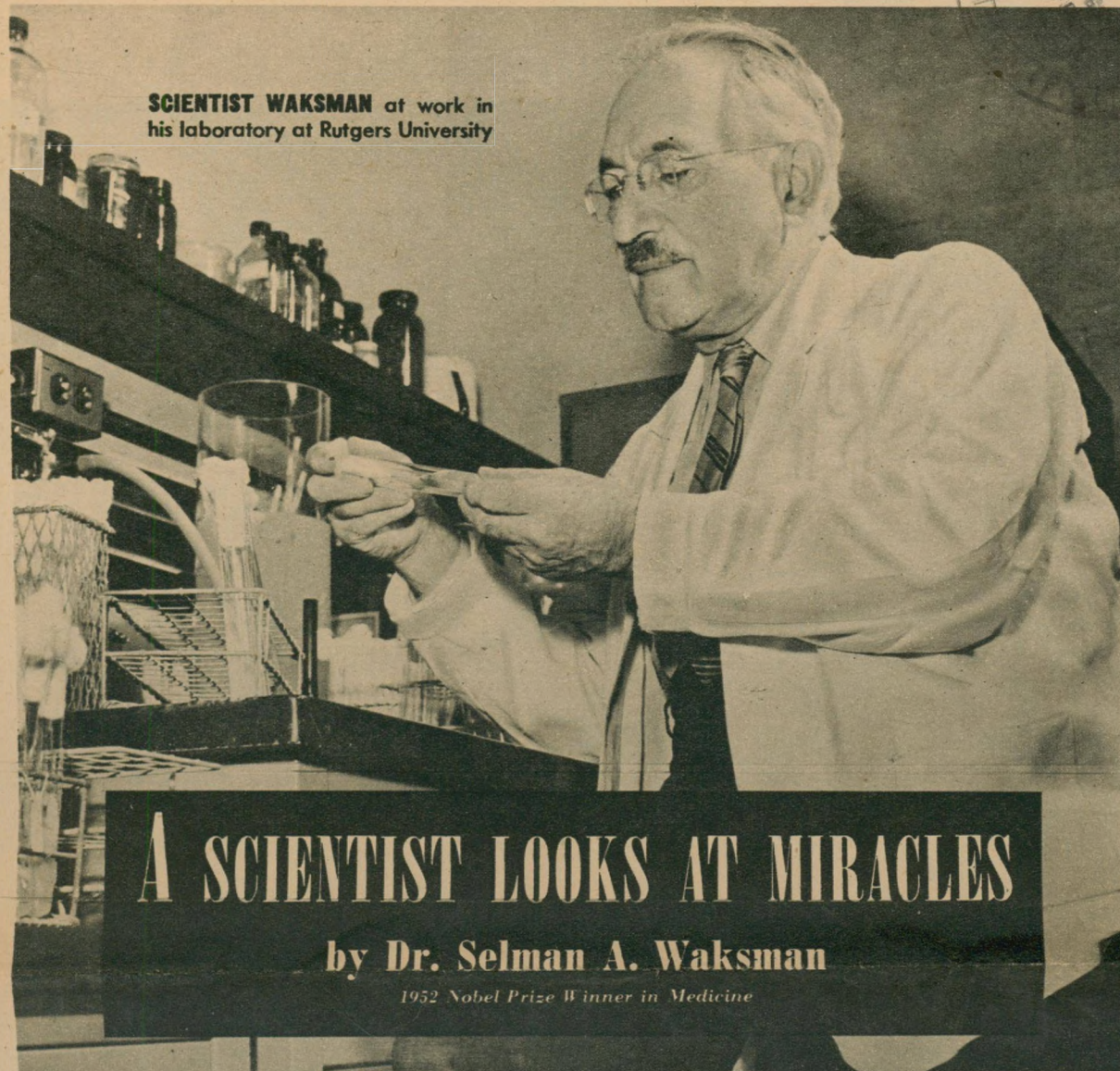




SCIENTIST WAKSMAN at work in his laboratory at Rutgers University

A SCIENTIST LOOKS AT MIRACLES

by **Dr. Selman A. Waksman**

1952 Nobel Prize Winner in Medicine

KEYSTONE

*"The Lord hath created medicines out of the earth;
And he that is wise will not abhor them."*

— ECCLESIASTICUS, APOCRYPHA

FOR more than 35 years, I have studied the microbes of the soil, their nature, their effect on the cycle of elements, their role in soil fertility and their importance in plant growth. One of the questions I sought to answer was this:

How do these microbes, thousands and millions of them, which live so close together in the soil, affect one another; especially, how do the harmless microbes affect those microbes or germs which cause the numerous diseases that afflict humanity and which constantly find their way into the soil?

Gradually it became recognized that many of the harmless microbes are able to produce chemical substances which we now call "antibiotics" and which exert a growth-inhibiting and even a destructive effect upon disease-producing microbes, comprising numerous bacteria, fungi and viruses. This effect is produced not only in the soil and in the test tube but in the human body.

Once this fact was fully established, we could proceed to isolate from the soil suitable microbes, develop methods for their growth and extract the antibiotics they produced. The next step was to determine how harmful these substances might be and what effect they might have on diseases in experimental animals and then in the human body.

First tyrothricin, then penicillin, then strepto-

mycin was found effective in the treatment of infectious diseases. These antibiotics were soon followed by numerous others, notably chloramphenicol, aureomycin, terramycin, neomycin and erythromycin, and many more are to come.

During the past 12 or 13 years antibiotics have revolutionized medical practice and have come to be known, justifiably, as "wonder drugs." They have virtually eliminated, or have rendered harmless, numerous infectious diseases that afflict mankind from childhood to old age. Even tuberculosis can now be treated with remarkable effect. Antibiotics have thus justified the ancient saying, "The Lord hath created medicines out of the earth."

IT REMAINED for the scientist in his laboratory to find the medicines and make them available to the "wise." First the microbiologist, the "microbe hunter," went to the good earth in search of the wonder-drug-producing microbes. Then came the chemist and the pharmacologist to help in the isolation, testing and selection of the antibiotics which were produced by these microbes and which were to be used as drugs in the treatment of human ailments. Then the manufacturer developed methods for the production of these drugs on a large and economic scale. Finally, the clinician has made extensive use of these drugs to wipe out most of the infectious diseases afflicting the human race.

Truly, the ancients were wise when they pointed to the earth — and the Lord — as the source of medicines.

Sidelines

COVER. Swinging to safety on a skyhook from a British helicopter is a "ditched pilot" in the latest Royal Naval Air Force survival suit and a specially rigged lifejacket. He has just been lifted from a dinghy after signaling for help with sea dye and flares.

The British helicopter and its American counterpart have saved countless airmen of both nations from the icy waters around Korea. But air-sea rescues are just one of the jobs being discovered every day for the "Flying Flivver." Maneuverable in otherwise inaccessible land areas, it has been used extensively in the evacuation of casualties and the rescue of isolated troops. The helicopter may still be an aerial curiosity to most civilians, but to the combat man it's a life-saver. And new uses are still being explored.

WHAT'S IN A NAME? Recently we wrote a couple of items for this column about odd U.S. place names — and were swamped with letters from readers offering dozens more for our collection. We were glad to learn about places with such high-sounding names as Tranquillity, Calif., Freedom (in 14 states), Fidelity, Ill., Energy (in three states), Amity (in seven states), Pleasant Unity, Pa., What Cheer, Iowa, Triumph (in three states), Onward (in three states), and Hygiene, Colo. And there's a fine ring to Bird-In-Hand, Pa., Soso, Miss., and Goose Egg, Wyo.

But the place we like best, probably because it connotes such uninhibited violence on the part of its inhabitants, is a tiny spot in Ross County, Ohio. It's called Knockemstiff, such an unlikely name that we didn't believe it until Marty Chandler of the "Chillicothe (Ohio) Gazette" showed us the tough little place on a map. We shudder to think what would happen if the residents of Knockemstiff and those of Rough and Ready, Calif., squared off for a two-town battle! — THE EDITORS

This Week

THE SUNDAY MAGAZINE

WILLIAM L. NICHOLS, Editor

Editorial offices: 420 Lexington Avenue, New York 17, New York

THE CERFBOARD.....	4
WHAT HAPPENS TO CROOKED COPS?.....	7
by A. E. Hotchner	
THE AWFUL ENCOUNTER.....	8
Fiction by Heddling Carter	
THE WAR OF AMAZING KINDNESS.....	10
by Howard Whitman	
WHAT ARE THEY SELLING?.....	12
KNOW THE WONDER FABRICS.....	14
by George H. Waltz, Jr.	
TREASON IN HIS HEART.....	17
Fiction by Colin McDougall	
THE PARENT RACKET.....	19
by Dick Ashbaugh	
THE BRAVEST WIVES.....	22
QUIZ 'EM.....	24
ALL THIS AND 10% TOO.....	26
by Louis Berg	
FASHION FIND.....	31
FROM CLEMENTINE'S KITCHEN.....	35
EVERYBODY'S ETIQUETTE.....	36

Cover by Joe Pazen

Names and descriptions of all characters in fiction stories and semi-fiction articles in this magazine are wholly imaginary. Any name which happens to be the same as that of any person, living or dead, is entirely coincidental. The title "This Week" is registered in the U.S. Patent Office.

FOR A BETTER AMERICA