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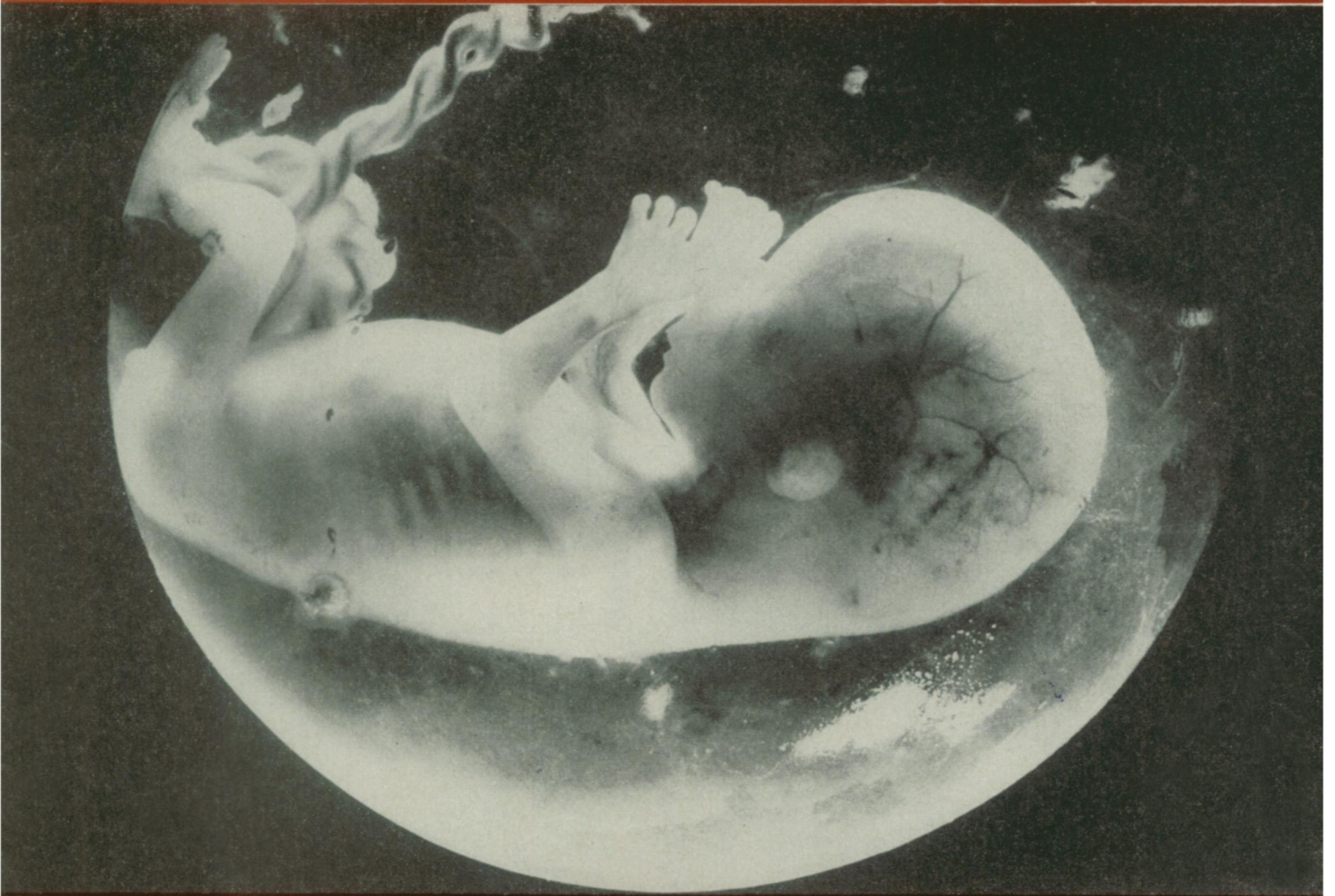
October 8, 1960

VOL. 78, NO. 15 PAGES 225-240

SCIENCE NEWS LETTER

®

THE WEEKLY SUMMARY OF CURRENT SCIENCE



Normal Human Fetus

See Page 228

A SCIENCE SERVICE PUBLICATION

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“Quality is our watchword . . . Precision Engineering our constant goal”

Kodak reports on:

new dimensional stability in recording film . . . tinging the stream

Kodak
TRADE MARK

He knows everything
about photography
except how
to make film. ▶



◀ He makes the world's best
high-speed color film
emulsions but tries to
photograph pretty scenery
through a dirty windshield.

At one of the 170 high-speed camera stations which instrument the 20,000-foot supersonic sled track at Edwards Air Force Base, Lt. Col. Earl R. Strandberg makes the acquaintance of Kodak's Walter A. Fallon. Colonel Strandberg, as chief of the Photographic Branch, has responsibility for quantitatively documenting all phenomena encountered in impact tests, static firing of rocket engines, and other activities of the Air Force Flight Test Center. Mr. Fallon, who is in charge of Kodak's color film emulsions, is visiting to observe the demands to be met by his latest products, a reversal film and its companion duplicating film. They strongly enhance information capacity through fine color distinction, sharpness, and extreme speed.

The names of the new products are *Ektachrome ER Film* and *Ektachrome Reversal Print Film*. They have a realistic quality that stimulates observers to perceive facts in super-slow-motion movies that would be lost without color.

To Walt Fallon the scenic drive through the mountains to check them out with the Colonel brought him near culmination of a hard campaign. To the Colonel, however,

they represent only another step in a long history of increasing the usefulness of photography. In 1927 he talked a high school coach into letting him be the first man—more accurately, the first boy—ever to film an entire football game for purposes of analysis and self-improvement.

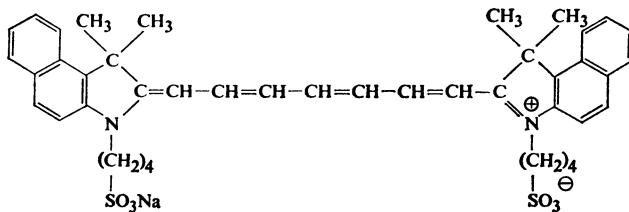
For information about color photographic materials for recording work, write Photorecording Methods Division, Eastman Kodak Company, Rochester 4, N. Y.

Dye for the heart

We make a dye that has an absorption peak where the absorption curves cross for oxygenated and reduced hemoglobin. The strange consequence of this bit of trivia is that lives are being saved. Bad hearts are rebuilt.

Though the art of heart surgery is hard to teach through advertising columns, we hope some unforeseeable good might come from mentioning the dye to a wider scientific circle than knows it now.

Its molecule was constructed like this



by an interesting man who admires cats, writes warmly and well of the music of Brahms, and has supervised the synthesis of an average of one new dye a day during the 30-odd years we have enjoyed the good fortune to retain him in our employ.

When a certain distinguished medical investigator asked for a dye that peaks sharply at 8000A in the infrared, our man went to work and produced indocyanine green.

Before these heart men undertake a repair job, they must

know what's wrong with the way the blood streams. Dyes are sometimes used to trace underground streams of water. Blood is already colored. Moreover its color depends on where it has been last. To add another color at a given point in the circuit, to measure this color automatically at some other point, and to calculate blood volume from the dilution of the color require the heart men to back their incredibly talented fingers with a little optical physics and adult habits of mathematical thought. It was clever to simplify the equations and raise sensitivity by centering dye absorption and photocell response at a wavelength where arterial and venous blood absorb light equally and weakly—cleverer even than the previous choice of Evans Blue, which just *looks* different from blood.

Things happen fast. A quick shot of indocyanine green at safe dilution goes in. A few seconds later the 8000A absorption, as a galvanometer plots it on photorecording paper, changes for a few more seconds. The shape of the plot tells the story to a man who has learned how to figure it out.

No toxic penalties have been noted. The patient does not change color. The dye appears to be rapidly and completely bound to blood albumin. It is quickly taken up by the healthy liver and all excreted in bile. The unhealthy liver takes significantly longer. Therefore there is a prospect of eventually using it to detect unhealthy livers.

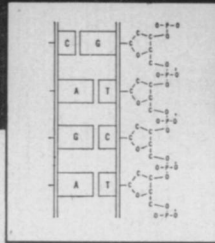
Under the trademark "Cardio-Green" our indocyanine green is prepared for medical use and distributed by the pharmaceutical house of Hynson, Westcott & Dunning, Inc., Baltimore 1, Md. If you ask us anything more, we shall just pass your inquiry on to them, so you might as well write direct.

This is another advertisement where Eastman Kodak Company probes at random for mutual interests and occasionally a little revenue from those whose work has something to do with science

The
secret
of
cancer—

and
life
on
Mars

Does this symbol



hold the key to both?

Perhaps no other area of contemporary research excites scientists more than the one represented by the small symbol pictured above. It shows part of a molecule of deoxyribonucleic acid—DNA—the substance believed to carry the heredity “blueprint” of every living cell, animal and vegetable.

Because DNA alterations are now believed to cause cancer, biologists and chemists are hopeful that further DNA research will lead to conquest of the disease. Evidences of substances like DNA in meteors and other outer-space objects have bolstered astronomers’ and physicists’ belief in the probability of life on Mars and other planets. And many geologists and other specialists believe that DNA may provide at last the answer to the age-old mystery of the origin of life.

The DNA story is only one example of the interrelationships and interdependences which are the essence of modern science. Scores of other examples are presented by the distinguished biochemist and best-selling author, Isaac Asimov, in his major new two-volume work, **THE INTELLIGENT MAN’S GUIDE TO SCIENCE**.

Here for the first time you will see the myriad individual strands of inquiry and research masterfully interwoven so that the entire fabric of modern science is brought into brilliant focus. When you read **THE INTELLIGENT MAN’S GUIDE TO SCIENCE** you will find yourself saying not once but dozens of times, “*Now I understand!*”

ALTHOUGH the literature of science includes innumerable specialized volumes and several fine encyclopedias, there has never been a book that makes the vast spectrum of modern science completely visible and understandable to the non-professional reader.

Such a book will at last be available with the publication of Isaac Asimov’s **THE INTELLIGENT MAN’S GUIDE TO SCIENCE**—a two-volume work which takes as its subject the entire universe of scientific knowledge but which reads with the excitement of history, the human interest of biography, and the suspensefulness of good fiction.

By a remarkable weaving together of developments in every major field, it tells the fascinating, continuous story of scientific exploration and discovery through the ages . . . every significant accomplishment, every figure of stature from Euclid to Pauling, from Newton to Fermi, from Hippocrates to Pasteur to Freud.

Perhaps no one but Isaac Asimov could have written this book. In the words of George W. Beadle, the Nobel Prize-winning biologist: “Asimov is one of the rare ones. He knows and understands science in both its history and its substance, and he writes simply, clearly and with infectious enthusiasm.”

With Asimov as your guide, you will follow the thread of scientific progress

through the centuries in every field from astronomy to mathematics, from biology to the sciences of human behavior.

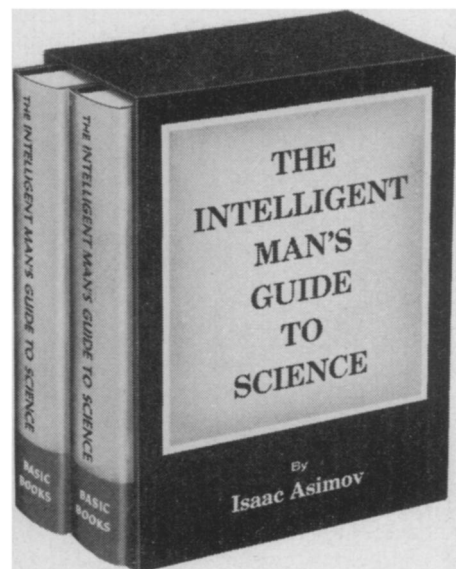
You will learn how a finding in one branch of science often unlocked the barriers in others . . . how a mathematical formulation (Einstein’s theory of relativity) paved the way for the first self-sustaining fission reaction and the beginning of the atomic age . . . how observations by astronomers with powerful modern telescopes helped geologists and physicists compute the age of the universe . . . how an 18-year-old student’s attempt to synthesize quinine for use in treating malaria led to the discovery of aniline dye and the birth of a great industry. . . .

Simple without being oversimplified, clear without any “writing down,” **THE INTELLIGENT MAN’S GUIDE** is certain to be a household bible of science for all thoughtful readers and their families.

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