasis on the methods and conclusions of science. Pub. at \$4.95.

**THE BOOK FIND CLUB**  
215 Fourth Ave., New York 3 SN 2-9

Please enroll me as a member and send me, for only \$3.95 plus 24¢ postage and handling, the 3 books I have indicated below. I am to receive *Free* the monthly *Book Find News*. I agree to buy at least 4 additional books during my first year of membership, and I am to receive a *Free Bonus Book* for each four books I purchase. I may cancel my membership without obligation at any time after accepting four selections.

<input type="checkbox"/> A History of Civilization	<input type="checkbox"/> Mathematics and the Imagination
<input type="checkbox"/> Genetics and Races of Man	<input type="checkbox"/> An International Economy
<input type="checkbox"/> Compulsion	<input type="checkbox"/> The Great Chain of Life
<input type="checkbox"/> The Notebooks of Da Vinci	<input type="checkbox"/> Survival Through Design
<input type="checkbox"/> Man and Energy	<input type="checkbox"/> What is Science?
<input type="checkbox"/> The Power Elite	

Name \_\_\_\_\_  
(Please Print)  
Address \_\_\_\_\_  
City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_  
(Same price in Canada:  
Address 105 Bond St., Toronto 2, Ont.)