self, 'Well, back on Earth, there's a little tyke with my blue eyes and my curly hair and my mouth and nose and chin, who's going to grow up to be tall and straight like me—or maybe like Bet, but also a lot like me.'

"And as he grows older, he can think back to the way he was as a child and a boy and a man, and know that his son, or his daughter, will be feeling and thinking and looking some day just about the way he himself is then, and it will be a link with Earth and with us—"

That was when I had to go to the window and look out for a long time to pull myself together before I could face them again.

Lydna is top-top secret, but as I've said before, we newsgatherers get inside information.

I have a pretty shrewd idea of what the mysterious Lydna Project is. It's to alter human beings so they can adapt to the colonization of outer space.

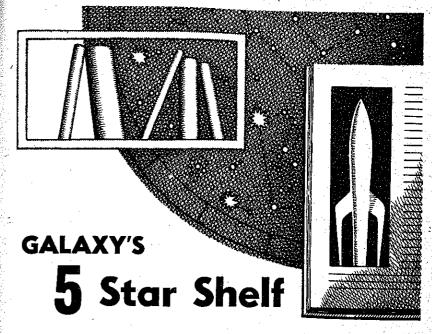
The medics do things to them

to enable them and their descendants to resist every possible condition of temperature and radiation and gravity. They have to alter the genes—acquired characters would be of use only in a short-term project, and this is long-term. But you can't alter genes without affecting the individual.

We'd have Hal's normal child. But when Hal got to Lydna, he and the rest of them would be shocked and sick for a while at sight of some of the inhabitants. And if he had any children on Lydna, we, back here, would scarcely recognize them as human. Some of them might have extra limbs. Some might have eyes and ears in odd places. Some might have lungs outside their bodies, or brains without a skull.

By that time, Hal himself would have got over being sick—unless, some time, he got hold of a mirror and remembered the boy he used to be.

---MIRIAM ALLEN deFORD



SATELLITE ONE by Jeffery Lloyd Castle. Dodd Mead & Co., \$3.00

WHEN I first began reading this book, I said to myself, "Ochone! Another one of those stuffy British jobs!" But when I finally laid it down, I said—out loud this time—"Eureka! The best novel on the first space station yet to appear!"

The moral: don't always let your momentary distaste for a writing style deter you from further reading. This book opens with a pretty pompous introductory chapter, but once you get by that, you are into a genuinely enthralling account of the planning, building, launching, and (in space) continuous enlargement of the first "Earth satellite vehicle."

Like Arthur Clarke's rocket in his Prelude to Space, this project is primarily a British one, though there are many scientists of other nationalities involved, too. Indeed, the book is a fine parallel—and extension—of the Clarke tale. As in that book, the rocket is launched in Australia and (also as with the Clarke) there are no

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nasty saboteurs and international spies, no lurid violence, no cheap melodrama—just a fine story.

And there is some wonderful descriptive writing as well. Mr. Castle's pictures of life and work on the satellite in space are without doubt the most real and almost poetically vivid I have ever read. Indeed, the whole book, once you get by the opening few pages, is tomorrow's history given solid flesh and bones.

TO WALK THE NIGHT by William Sloane. Dodd, Mead & Co., \$2.75

THIS novel, which was first published in 1937, is definitely worth reissue. It is a subtle, moving story of mood and character, written in the great tradition of British fantasy, even though the author is an American.

It tells of the extraordinary short life of the lovely and mysterious Selena LeNormand and her tragic interludes with two men, old Professor LeNormand and brilliant young mathematician Jerry Lister. Particularly fascinating is the quietly frightening way in which the author plays the ancient theme of "possession" on the new instrument of science fiction.

SCIENCE AND CIVILIZA-TION IN CHINA, VOL. I, by

96

Joseph Needham. Cambridge University Press, \$10.00

DID you know the Chinese were the first inventors not only of gunpowder and printing, but of wheelbarrows, cast iron, canal-lock gates, suspension bridges, etc., and discoverers of magnetic polarity, the science of musical acoustics, and so on?

Did you know that, in the 15th century, the Chinese published an encyclopedia that ran to the incredible total of 11,095 volumes?

Did you know that the Chinese developed, a thousand or more years ago, "an organic philosophy of nature, closely resembling that which modern science has been forced to adopt after three centuries of mechanical materialism," as Needham puts it?

The answer is, of course, that most of us know nothing about the ancient civilizations of the great Asiatic peoples. Here, in what James R. Newman, in his review in Scientific American, characterizes as "a landmark of intellectual history," is the first of a series of seven volumes by Needham which, when all are published, will present for the first time a coherent and organized picture of the scientific and technological—and philosophical—achievements of one of our

greatest and least known societies.

The present volume, produced with a taste and beauty that thoroughly measure up to the importance of its subject, sets the background for the volumes to come. In sections on Chinese language, geography, history and "Conditions of Travel of Scientific Ideas and Techniques Between China and Europe," the author presents a richly patterned tapestry of the development of civilization in the Far East.

The book is not a popularization; it does not "read like a novel;" it is a true work of scholarship. Yet I believe that any reader whose interests rise above the level of popular fiction will find the book and its subsequent volumes completely fascinating. It is for everyone who is intrigued by the unknown, whether future (science fiction) or past (scientific history).

ANGELS AND SPACESHIPS by Fredric Brown. E. P. Dutton & Co., Inc., \$2.75

HERE is a perfectly delightful book. Fred Brown has collected eight of his very best stories, and has written especially for this book nine short-shorts that have all the perfection of little diamonds,

each polished with a keen cutting edge.

"Etaoin Shrdlu" and "The Waveries" are my favorites among the longer stories, "Politeness" and "Reconciliation" among the short-shorts; but actually there is not a story included that isn't Class A, with the possible exception of the last item, a 2-pager called "Solipsist," which I thought a bit portentous.

The book's a lovely job—and nicely designed and produced, for a change, too.

OPERATION OUTER SPACE by Murray Leinster. Fantasy Press, \$3.00

THE indefatigable Leinster!
This is his fourth 1954 novel—and another 1954 item is on hand for review next month, too!
What a man!

The current tale, which has never been serialized, takes an entirely new look at faster-than-light travel to the stars: a fast-paced, sardonic job that is primarily a satire on the future of mass communications.

Fella discovers faster-thanlight communications technique. TV producer says, "Why not physical objects, too?" Filthy rich neurotic buys "fame-rights" to the invention. Luxurious spaceship built as giant hoax to hook investors in a non-existent expedition to Mars (the Moon is already colonized) becomes the first, almost involuntary faster-than-light vessel, with as screwy a crew as has ever been cooked up (including the inevitable and delightful Leinster heroine), and the whole jaunt to the stars is turned into raw material for the TV producer's regular "space opera" show—with commercials—and what commercials!

It's a jolly tale indeed.

CHILDREN OF THE LENS by Edward E. Smith. Fantasy Press, \$3.00

WITH this, the sixth and possibly last in the Smith space saga, I have a chance to re-evaluate the whole series. Frankly, I suspect I've been a bit too rough in my previous reviews. Sure, it's space opera undiluted. Sure, it's written in a style varying from the irritating to the infantile. Sure, its characters aren't much more than cardboard cutouts.

Even so, you can't escape the fact that the work has appeal. It moves! And I believe this new and final (?) addition to the series is the best of the lot, too.

My early complaints are still valid: impossible weapons, ridiculous mental powers, a complete disregard for the laws of Nature. But consider the series as a sort of overblown fairy tale for modern juveniles, with magic "science" substituted for mere magic, and I think we have in the Lensman series a pretty solid achievement.

A BUDGET OF PARADOXES by Augustus De Morgan. Dover Publications, Inc., \$4.95

WHAT Sprague de Camp did for the "lost continent" crackpots in his book by that name (GALAXY, Sept. 1954), De Morgan almost does for the perpetual motion boys, the "quadrature" fanatics (squarers of the circle), "the quixotic opponents of Newton's physics, the axegrinders who use mathematics as a means of bolstering religious creeds," and innumerable other oddities, far from all of them mathematical.

In this huge book (over 800 pages), which was first published in 1872 and competently edited by an American scholar in 1915, the British author collected literally hundreds of examples of the "debris of barren intellectual labor," as Prof. Ernest Nagel puts it in his introduction to the current reprint, that have been spewed forth through the ages.

Unfortunately the book is rather hard going because of the gnarled crochets of the author's style and the total absence of order or arrangement of the material. The latter is not always a defect, though, since it does mean you're constantly meeting new oddities. A section "On Inhabitable Planets," for example, a wonderful doggerel entitled "The Astronomer's Drinking Song," a hot controversy on decimal coinage, and so forth.

For anyone who is interested in seeing how goofy the human animal can get in the world of science, this monstrous melange will prove an endless joy.

THE STAR BEAST by Robert A. Heinlein. Charles Scribner's Sons, \$2.50

NOBODY but nobody can beat Heinlein in the writing of teen-age science fiction. I say teen-age, since the publisher so classifies R.A.H.'s Scribner series, of which this is the eighth, but the present tale was serialized in the Magazine of Fantasy and Science Fiction, which either makes the story adult or makes all readers of F&SF (and GAL-AXY, too!) perennal juveniles. So what? I sort of like the idea my-self!

This is Heinlein's first "alien invasion" tale for Scribner's; the others have been space opera. Small fry of crocodile type was brought to Earth from a distant star as a pet a few generations before the story opens. When we meet it, it has grown to be about the size of a locomotive. It's very intelligent, too, though no one knows that except the two youngsters who are its masters.

The adventures they go through in keeping Lummox—the book was serialized under the title Star Lummox—alive make up one of Heinlein's most enchanting tales.

THE BEST SCIENCE FICTION SHORT STORIES, 1954, edited by Everett F. Bleiler and T. E. Dikty. Frederick Fell, Inc., \$3.50

BY far the best part of this sixth volume in the series of Bleiler-Dikty annuals is the perceptive introduction by Fritz Leiber, who also has two stories in the book. This introduction calls attention to parallels between science fiction and the great themes of ancient legend, which he calls "Icons of Man's Imagination."

Of the 13 tales in the collection, five have already appeared elsewhere in hard covers. Eight of the stories, I class as B-plus or better; five as average or below. It is certainly not the "best" of the 1953 output by a long shot, but it does contain some of the year's best.

-GROFF CONKLIN