

Short Novel:

DIO Damon Knight 34

Infinity-plus:

THE OTHER SIDE OF THE SKY

**3 stories of how man will take his
first major step into space . . . Arthur C. Clarke 4**

Stories:

EARTH TRANSIT Charles L. Fontenay 18

WONDERBIRD Harlan Ellison & Algis Budrys 71

DEADLINE Walter L. Kleine 80

THE COURTS OF JAMSHYD Robert F. Young 101

SURVIVAL FACTOR Charles V. De Vet 108

Departments:

INFINITY'S CHOICE Damon Knight 95

BY THE EDITOR 125

FEEDBACK The Readers 127

COVER, illustrating Dio, by Ed Emsh.

ILLUSTRATIONS by Bowman, Emsh, Engle, Kluga, Orban and Schoenherr.

Publisher—IRWIN STEIN

Editor—LARRY T. SHAW

Production Manager—HELEN SKALET

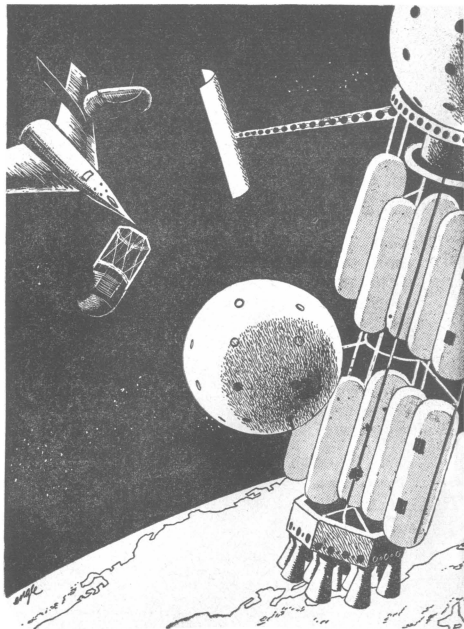
Art Director—ROBERT ENGLE

Assistant Editor—LEE HOFFMAN

Art Associate—WILLIAM BOWMAN

INFINITY SCIENCE FICTION, published monthly except for February, August and December, by Royal Publications, Inc., 47 East 44th Street, New York 17, N. Y. Single copy 35¢; subscription (12 issues) for the U. S., its territories and possessions, and Canada, \$3.50; elsewhere, \$4.50. Copyright 1957 by Royal Publications, Inc. Second-class mail privileges authorized at New York, N. Y. The publisher assumes no responsibility for unsolicited material. All stories printed in this magazine are fiction; any similarity between the characters and actual persons is purely coincidental.

Printed in U. S. A.






THE OTHER SIDE OF THE Sky

6 Stories of the Space Stations

by ARTHUR C. CLARKE



The International Geophysical Year opens soon. The launching of the first artificial Earth satellite is, of course, only one of many IGY projects, but it is the one dearest to the hearts of science fiction writers and readers. In these stories, Arthur C. Clarke—scientist, explorer, lecturer and writer—follows the probable steps between the unmanned “basketball” satellite and the first moon trip. The first three follow; the final three will appear in our next issue. The set is an Infinity-plus feature—and our personal salute to the IGY!



**Relay Two had glamor—and all the
comforts of a pre-fab junkpile!**

I CAN still remember the excitement, back in 1957 (or was it '58?) when the United States launched the first artificial satellites and managed to hang a few pounds of instruments up here above the atmosphere. Of course, I was only a kid at the time, but I went out in the evening like everyone else, trying

to spot those little magnesium spheres as they zipped through the twilight sky hundreds of miles above my head.

I was never lucky enough to see one of those first satellites, but that didn't dampen my enthusiasm. Just as an earlier age had been air-minded, so mine was space-minded. I knew that

sooner or later the little instrument-carrying satellites would be followed by man-carrying ones—and I wanted to be one of those men.

It was a dream I shared with many of my friends, but in my case it came true. I was born at just the right time—1950, if you want to know—and I was ready when work started on the space stations. They were being rushed to completion, regardless of cost, to open up the millions of new TV and radio circuits that would become available as soon as we had transmitters out in space which could beam programs to anywhere on the globe.

My first tour of duty was aboard Relay Two, which is 22,000 miles above Entebbe, Uganda, and provides all the radio services for Europe, Africa and most of Asia. At this height—and at no other—a satellite or space station takes exactly a day to go round its orbit, and so stays poised forever above the same spot on the turning Earth.

I was still full of the glamor of spaceflight when the ferry-rocket carried me up to orbit, and even the fact that I was allowed only fifteen pounds of personal belongings seemed merely a minor annoyance. The climb up from Earth, with one pause for refueling, lasted almost ten hours, and because something had gone wrong with

the catering arrangements the hot meal we had been promised failed to materialize. But that was not the sort of hardship to discourage an eager young Space Cadet; what *did* chill me was my first glimpse of Relay Two.

Today it's a huge structure hundreds of yards across, but when I saw it for the first time it looked like a junkpile adrift in space. Prefabricated parts were floating around in hopeless confusion, and it seemed impossible that any order could ever emerge from this chaos.

I had an even bigger shock when the ferry rocket coupled up to the airlock and we went aboard. I'd been warned that accommodation was—what was the Company's phrase?—"still somewhat restricted." No one, however, had told me that it consisted of a few unserviceable freight-rockets that had been stripped of everything except air-purifiers. "The Hulks," we christened them; I had just enough room for myself, with a couple of cubic feet left over for my gear. I was living in the midst of infinite space—and hadn't room to swing a cat.

The lack of space was bad enough; what was even worse was the impossibility of keeping clean and tidy. Since there was no gravity, nothing would stay where it was put, unless you tied it down. And as that's one

thing you can't do with water—no one could have a bath. We had to manage as best we could with damp sponges.

It's only fair to say that we were being paid about a thousand dollars a week to endure these temporary discomforts, but after a month in space any one of us would have exchanged the money for a nice hot tub or a room that wasn't shared with six other men who all snored in different keys. We needed some recreation when we came off duty, and all we could do was to lie in—or a foot above—our bunks and grumble.

The result was inevitable. The fight actually started among the mathematicians, who are always highly-strung types, but before long the electronics and construction engineers had joined in. Luckily no great harm was done, because it's very difficult for weightless fighters to damage each other. But by the time our highly-trained, psychologically-tested astronauts had finished, the Hulks were in an even bigger mess than before.

TO GIVE the Company its due, it reacted quickly when the news of the first space-battle reached Earth. Within forty-eight hours we were told that proper pressurized living quarters would soon be on their way up to us—complete with needle-jet shower-

baths that would operate (so we were assured) even in the absence of gravity. Nor were the showers the only luxury promised us: we would have an inflatable lounge big enough to hold no less than eight people, a microfilm library, a magnetic billiard table, lightweight chess sets, and similar novelties.

This splendid news kept us all in a good temper for the next few weeks, and at last the great day came when the eagerly-awaited ferry rocket would climb up to us with its precious cargo. I was off duty at the time, and stationed myself at the telescope where I'd spent most of my scanty leisure.

It was impossible to grow tired of exploring the great world hanging there in space beside me; with the highest power of the telescope, I seemed to be only a few miles above the surface. My favorite spectacle was the dawn coming up over the mountains in the heart of Africa. The line of sunlight would come sweeping across the Indian Ocean, and the new day would extinguish the tiny, twinkling galaxies of the cities shining in the darkness below me. Long before the sun had reached the lowlands around them, the peaks of Kilimanjaro and Mount Kenya would be blazing in the dawn, brilliant stars still surrounded by the night. As the sun

rose higher, the day would march swiftly down their slopes and the valleys would fill with light. Earth would then be at its first quarter and waxing.

Twelve hours later, I would see the reverse process as the same mountains caught the last rays of the setting sun. They would blaze for a little while in the narrow belt of twilight, then Earth would spin into darkness, and night would fall upon Africa.

It was not the beauty of the terrestrial globe, however, that I was concerned with now. Indeed, I was not even looking at Earth, but at the fierce blue-white star high above the western edge of the planet's disc. The automatic freighter was eclipsed in Earth's shadow; what I was seeing was the incandescent flare of its rockets as they drove it up on its twenty thousand mile climb.

I had watched ships ascending to us so often that I knew every stage of their maneuver by heart. So when the rockets didn't wink out, but continued to burn steadily, I knew within seconds that something was wrong. In sick, helpless fury I watched all our longed-for comforts—and, worse still, our mail!—moving faster and faster along the unintended orbit. The freighter's

autopilot had jammed; had there been a human pilot aboard, he could have over-ridden the controls and cut the motor, but now all the fuel that should have driven the ferry on its two-way trip was being burned in one continuous blast of power.

By the time the fuel tanks had emptied, and that distant star had flickered and died in the field of my telescope, the tracking stations had confirmed what I already knew. The freighter was moving far too fast for Earth's gravity to recapture it—indeed, it was heading into the cosmic wilderness beyond Pluto. . . .

It took a long time for morale to recover, and it only made matters worse when someone in the computing section worked out the future history of our errant freighter. You see, nothing is ever really lost in space. Once you've calculated its orbit, you know where it is until the end of eternity. As we watched our lounge, our library, our games, our mail receding to the far horizons of the Solar System, we knew that it would all come back one day, in perfect condition. If we have a ship standing by it will be easy to intercept it the second time it comes round the Sun—quite early in the spring of the year 15,862 A.D.

