

of Epictetus who lived about 60-120 A.D. "Shall we not now at last wean ourselves, and remember what we heard from the philosophers? If, indeed, we did not listen to them as a wizard's incantation. For they said that the universe is one Polity, and one is the substance out of which it is made, and there must, of necessity, be a certain cycle, and some things must give place to others, some dissolving away, and others coming into being, some abiding in one place, and others being in motion. But all things are full of love, first of the Gods, then of men, that are by nature made to have affection towards each other; and it must needs be that some dwell with each other, and some are separated, rejoicing in those who are with them and not distressed for those who go away. And man, they said, is magnanimous by nature, and contemneth all things beyond the Will; and hath also this quality, *not to be rooted to one spot, nor grown into the earth, but able to go from place to place*, sometimes urged by divers needs, sometimes for the sake of what he shall see."

I was greatly inspired by Mr. Lewis's article for it seemed to be like a signpost to the future, wherein man's mind breaks down the countless barriers he has raised against his fellow man, the fears, superstitions, and prejudices of his primitive and barbaric past which he has dragged down the centuries with him. We do not necessarily have to move about the face of the earth like wandering and restless spirits. No, but even if we never move physically from one spot all of our lives, we must move the frontiers of our minds outward, break down the fences, pull up the cloying roots of suspicion and distrust, and look our fellow man in the face and grow to know him. I commend Mr. Lewis and all like him who point the way to a free and rootless world!

ADELE FORT GHISALBERT.

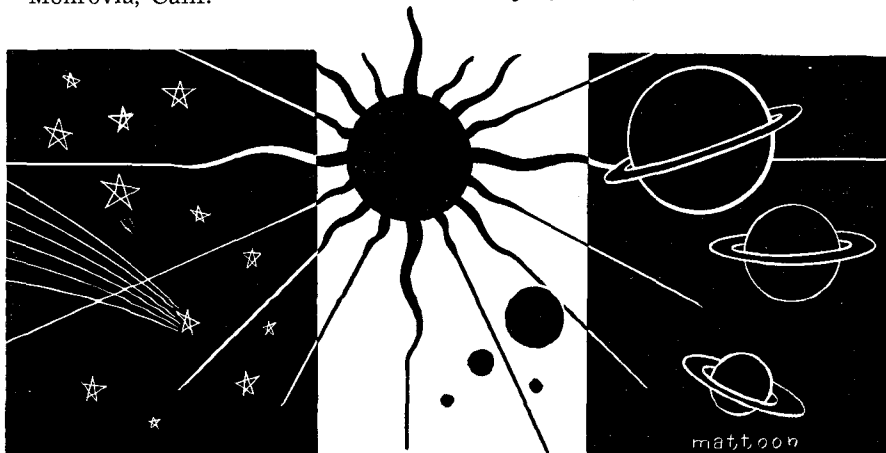
Orlando, Fla.

Sequel to a Sequel

SIR: My publisher has sent me your review of "O Shepherd, Speak!" [SRL July 30]. My best thanks to Mr. Edmund Fuller. His last sentence gives me a charming idea. I think I'll write a sequel called "President Lanny Budd." What do you think?

UPTON SINCLAIR.

Monrovia, Calif.



Science. Although business has always been the foundation upon which American life rested, during the past century at least science has been the lodestar of its aspirations. One reason for this may be that—as we observed in reviewing the year's output of books on business last January—most works on economic subjects are execrably written, while popular books on science are usually lucid and accurate and sometimes even filled with human interest. Two books reviewed below, Donald H. Menzel's "Our Sun" and Marguerite Clark's "Medicine on the March: A Progress Report," are excellent examples of the latter. If these two volumes are fair samples, fine works on science may come from the pen either of professional scientists (as in the case of Dr. Menzel) or of journalists who have been soundly trained in science (viz., Mrs. Clark).

A Vast Broadcasting Station

OUR SUN. By Donald H. Menzel.
New York: Doubleday & Co. 326 pp.
\$4.50.

By JOHN PFEIFFER

RESearch would be a good deal less mysterious if all scientists were as interested in popularizing their work as the astronomers—and as skilful at the task. Jeans, Eddington, and many others set high standards in writing about stars and nebulae. The Harvard College Observatory has maintained the tradition in seven books published during the last ten years or so, under the direction of Drs. Harlow Shapley and Bart J. Bok. The latest book in the series is "Our Sun," by Donald H. Menzel, solar specialist of the Observatory staff.

According to Dr. Menzel, studying the sun was once a dangerous occupation. More than 2,300 years ago the Greek scientists, Anaxagoras, did some original solar research. He announced that the sun was a huge flaming stone, a conclusion that was at direct odds with the priests of Apollo, and was promptly thrown into jail, tried, and banished from

Athens as a heretic. Sunspots were also subversive. Aristotle had described the sun as a supernatural sphere of "pure fire" and blemishes on its surface were unthinkable. When Galileo built his telescope in the seventeenth century, many people refused to look through it for fear of seeing the spots and being punished by religious authorities whose dogmas were based on Aristotelian philosophy.

Although studying the sun is no longer a crime, Dr. Menzel points out that publishing all the results may be, particularly in wartime. One afternoon during World War II, British radar signals were suddenly blotted out, and some new form of Nazi "jamming" technique was suspected. But the real culprit turned out to be the setting sun. Studies revealed that celestial static is broadcast from limited areas of the sun's surface, perhaps as a by-product of sunspot activity. This was the first evidence that the sun is a vast broadcasting station emitting high-frequency radio waves as well as ultraviolet, infra-red, and visible light rays.

What produces the sun's radio waves? In providing a tentative answer to this question, Dr. Menzel demonstrates one of the great advantages in having scientists themselves popularize the field of research in which they are working. Nonscientists often have a difficult time presenting the idea of a scientific "explanation." An hypothesis is not something intended to last forever; it is never the final word. Scientists develop hypotheses as suggestions for further study. They expect that their views will be continually modified and ultimately discarded because of the accumulation of new facts. In other words, scientific knowledge advances by the progressive disproof of theory after theory.

The author has suggested that solar radio beams may be the result of electrons circling in the magnetic fields near sunspots and forming natural "wireless" loop antennas. In presenting this notion, however, he emphasizes that it accounts for many—but not all—of the facts.

The very notion of theories, which assume order in the universe, probably comes from primitive man's recognition of the regular comings and goings of the sun. The prediction of eclipses is a classical example of precision in science, and Dr. Menzel does the subject justice in one of his final chapters. About a decade beforehand, astronomers can forecast the times of solar blackouts to an accuracy of a second or two, and the exact path of their shadows on earth within 1,000 feet.

The author also describes the nuclear furnaces that supply the sun's heat, the great cyclones that sweep across its turbulent surface, the mystery of the corona, and many other phases of solar activity. He points out how the sun influences weather on earth, while at the same time debunking the claims of the astrologers and pseudo-economists who connect human destiny and stock-market antics with sunspot cycles. Although "Our Sun" is intended primarily for students, Dr. Menzel has recognized that the gap between good teaching and good popularizing is an artificial one. That is, he has written an instructive and thoroughly enjoyable book.

How Science Is Routing Disease

MEDICINE ON THE MARCH. A Progress Report. By Marguerite Clark. New York: Funk & Wagnalls Co. 308 pp. \$3.50.

By WALDEMAR KAEMPFERT

MRS. CLARK, who is the medical editor of *Newsweek*, surveys the progress made in the medical sciences during and since the recent war, a matter of about five years. She justly points out that in this brief span more progress was made in the prevention and treatment of disease and in rehabilitation than in the preceding quarter of a century. It must be also pointed that during these eventful five years we drew heavily on unapplied knowledge accumulated in preceding decades and that when the war ended we were scraping the bottom of the barrel. In war time is always telescoped, so far as science is concerned. Many a medical textbook has had to be rewritten in the light of the astounding strides made in medicine during the war.

Mrs. Clark is primarily a reporter, and a good one. In fact her judgment on what should be reviewed in a paper like *Newsweek* and hence in this book is at least as good as that of many a medico. She proclaims no "cures" where there are only alleviations. She does not gasp in astonishment at what has been accomplished

by organized effort at a certain critical time.

The territory over which Mrs. Clark ranges is enormous. High blood pressure, heart disease, cancer, tuberculosis, mental ills, war medicine, allergies, poliomyelitis, alcoholism, epilepsy, some of the newer drugs, the medical problems of old age are all covered in the sense that recent progress in these fields is discussed. Mrs. Clark is right up to date, so that she even has something on the recently announced Huggins test for cancer. Indeed, her chapter on cancer is an excellent review of what has been accomplished in recent years in the treatment of the most dreadful disease.

There are still some dark spots in medicine. Psychiatry is still backward despite the methods developed during the war for the treatment of combat fatigue. Infantile paralysis still claims its small annual toll for lack of a trustworthy vaccine. Arthritis, which Mrs. Clark does not discuss as a separate subject though she does refer to it here and there, is still one of the major disgraces of medicine.

To the general reader who wants to know what medical research has accomplished of recent years Mrs. Clark's book should be satisfying. No attempt is made to picture and interpret trends. Mrs. Clark contents herself with presenting popularized summaries of medical opinion. In fact she is about as conservative as the medical profession itself.

Your Literary I. Q.

WHO WROTE WHAT?

By Howard Collins

Priscilla Chaloner, of Nashua, N. H., offers a list of titles containing numbers and invites you to match them up with the authors on the left. Allowing five points for each correct tie-up, a score of sixty is par, seventy is very good, and eighty or better is excellent. Answers on page 41.

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|----------------------------------|------------------------|
| 1. Ten Days That Shook the World | () T. S. Arthur |
| 2. Ten Nights in a Bar Room | () Arnold Bennett |
| 3. The Nine Tailors | () Robert Burns |
| 4. Eight O'Clock | () Anton Chekhov |
| 5. The Seven Storey Mountain | () Agatha Christie |
| 6. The Seven Seas | () Joseph Conrad |
| 7. We Are Seven | () Conan Doyle |
| 8. Now We Are Six | () John Gould |
| 9. A Set of Six | () A. E. Housman |
| 10. Five Pretty Little Fables | () Stuart B. Jackman |
| 11. Anna of the Five Towns | () Rudyard Kipling |
| 12. Four Winds | () Thomas Merton |
| 13. The Sign of the Four | () A. A. Milne |
| 14. Three Seasons | () Thomas N. Page |
| 15. The Three Sisters | () Edgar Allan Poe |
| 16. Portrait in Two Colors | () John Reed |
| 17. Two Little Confederates | () Christina Rossetti |
| 18. The Two Dogs | () William Saroyan |
| 19. And One to Grow On | () Dorothy Sayers |
| 20. To One in Paradise | () Sara Teasdale |
| 21. And Then There Were None | () William Wordsworth |

Screwball Inventions

PATENT APPLIED FOR: A Century of Fantastic Inventions, by Fred Coppersmith and J. J. Lynx. Technicosmos Co. \$3. Skates equipped with headlights, a chair that rocks the baby and churns the butter, a dog-power sewing machine, a bicycle that runs along telegraph wires, a singing lamp—these are some of the devices to the evolution of which the human brain has misapplied itself over the years. Seventy-odd of these contraptions, all of them very odd indeed, are pictured in this slender compilation. The illustrations are accompanied by informal text which makes it plain that the screwball school of invention is international in scope, with Americans, Englishmen, Frenchmen, and Germans all well represented. The effect is both hilarious and saddening—a fantastic and pathetic commentary on that supreme gadget, the mind of man.

—JOHN T. WINTERICH.